

**Landscape and technology in the
Peak District of Derbyshire:
The fifth and fourth millennia BC.**

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Abstract

This thesis is concerned with two closely related themes: the inhabitation of the Peak District over the fifth and fourth millennia BC, and the procedures and principles by which we attempt to interpret the durable material traces thereof. A four stage interpretative framework is outlined. Social life is understood through its materiality. The engagement of the self with others is constrained and enabled by that materiality. Archaeologists can represent that process through a textual model. Analogical reasoning mediates each stage and must be made explicit.

The Mesolithic and Neolithic, analytical objects constructed through conceptual metaphors, fail to express time and the materiality of practice as mutually constitutive. An integrated theory of landscape and technology is proposed whereby artefacts are understood in terms of relational metaphors, situating them in practice and capturing both their materiality and temporality.

Prior research in the study area is critiqued on the basis that the historically specific material conditions therein cannot support models transposed from other regional contexts. A methodology for collection and analysis is developed which privileges those specific conditions in the interpretation of prehistoric technology. Artefact assemblages, it is argued, offer us no unmediated access to prehistoric settlement. No immediate functional equivalence between aggregations similar in composition should be expected. The analysis of stone tools and waste must be integrated with other categories of evidence and interpreted in terms of the potentials offered by their socio-physical context.

Original data are analysed in terms of assemblage density, raw material and technological composition, chronological patterning and landscape situation. Integration into the regional corpus, through an explicitly multi-scalar approach, attends to the constitution of social life through practice and developing tradition. The role ascribed to early 'monuments' by other archaeologists is particularly brought into question, with respect to the model of relational practice maintained throughout the dissertation.

Preface

This dissertation was supposed to be about the Mesolithic-Neolithic transition in the Peak District. It was not my intention to write an essay so largely concerned with theoretical issues. A cursory glance at the chapter titles will, however, reveal that many pages of this work are devoted to contemporary problems of archaeological praxis. The reasons for my change of heart encapsulate two issues central to the thesis.

The first is that the archaeological material, the history of work on the study period and the physical conditions of the Peak District are radically different from other regions better known to British archaeologists. Unlike in the chalk lands of Wessex and East Yorkshire, there have been no large-scale research or rescue projects in the Peak, and its artefactual and architectural assemblages seem comparatively poor, both in their scale and density (Chapters 4 and 5).

The second issue is the capacity of contemporary, high profile archaeological praxis to deconstruct certain analytical totalities, while so naively accepting others. There was quite simply, no archaeological research programme with which I felt it possible to approach the Peak District corpus while producing an acceptable representation of prehistoric social practices. True, the research methodology has debts in common with notable post-processualists, especially to the theories of structuration and practice, and the textual analogy (Chapter 1). However, to my mind many post-processual researchers have underplayed issues of analogy in archaeological conduct, as well as the materiality of the worlds they attempt to comprehend. Furthermore, even the most sophisticated theorists have perpetuated some of the analytical totalities that flawed the work of their predecessors. Certain outmoded ideas are retained in a continuing romance with the largely unexamined concepts of culture and society, through common metaphorical language and an under-theorised approach to the constitution of space, time and technology (Chapters 2 and 3).

The 'common sense' language of that discourse jarred at every turn with the contemporary theories of landscape and technology I had subsequently learned. As my data sets were technological, old metaphors had to be exchanged for new. One of my supervisors asked me what it was that I lost in such a transaction. I hope that the answer is "a lot of ideological baggage that we can do without". Certainly recent trends in British sociology (e.g. Urry 2000) demonstrate, at best, ambivalence toward 'society' as a useful analytical tool. While anthropologists have clung to the concept of culture, that

grasp has, increasingly, been in the context of an emerging tradition of auto-critique (e.g. Clifford 1988; Rosaldo 1989). If these ideas have become frail for the disciplines that created them, how much more fragile must they become before archaeologists reconsider their use-value? Nobody has ever *seen* society or culture, but we have seen artefacts and landscapes, modified by meaningful human action. It is paramount to my thesis then, that through engaging with these things we should represent human action, not society or culture.

Profound implications follow for the way in which we construct time in archaeological discourse: the scale of grand-periodisation is meaningless in terms of prehistoric practice. This is all the more so when the coeval traditions identified as constitutive of a 'period' are seen to develop at different paces, not in 'lock-step'. Then there are the 'things-in-themselves': the artefacts, the architecture and the modified landforms, to which we pay lip-service regarding their individual biographies, their passage through different regimes of value (Appadurai 1986). But the persistence of functional outlooks on the material world, even within an ostensibly symbolic archaeology, so often fails to emphasise their 'promiscuity' (N. Thomas 1991), their appearance in the context of different practices. Thus, the icons of 'the Neolithic', the so-called 'monuments', are interpreted in terms of power and memory. But 'power to' or 'power over' what? And what was it that mortuary structures evoked in memory that could not be aroused through engagement with other aspects of the physical world? In all seriousness, what we lose in rejecting culture, society and chronological time as analytical tools, is our incapacity to join the dots. What we should gain is an appreciation of one context as it relates to another, as well the potential in artefacts and inhabited space for links to be made between people and other places.

Chapter 1

Research methodology

1.1 Introduction

This thesis is concerned with interpreting the material traces of a range of social practices that appeared over the fifth and fourth millennia BC within the Peak District of Derbyshire. Such a project requires consideration of how these traces can be used to create an understanding of the practices that produced them. If this mission statement is to be realised then I require intellectual apparatus to tackle its four key components.

Firstly, this work presupposes an intimate relationship between material experience and our understanding of the world, and so I must make explicit the character of this 'materiality'. Secondly, to address *social* practices, I need to understand the performative qualities of engagement between the self and others in the creation of durable patterns of material. Thirdly, I must examine how archaeologists have worked recently upon material traces to generate an understanding of their prehistoric formation and inhabitation. Like many others before me, I take it as axiomatic that understanding has nothing to do with "an *immediate* grasping", but is entirely *mediated* by the explanatory procedures which precede it and accompany it (Ricoeur 1981: 220). Since, for most of the sciences and social sciences, these procedures are informed by analogical reasoning, then my fourth task is to find a way of using analogy in my interpretations which is acceptable to other researchers.

This critical methodology is essential for evaluating previous interpretations of the study period in terms of general synthesis (Chapter 2), and the way the study area has been adapted into that synthesis (Chapter 4). It also underlies my approach to more specific social theory surrounding the inhabitation of landscape and technology (Chapter 3) and methodologies of data collection and analysis (Chapter 5). My purpose in the sections that follow is to highlight problems common to all archaeological enterprises, specifically their necessary emphasis on diachrony and the material. Like many researchers, I draw on bodies of theory developed outside the discipline of archaeology, in formulating my methodological position. Common threads concerning the relationship of self to other, the materiality of that relationship, and the importance of historical conditions have determined my choice of theorists.

That choice has also been influenced by the explorations of British post-processualists. For instance Julian Thomas (1996a) has drawn on Judith Butler in deconstructing the nature:culture dichotomy and Michel Foucault in exploring the genealogical character of praxis. In Section 1.2 however I am also specifically concerned with the approaches of these theorists to materiality and the idea of embodiment. Mark Edmonds (1999a: 157) and John Barrett (1988a) both acknowledge debts to Pierre Bourdieu and Anthony Giddens in their approaches to social reproduction and discourse. However Bourdieu and Giddens have both strengths and weaknesses with respect to their archaeological use-value, which will be examined in Section 1.3. Ricoeur's textual analogy has received widespread attention in the last fifteen years, most notably from Ian Hodder (1989). While many archaeologists make implicit use of this model, Ricoeur's propositions concerning distanciation are worth restating given the insecure epistemological status of archaeological material. Logically, the first inquiry should be into the nature of the intimate relationship between the material world and sensuous experience.

1.2 On materiality

Archaeologists make statements about the past based on material things that exist in the present but are recognised as having endured from the past. There are a number of logical leaps in this statement. One is that people have the capacity for reason and for understanding the conditions that they occupy in two ways: they can interpret an external (object) world of natural things and the accumulation of material things which human beings have produced (that *materiality* within which human beings operate); they can also look back upon humanity itself (the subject world), to consider society as an object, as something to be understood.

This human reasoning process typically distinguishes a series of things we call the material world and a thing we call society, then renders them comprehensible. This mode of thinking, which emerged from a wide range of scientific and philosophical Renaissance discourse, is based on the *a priori* assertion that humanity is separate from, and directly opposed to, nature (Latour 1993). Within this assumption, very broadly, three ways of theorising the subject-object relationship emerged: realism, idealism and constructionism.

1.2.1 Subject, object and materiality

1.2.1.1 Philosophical realism, idealism and constructionism

The position of philosophical *realism* posits a single objective reality indisputably existing 'outside' of us. Reality may be 'distorted' by the media that we use to apprehend it but such media play no part in 'constructing' the world. In theory, language could ultimately express an adequate understanding of both the external world and also of society. This understanding could be neutral: it could actually reflect real conditions, without transforming them. This is an image of language as being some kind of mirror both of material and social reality (Russell 1995: 788).

The empirical sciences tend to operate from a position of philosophical realism, notably attached to research programmes such as logical empiricism which theorises not about what reality is, but rather how we should approach reality. All statements must be meaningful, where meaningful is defined as intersubjectively testable relative to observable physical properties. Thus, statements of the mind, expressing internal feelings, thoughts, insights, and motives are meaningless unless they manifest some physical change or behaviour (*ibid*). If mind is to be given a meaningful place in the universe of physical objects and processes, therefore, it is only according to its physical properties and effects. The New Archaeology was famously attracted to logical empiricism; Binford explicitly cited the arguments of Carl Hempel as "the most useful" (1972, 18) in his research programme (see Gibbon 1989). It is important that, even in the empirical sciences, there has been some disquiet about such propositions. Karl Popper's (1992 [1959]) project was an attempt at revolution in scientific discourse but he was unable to resolve the problem of people's perception of scientific truth as exact. He contended that a search for conclusive verification is irrational, but that attempted refutation is rational. Even within a framework of scientific realism the tenets of logical empiricism become unworkable, as we never actually know a scientific statement to be true, only for it to be false or, provisionally, not false. Popper's idea of *falsifiability* remains useful to those working in the social sciences for reasons that will be discussed below (Section 1.2.1.1).

An understanding of the world as mediated through language is very different. Saussurian linguistics set up a threefold division: the external world, the referent, the thing out there which humanity attempts to understand; within humanity there is the linguistic expression (the signifier); and, also within us, there are our understandings of

those expressions (the signified). In this model far from being a mirror of reality, language actually structures reality (Culler 1985: 117).

Structuralism is a method of interpreting social phenomena in the context of a self-contained system of basic elements whose significance lies solely in the interrelationships among them. Initiated in the linguistics of Saussure, Lévi-Strauss (1966) appropriated and applied the discourse to the study of myth to show that any given story from the mythical cycle does not have meaning apart from the other stories within the same cycle. Similarly, in terms of kinship relations, his conviction was that individual human beings functioned solely as elements of the (often hidden) social networks to which they belonged (Lévi-Strauss 1969a). The aim of structuralism then is the uncovering of deep structures, unconscious motivations, and underlying causes, which account for human action at a more basic and profound level than do individual conscious decisions. Structuralism sees the child as receiving a cognitive system ready-made from previous generations. This system is known in terms such as collective representation, culture, cosmology or ideology (Bloch 1985, 21). The implication, in effect, is that thought thinks itself through the subject. Such a position, in which ideas have a life separate from subjects, is known as philosophical *idealism*.

Unlike anthropologists, psychologists see the subject as constructing little by little the system s/he will use to know and operate in the world. Lévi-Strauss' structuralism holds that structures transform themselves through history, although it provides no real capacity for understanding the articulation of such change. For Piaget this is inadequate: a cultural structuralist theory of cognition must allow for the construction by the child of the particular structures that the anthropologist 'uncovered.' Cognition is subjected to at least two extra-cultural factors: the physical structure of the environment and the neurological process of structuring. This is not a passive process of simple absorption but an active relation of construction. Exactly how this happens, and its relationship to conceptual schema, is not generally agreed upon (Bloch 1985).

In terms of more general scientific research strategies, a similar argument has been used in opposition to the realist position, outlined above. Thomas Kuhn (1970) posited that science is a historically contingent practice constituted and mediated variably through language. Kuhn's worldview is perhaps best characterised as a *constructionist* position in which language and other media are understood to play a major part in 'the social construction of reality.' Although the subject is understood to have a body with *objective* existence (it has material substance), its relationship to its surroundings

including its body is mediated by ideas. Another way of putting this is that social *schemas* are virtual whilst *resources* are actual. A well-known application of this idea is Karl Marx's historical dialectical materialism.

1.2.1.2 Marx on materiality

The writings of Karl Marx have been so useful to archaeologists because they explicitly theorised the relationship between people and their material surroundings. Marx's (1971[1859]) famous 'base/superstructure' account of social and historical development demonstrated that to understand a practice it must first be situated in its historical moment of production and analysed in terms of the historical conditions that produced it. Previous theorists had granted materiality and causal powers to culture while the materiality of nature and of social relations was denied (Marx and Engels 1974[1845]). With such a discursive division between manual and intellectual labour, ideas seemed to have a history independent from the mode of production. Marx (1973[1857]) dissected the self-evidence of binary oppositions, such as those between wage labour and capital, revealing that these terms, rather than serving as "origins" of a scientific discussion of political economy, were themselves historically constituted products.

"The conditions and presuppositions of the *becoming*, of the *arising*, of capital presuppose precisely that it is not yet in being but merely in *becoming*; they therefore disappear as real capital arises, capital which itself, on the basis of its own reality, posits the conditions for its realisation. . . . These presuppositions, which originally appeared as conditions of its becoming - and hence could not spring from its action as capital - now appear as results of its own realisation, reality, as *posited by* it - not as conditions of its arising, but as results of its *presence*" (Marx 1973[1857]: 459-60).

For Marx the recognition of the historical process defetishised 'presence' by making explicit its 'becoming'. He demonstrated that such oppositions were functions of a historically specific process rather than *a priori* of the human condition, as contemporary political economists believed. They were dialectical rather than static. This has powerful consequences for the way in which social norms are conceived, as explained in his formulation of value:

"Not an atom of matter enters into the objectivity of commodities as values; in this it is the direct opposite of the coarsely sensuous objectivity of commodities as physical objects . . . let us remember that commodities possess an objective character as values only in so far as they are all expressions of an identical social

substance, human labour, that their objective character as values is therefore purely social.” (Marx 1977[1867]: 138)

Value is a “social substance”; its objective reality can only be determined and measured on a social scale. Since society is made up of individuals, the registration of this social reality takes effect through the consciousness of individuals. Social relations can only be real to the extent that the same ideas take shape in the minds of all the participating individuals. This does not mean that individual mental processes are the determinants of social relations. The immediate determinants are social, but individual minds absorb and reflect these social processes and enable the individuals to play the roles assigned to them in economic life.

Thus Marx can say that value takes “a purely ideal or notional form” in the minds of individuals. And of course, the recognition of value as social or “mental” does not in the least detract from its objective existence. It is “of the real world,” because, under certain circumstances, it forms the social framework within which definite acts of production and distribution are carried out. It is a mental, or logical, ‘fact’. From this stance, we can define *materiality* as a metaphor for the realisation in various media of the potentialities and pressures of institutional constraints, techniques, technologies, styles and materials.

1.2.1.3 Critique of constructionism in the human sciences

Marx’s ideas of dialectic, fetishisation and ‘becoming’, take us a long way in making explicit the intimate relationship between material experience and our understanding of the world. However, Marx himself could also be accused of fetishism in his assumed separation of nature and society, which pervades all cultural constructionist viewpoints. One excellent illustration of this criticism comes from Judith Butler, who has elaborated problems in this standpoint with respect to the status of ‘sex’ in discourse. Her critique is complicated, but can be summarised thus:

1. The pre-linguistic position of a *tabula rasa* presupposes a category of “nature”;
2. Thus if ‘sex’ is considered as natural and thus ‘un-constructed’ it cannot be accounted for and political contestation is confined to the level of gender (‘the interpretation of the meaning of ‘sex’);
3. On the other hand, if ‘sex’ is the fictional premise of a pre-discursive ground produced by the concept of gender, there are two further possibilities:
 - i. either it cannot explain how the bodily materiality of sex can be produced by language/discourse;

- ii. or it anthropomorphizes “construction” into a nominative subject endowed with the power of self-causation and causing everything else. (Butler 1993: 6)

What Butler has achieved here is similar to Marx’s defetishisation of capital. Simply put, both anthropology and psychology, and even Marx can be criticised for effectively marginalizing material conditions in favor of abstractions. What is missing from all three is the ‘becoming’ of basic conceptual categories such as nature and culture, despite their crucial relationship to the way practice transforms the material world. What Butler does, as described in the next section, is to make the body the locus for the realisation of all such concepts, through the performances in which it repeatedly engages. This is important for archaeologists because a focus on the body takes us away from metaphysical concepts such as ‘society’ and ‘culture’ to a discursive area where we can more easily discuss the becoming of materiality.

1.2.2 Butler’s reformulation of constructionism

Crucial to Butler’s thesis is the idea that words are not purely descriptive. The philosopher J. L. Austin introduced the term *performative* to describe an utterance (or speech act), such as “I promise”, that is itself the performance of an act rather than a description of an act (Flew 1979: 265). Marshall Sahlins demonstrated an anthropological application for this idea in *Islands of History*.

“For generally in the social sciences we give priority to the institutional forms over their associated practices, in this one direction only, the conduct of the parties concerned following from an existing relationship. Friendship engenders material aid: the relationship normally (as normatively) prescribes an appropriate mode of interaction. Yet if friends make gifts, gifts make friends; or it may be, as Eskimo say ‘gifts make slaves - as whips make dogs.’ The cultural form (or social morphology) can be produced the other way round: the act creating an appropriate relation, performatively, just as in certain famous speech acts: ‘I now pronounce you man and wife.’” (Sahlins 1987: xi)

1.2.2.1 Performativity

Recent poststructuralist writers have extended the meaning of performative by using the concept of *performativity* with respect to the power of any discourse to “produce the phenomena that it also regulates and constrains” (Butler 1993: 2). Performativity is neither free play nor theatrical self-presentation (1993: 95), and it is never reduced to the meaning or outcome of a single performative act, or even a series of actions. It is

always the reiterative and *citational* practice by which discourse produces the effects that it names (1993: 2). The importance of the term lies in its recognition that it is the constant 'citation', or repetition, of particular conventions that brings about, shapes and maintains those norms. The speech is no longer a singular act given birth by an originary subject who intends it, but arises out of a discursive matrix in a process of reiteration, bounded by power constructs and Foucauldian regulatory ideals (1993: 22). In other words, the materiality of people's lives is bound up in repetition and reiteration, which is informed by and reproduces historically specific habitual codes, a thought to which I will return below.

Of course, language is not the only citational practice that that serves to maintain norms; the body's movement and practice in organised space is key in the 'embodiment' of particular conventions, as Foucault (1979) demonstrated. These themes will be resumed in Sections 1.3 and 1.4, but for now it is important to establish the body as the centre of material experience and understanding by bringing Foucault's work into the discussion.

1.2.2.2 Foucault on the body

For Foucault the body had a history. It was the site of power relations and as the object of knowledge; the body could not be understood as a natural biological entity, but instead is constituted in discourse. This is not to suggest discourse as somehow separate, layered upon the surface of the pre-existing body, or that it is simply how society makes sense of the biological reality of the body. Rather, for Foucault, discourse (e.g. sexuality) is real and materiality (e.g. the sex of the body) is a product of that discourse.

“We must not place sex on the side of reality, and sexuality on that of confused ideas and illusions; sexuality is a very real historical formation; it is what gave rise to the notion of sex, as a speculative element necessary to its operation.” (Foucault 1981: 157)

Foucault demonstrated that what we imagine as the material underpinning of our entire existence is the product of history. While aspects of physicality may be historically constant, our knowledge of them is mediated by discourse. In fact, the ideas that make up discourse are what is most real and most material to us.

1.2.2.3 Materialisation and citation

While nobody would deny that the body is concrete physical matter, the materiality of the body is another issue. The materiality of the body determines how we are oriented

toward the world, both in physical and psychological terms, and is contingent on race, class, and gender. To be material means to *materialise*, where the principle of that 'materialisation' is precisely what matters about that body, its very intelligibility (Butler 1993: 32). Foucault identified these ideas at the base of western thought concerning space, place, time being and matter. In Butler's reformulation of constructionism, the body can be neither purely material nor purely discursive (i.e. socially constructed). The construction of the subject comes after and not prior to the materiality of the body emerging through a temporal process of enactment; so, for example, sex is an ideal construct, which is forcibly materialised through time (1993: xiii). Butler's idea of *iterativity* reinforces Foucault's notion of a body constituted through discourse. She describes the body:

“. . . not as site or surface, but as *a process of materialization that stabilizes over time to produce the effect of boundary, fixity, and surface we call matter*. That matter is always materialized has, I think, to be thought in relation to the productive and, indeed, materializing effects of regulatory power in the Foucauldian sense.” (Butler 1993: 9 original emphasis)

What *matters* is what is repeated, repeatable (even if differed) deferred in each repetition which never quite aligns with the ones before/after it. So a particular understanding of temporality is at work here, one that plays on difference and repetition.

1.2.2.4 Meaning and matter

The reason for my consideration of Butler's work here is that any either/or separation between material and discursive/constructive accounts of a material object and a category can be questioned in this same way: “Can language simply refer to materiality, or is language also the very condition under which materiality may be said to appear?” (1993: 31). The social efficacy of the material world depends upon signification. Just as Butler writes, “There is no reference to a pure body which is not at the same time a further formation of that body” (1993: 8-9), materiality and thus resources are not exterior to language even in their constitution:

1.2.3 Summary

Although Butler's concept of performativity was developed with respect to the body, it has wide application for technology and how people work together, a theme I will develop in Chapter 3. She shows that it is precisely because conceptual schemas are materialised, not just pinned on, that they are so powerful. The depth that one finds in

tradition is the result of past materiality, a forgotten history that has been naturalised. The distinction between depth and power alerts us to the attributes of institutionality and its decomposition, but it does not help us to explain them. The works of Foucault and Butler demonstrate effectively how iterative, citational practices reproduce behaviour bounded by regulatory ideals. What is less clear is how practice changes over long periods of time, but if the body is the site of historical power relationships, that will be best examined through theories of practice that maintain *people* as the media of historical conditions. It is to some of these theories that I now turn.

1.3 Agency, structure and tradition

Anthony Giddens' theory of structuration (1979, 1981a, 1981b, 1984) and Pierre Bourdieu's theory of practice (1977, 1990) are congruous in some senses with the idea of performativity. These scholars are part of a movement against structuralism that calls for a more action-oriented approach to social analysis, centring on the creation of people as subjects through the concept of *agency*. Agency is the means of knowledgeable action, irreducible to the actions of the autonomous individual. Through agency, subjectivities (expressed as the individual or the community) are realised in practice. Both Bourdieu and Giddens emphasise a more comprehensive understanding of human agency and of how the practices of agents either reproduce or change the social structure. Both attempt to explain human action beyond previous rational actor theories. Both redefine the relationship between structure and the practices of the social agent. Most importantly for archaeology, both write of dynamic models of social analysis that allow for social change, even if they do not deal with change as substantially as we would like.

1.3.1 Redefining human action

1.3.1.1 Bourdieu on human action

Bourdieu acknowledges actions that many existing theories did not consider "logical and rational," and maintains that not all action is the result of calculated interests. He sees rational actor theories as biased by the 'objective' perceptions of the social scientist; specifically, that they only recognize actions perceived as being rational:

"The 'rational actor' theory, which seeks the 'origin of acts, strictly or not, in an 'intention' of 'consciousness', is often associated with a narrow conception of the 'rationality of practices, an economism which regards as rational, those practices

that consciously oriented by the pursuit of maximum (economic) profit at minimum (economic) cost” (1990: 50)

“. . . if one fails to recognize any form of action other than rational action or mechanical reaction, it is impossible to understand the logic of all actions that are reasonable without being the product of a reasoned design.” (1990: 50)

In other words, the logic of practice from the agent’s point of view is often quite different from that of the logician (1990: 86). Social analysts can only understand the internal logic of ritual performances, such as Kabyle marriage practices, by discovering the circumstances and conditions that generate them (1990: 97). Bourdieu feels that such an analysis would demonstrate that each practice is “...rarely entirely coherent or entirely incoherent” (1990: 12), thereby implying the inadequacy of standard notions of logic and rationality.

Bourdieu states that often “agents obey the impulses of feeling or the injunctions of duty more than the calculations of interest” (1990: 160). His concept of *habitus* relates to agent’s “impulses of feelings” and “duty.” He describes *habitus* as ‘a system of dispositions’; an integral part of human action:

“The word disposition seems particularly suited to express what is covered by the concept of *habitus* (a system of dispositions). It expresses first the result of an organizing action, with a meaning close to that of words such as structure, it also designates a way of being, a habitual state (especially of the body) and, in particular a predisposition, tendency, propensity, or inclination” (1977: 214).

In other words, the use of the word ‘disposition’ allows the theorist to acknowledge the variable malleability of structures. Bourdieu posits no direct causal link between *habitus* and action, but implies that *habitus* influences our actions (“it also designates a way of being”) and that our actions influence the production and reproduction of *habitus* (“the result of an organising action”). *Habitus* seems to create a circular control on actors - it directs (but does not dictate or determine) their actions towards its endless production and reproduction.

1.3.1.2 Giddens on human action

Giddens, like Bourdieu, rejects prior assumptions that all actions are the result of an actor’s conscious desires for maximisation:

“Such intentionality is a routine feature of human conduct, and does not imply that actors have definite goals consciously held in mind during the course of their activities.” (1979: 57)

He redefines the relationship between intentionality and action in his concept of the “reflexive monitoring of actions” (1981b: 35). He refers to the process through which actors routinely monitor their actions between other actors and the outside world. Within the course of this routine monitoring, intentionality is only one of many components of social action and interaction.

Giddens acknowledges the complexity of agency, building upon prior models to include the reality that actors sometimes construct their actions unconsciously. Within his stratification model of action, he distinguishes between the unconscious knowledge of *practical consciousness* – tacit knowledge that actors cannot talk about – and the conscious knowledge of *discursive consciousness* – knowledge that actors can talk about (1979: 57). He adds that even when actors act intentionally, the consequences of their actions are sometimes “unintended.”

The effects of routine action upon Giddens’ social actor are similar to those captured in Bourdieu’s idea of *habitus*. According to Giddens, actors adhere to routine action because of a desire for ‘ontological security.’ This is not to say that their being is necessarily an issue for them, rather that in any set of historical circumstances there are ontological certainties and that “actors’ wants remain rooted in a basic security system, largely unconscious and established in the first years of life.” (1979: 218)

Giddens, therefore, proposes that routine actions are relatively unmotivated. Routine interactions reduce anxiety because actors find them unproblematic. They are so taken-for-granted that actors often cannot explain why they do them.

The terms ‘intention’ and ‘purpose’ as such are rather misleading, or can easily become so, since they imply that the flux of actors’ life-activity can be clearly (dissected) into strings of intended outcomes . . . The purposive content of everyday action consists *in the continual monitoring by the actor of his [sic] own activity* . . . It is really more appropriate to speak of the *rationalisation of action* against the background of the agent’s reflexive monitoring of conduct.... ‘Reasons’ may hence be defined as grounded principles of action, which agents ‘keep in touch with’ as a routine element of the reflexive monitoring of behaviour. (Giddens 1976: 82- 84, original emphasis)

Like Bourdieu, Giddens rejects the assumption that actors consciously construct all actions and that actors are strictly motivated by desires for economic profit. Like Bourdieu, Giddens identifies new boundaries that hold actors back from performing certain anxiety-provoking actions. Because Giddens' social actors desire security, they frequently perform routine actions, and this continually reproduces a static form of social life. Finally, both Bourdieu and Giddens emphasise that action must be situated historically against "the demands of the outside world." It is to their conceptualisation of these demands that I now turn.

1.3.2 Redefining social structure

The relationship between social structure and agency is conceptualised quite differently in the theories of practice and of structuration than it is in orthodox structuralism. According to Giddens and Bourdieu structuralism overemphasises social structure and ignores the actions of the individuals that live within the structure. Further, it abstracts the element of time through its use of synchronic analysis, and therefore denies the possibility of understanding change. Their alternatives allow room for the practices of the social agent to interact with the social structure. They also stress the importance of incorporating time into social analysis, which permits a dynamic, rather than a static model of social analysis. Clearly this is a useful approach for a discipline, such as archaeology, in which diachrony is a concern.

1.3.2.1 Bourdieu on social structure

For Bourdieu, society viewed as a coherent whole is a false representation. Practical logic is seldom completely coherent. He rejects structuralism, and he instead proposes a theory of practice that allows for societal contradictions by studying the interplay between structure and practice (1990: 10). Prior theories:

"reduc[e] historical agents to the role of supports . . . of the structure and reduces their actions to mere epiphenomenal manifestations of the structure's own power to develop itself and to determine and overdetermine other structures." (1990: 41)

Bourdieu suggests that social scientists have reified or fetishised their abstract constructions such as "'culture', 'structures', 'social classes' or 'modes of production' - as realities endowed with social efficacy" (1990: 37). He questions whether such objective categories are even meaningful in a practical sense to the social actor. Social scientists often use categories like kinship terms in a way that ignores the fact that the

social agent actively uses and perpetuates *or changes* the relationships that comprise them (1990:35). Bourdieu's theory of practice, then, provides a new lens through which we can view the dialectic between objective social structures and the subjective practices of the social agent. So *habitus* might be seen as the theoretical apparatus which controls this interplay between the social structure and agency. It can also direct actors into repetitive and routine actions.

“The *habitus*, the durable installed generative principle of regulated improvisations, produces practices which tend to reproduce . . . regularities . . .”
(1977: 78)

So Bourdieu's theory of practice rejects structuralist goals for finding the perfect coherence of social life and the notion that the social structure constrains actions of social agents. However *habitus* ultimately propels the social actor into actions that ensure its reproduction, but is nevertheless a concept through which material action and change may be grasped. Bourdieu's approach is necessarily localised and non-totalising, because it deals with the scale at which the everyday work of bodies operates. For this reason it is useful to archaeologists whose material is generated on a similar scale.

1.3.2.2 Giddens on social structure

Giddens also argues that earlier models of social structure and action made a critical mistake in constructing rigid oppositions between structure and the individual in which actions were understood as determined by abstract, omnipotent structures to which people had little or no access. These models were rooted in Marx's spatial metaphor of base and superstructure (Marx and Engels 1974 [1845]) but unlike Marx failed to consider the becoming of social practices in time. It was in the context of a critique of Marx's historical materialism that Giddens described structural properties as ways of thinking and operating that are extended in both space and time. The theoretical insight that allowed Giddens to escape the dualist trap was the conception of the relationship of the individual to structure as the “duality of structure” (1979, 1-95, 1984, 1-41):

“. . . the structural properties of social systems are both the medium and the outcome of the practices that constitute those systems.” (1979: 69)

Giddens' concept of structuration advocates a reflexive relationship between structure and agency. On the one hand, structure, according to Giddens (e.g., 1979: 64), exists outside “time and space” as memory traces or “absent differences” that therefore cannot be studied empirically or as a construct of the academic (as can the material traces of

meaningful action). At the same time, rather than existing outside of the ongoing process of everyday life, structure is constantly recreated by action as what Giddens calls the “structural properties” of social practices. Structures are latent for the actors involved, but can be hypothesised by an observer. In his definition of structuration Giddens describes the relationship between social structure and agent as “mutual dependence.” This important phrase designates Giddens’ break from the structuralist idea of structure harnessing the social actor. Social structure is now “both enabling and constraining” (1979: 69), which allows the social agent some freedom of action outside the rigour of the social structure. What a community does and how it appears is established by regular patterns of interlocked behaviours, typically without the participants’ awareness that the organisational rules and resources are the conditions which allow them to successfully participate in interaction.

Giddens also attempts to free the social agent ‘cognitively’ from the constraints of social structure in his theory of structuration. Giddens’ social agent is knowledgeable:

“. . . every social actor knows a great deal about the conditions of reproduction of the society of which he or she is a member.” (1979: 5)

This does not mean that actors are always able to articulate their knowledge as exemplified by the concept of practical consciousness, or are necessarily aware of the unintended and far-reaching consequences that their actions and interactions may have beyond their immediate setting. The outcomes and consequences of people’s social interactions, both intended and unintended, “become stretched across wide spans of time and space” (Giddens 1984, xxii). Giddens, nonetheless, rejects paradigms that depict social actors as “cultural dopes” who blindly carry out their part in reproduction of social life (1979: 71).

In the theory of structuration, social life is taken to consist in regularised social practices. Life is not experienced as structures, but as the *durée* of day to day existence in the context of conventions ordered above all on the level of practical consciousness. The continuity of daily life is not a directly motivated phenomenon but assured in the *routinisation* of practices. In tribal and class-divided societies routinisation of daily life is governed above all by tradition. Unlike earlier theorists, whose notion of structure was based on a spatial metaphor and did not adequately recognise the existence of social practices in time, Giddens describes structural properties as ways of thinking and operating that are extended in both space and time. Where structure had been a static architecture of power above or outside human activity, structural properties function

like structures at any given moment, but they only exist in the real time of social activity and have to be constantly maintained by the actions and memory of social agents. They are both the medium and the outcome of ongoing social activity. This characterisation of dialectical action leaves open the possibility for social change.

1.3.3 Actors and social change

Although Giddens expressly attempts to explain social change, Bourdieu does not address social change as one of his primary concerns and only discusses it directly in a few paragraphs. Many social scientists have used practice theory and structuration theory to conceptualize social change, because each breaks away from static structuralist models of analysis. Both give the social actor freedom to act outside of the restrictions of previous models of action, allowing for a dialectic between the social structure and the practices of social agents. However, it can be argued that both actually resist social change because of their emphasis on the repetitive nature of social life. Giddens notes that both he and Bourdieu depict social life as “inherently recursive” (1979: 217);

“. . . objective structures are themselves the product of historical practices whose productive principle is itself the product of the structures which it consequently tends to reproduce.” (Bourdieu 1977:83)

For Giddens, Bourdieu’s notion of *habitus* is an essential part of social reproduction defined as, “habits which are shared by a group or community of actors” (Giddens 1979:217). But under what circumstances can these habits break in order to allow for social change?

1.3.3.1 Bourdieu on social change

Bourdieu’s treatment of the relationship between *habitus* and social change remains underdeveloped. In the few pages that mention change, *habitus* appears to be more prone to reproduction than to the production of new social forms.

“. . . *habitus* tends to protect itself from crises and critical challenges by providing itself with a milieu to which it is as pre-adapted as possible, that is, a relatively constant universe of situations tending to reinforce its dispositions by offering the market most favorable to its products.” (1990: 61)

“. . . *habitus* tends to ensure its own constancy and its defence against change through the selection it makes within new information by rejecting information

capable of calling into questions its accumulated information, if exposed to it accidentally or by force, and especially by avoiding exposure to such information.”
(1990: 60-1)

Bourdieu omits any real explanation of how change occurs. He mentions that *habitus* may be exposed to new information “accidentally or by force” but he neglects to expand his analysis of how these forces of change can, in fact, affect *habitus*. Not that his theory is entirely static: he does stress the element of time in his analysis of social action. His short-term concept of time, however, partially explains why his treatment of social change is so deficient.

Bourdieu’s use of Kabyle gift giving exemplifies his notion of time as being comprised of short-term actions between actors. By analysing time delays between reciprocal gift-giving practices one can learn a great deal about interpersonal strategies and power relations among social actors. Long delays between gift returns can empower the position of the individual that is obligated to give a return gift. Bourdieu explains that this is because the person who is waiting for the gift is unsure of the future intentions of the gift giver (1990: 106). He finds this analysis far more illuminating than prior investigations, which ignore inconsistencies, such as time delays or failures to reciprocate, within cycles of reciprocal gift giving.

Bourdieu’s emphasis on short-term practices makes it difficult to determine their long-term effect. Specifically, Bourdieu fails to present examples of how the accumulation of short-term practices over a long period of time can result in social change. Thus, his analysis noticeably lacks the temporal flexibility and duration of Braudel’s (1980) concept of history as the *longue durée*; it sits on just one level. It appears that these short-term practices are only part of the reproduction process of the system as directed by the forces of *habitus*. When Bourdieu briefly discusses that changes in practices can occur, he still stresses that they are resisted by what he calls “circular control.” By “circular control” he refers to the process by which “. . . each member helps to impose on all the others, . . . the same constraint that they impose on him” (1990: 110). He suggests in the quote below that such breaks in the system are unlikely:

“The idea of breaking this kind of circular control, which could only be cast off by a collective raising of consciousness and a collective contract, is excluded by the very logic of the unanimity of effect . . .” (1990:110-111)

If changes should occur in religious practices for example, Bourdieu explains that they usually happen suddenly because circular control loses its power as soon as people

realise that they can break old practices (1990: 111). It is unclear exactly what circumstances create these sudden changes because Bourdieu does not give the reader a history of Kabyle society in which such breaks (presumably) occurred over time. His short-term concept of time and action only leaves room for sudden breaks in the status quo of which he fails to present ethnographic examples. The repetitive nature of short-term events is over-emphasised and he under-represents how these events cause changes over long periods of time.

1.3.3.2 Giddens on social change

Giddens's sense of time and history is substantially longer than that of Bourdieu's, in fact he argues against a synchronic social analysis and proposes a long-term analysis of social development in which change is the norm, stability the construct.

“The sedimentation of institutional forms in long-term processes of social development is an inescapable feature of all types of society, however rapid the changes they may undergo. Only by grasping this conceptually, rather than repudiating it, can we in fact approach the study of change at all.” (1979: 7)

Giddens presents several examples of how change can only be understood by looking at long-term historical processes. According to the “leapfrog” notion of change, “. . . the ‘advanced’ in one set of circumstances may inhibit further change at a later date...” (1979: 229). Giddens uses the early industrial development of Britain to support his argument. Britain later fell behind, economically, nations that industrialised later and were able to adapt more readily to the demands of a modern market (1979:220). Its current economic situation is therefore only better comprehended through its long-term economic development.

He also discusses how social change can occur in traditional societies (societies that are held tightly within the grips of tradition) and modern societies. Giddens suggests that change can occur in traditional societies in two major ways: the first is incremental change. This he defines as “change that occurs as an unintended outcome of social reproduction itself...” such as changes in language, and the second is the result of external forces, which can act to produce de-routinisation (1979: 220). Giddens defines de-routinisation as “any influence that acts to counter the grip of the taken-for-granted character of day-to-day interaction” (*ibid*). This analysis implies that change occurs as a result of accidental “unintended” outcomes, or by a break in the process of routine action. Unfortunately, Giddens only theorises about these proposed forces of change,

neglecting to present examples of how these accidents and breaks in routine action actually occur.

In short, Giddens convincingly conveys the importance of studying social development over long time spans yet his emphasis on the repetitive nature of social life overshadows his attempts at a dynamic model of social analysis. Giddens proposes several forces that may cause change. However, he fails to present examples of how change actually occurs. Thus our understanding of social change remains vague and incomplete.

Part of the problem with conceptualising change is that the reproduction of structures takes place over time. Time is a “virtual dimension” which can be hypothesised analytically, but only observed by means of three-dimensional (geometrical) representations. The fourth dimension allows us to bring together what has been remote. Representations are conceptualised, using geometrical metaphors, as either *instantiations* or *trajectories*. Instantiations explain the complexity in the aggregate at a certain moment, while trajectories use the time axis for structuring the narrative. As Giddens (1984) argued, one of the dimensions is bracketed in either case: it is a ‘blind spot’ in theoretical appreciation. One needs to select one background or another to stabilise a perspective. The assumption of a duality of structure provides a methodology for relating institutional analysis and the analysis of strategic conduct: the one narrative can be used as a context for informing the other (Giddens 1976). The two narratives, however, remain juxtaposed by “bracketing” the one perspective when focusing on the other (Giddens 1984). This model was intended to offer a specific solution to the gap between action theory and institutional analysis in American sociology (Giddens 1981a: 167).

1.3.4 Summary: agency, materiality and ‘everyday life’

Like Butler, Bourdieu and Giddens emphasise the importance of reiterative everyday activities, and taken-for-granted practices in reproducing not just society but societal norms. Again, it is because these schema (Giddens’ structures; Bourdieu’s *habitus*) are materialised that they are powerful. The depth of schema is the result of past materiality, a forgotten history that has been naturalised. Materiality is the way of producing meaning; meaning is the way of producing materiality. Materiality and meaning are not exterior to each other, as the conceptual divide between social and cultural systems, between resource and structure, and perhaps the term “embedded” all imply. For Giddens, the predictability of social life . . .

“. . . is a skilled accomplishment of lay-actors, not a phenomenon governed by mechanical forces. The predictable character of the social world is ‘made to happen’ as a condition and result of the knowledgeable application of rules and resources by actors in the constitution of interaction . . . The relations between practical consciousness and the structural properties of social systems are founded above all in the *routinisation* of day-to-day life. It is essential not to confuse the massive importance which the routine has in the reproduction of social life with blind habit on the one hand or with ingrained normative commitment on the other . . . On the contrary the prevalence of the routine or taken-for-granted rests precisely upon the casually employed, very complex skills, whereby social actors draw upon and reconstitute the practices layered into institutions in deep time-space.”
(Giddens 1981b: 64-65, original emphasis)

Michel de Certeau (1984) alerts us to choices within “the practices of everyday life” through which transformation other than incremental change can take place, even the possibility of flux. As such he is concerned with the scale at which people live their lives against a background of grand narratives and structures, and with the poetics of how we can capture and understand these processes in language. Although he is writing about ways of resisting the materialisation of the modern state, Certeau proposes that such actions are not unique to just a disciplinary society. The “tactics of escape” which he terms, “tricks” and “games” allow one to use ordinary language and culture to subvert any dominant system and create new spaces. *La perruque* is a French word that describes workers using scrap materials and factory machines to create objects on their own time for themselves. Certeau marvels at *la perruque* as a way in which workers are using the tools that ‘oppress’ them to create new objects; he sees this as a type of space. Certeau concludes the tactic of *la perruque* is spreading to other sectors of society such as culture and language. The second major tactic of escape that Certeau outlines is *walking*. Walking, he believes, allows voyeurism, observation, and fragments and disrupts the city’s immobile order. Walking opens up new spaces, creates legends or stories and joins street numbers with buildings and meanings. And most importantly, it allows the voyeur to create his or her own space and own meaning from the regimentation of cities.

Structuration and practice theory enable a firm focus on observable action and empirical explanation. Schemas are not observable but are implicated recursively in the reproduction of social systems. ‘Everyday life’ then is not haphazard and arbitrarily lived, neither is it coercively imposed. Cultural order includes both the rule and the

transgression. Therefore, our examination of the 'practices of everyday life' must pay close attention to the way in which our conceptual technologies produce our object of study - put simply, to how we 'stage' 'the everyday'. Clearly, for archaeologists, there is no unmediated access to such performance. But the potentials of materiality and social action, outlined above, have found articulation in a model in which the relationship between the two is addressed: that of meaningful action considered as a text.

1.4 The textual analogy

The last section reviewed ideas about how the knowledgeable action of subjects was constrained and enabled by structures. Giddens and Bourdieu demonstrate that the historically organised material world is part of the structuring medium within which agents act knowledgeably; it both orientates, and is the product of, actions and discourse. As the interpretations of agents are constrained by conventions, some method has to be employed whereby the material world can be analysed in terms of invariant physical forms and in terms of the interpretations and intentions of actors.

The problem for an archaeologist is how to understand durable material remains as factors that constrained and enabled prehistoric action, thus structuring social life. Henrietta Moore approached this problem explicitly in an anthropological context by considering space as analogous to text. This approach, she believed:

“... extends the analysis of event and meaning, it provides a theoretical framework for linking social action to the social structures which inform action, and it provides a theoretical framework for linking the organisation of space to the material conditions of its genesis.” (Moore 1986: 86)

In her study of the Endo of Kenya, Moore used text as an analogy for how the organisation of space comes to have meaning and how are those meanings maintained through social interaction. This enterprise has been profoundly influenced by the work of Paul Ricoeur. Ricoeur established the relationship between discourse and language and then explored the extent to which meaningfully oriented behaviour (the object of the human sciences) conforms to the paradigm of text (1981: 197-221). Moore was able to use his approach because, like texts, (1) spatial orders exist in persistent, if not permanent forms, and (2) various forms of distancing enable us to separate their use from their immediate situation.

1.4.1 The fixation of action

It is as *discourse* that language is spoken or written. Discourse is language event or linguistic usage. It is realised temporally while *language* is virtual and outside of time (it lacks temporality). Language is fixed for the sake of discourse (which otherwise disappears). The organisation of speech both precedes and follows the action, which takes place therein; it determines those activities and is, at the same time, their product. In a text of any kind, what we inscribe is the meaning of the speech event not the event as event (Ricoeur 1981: 198-199). Ricoeur suggests that *meaningful action* can be an object for science under the condition of a kind of objectification that is equivalent to fixation of discourse by writing. Action has a sense component (conceived as structure and analogous to language) and a reference component (conceived as action and analogous to speech). Like the speech act, the action-event develops a dialectic between its temporal status and its logical stature (the relationship between sense and reference). What makes it real is that it leaves its mark on time, which calls for a reading: when it is done it is *inscribed* (Ricoeur 1981: 205). Therefore the first form of distanciation in Ricoeur's model is that meaning surpasses event.

Moore identified that, understood as a text, the spatial order is conceived as something more than merely the physical manifestation or product of activities conducted in space (1986: 87-88). Action takes place:

“within an historically constituted spatial framework . . . in consequence of and in relation to . . . prior and future interpretations of the spatial order. As a result . . . individual actions, even those often repeated or reidentified as the same in their repetition are more akin to speech utterances than to acts of writing. Movement through and action in a spatial context must be analysed as discourse . . . delimited by the strategic concerns of the actor, by the responses of individuals to whom the action is addressed . . . and by the shared immediacy of the spatiotemporal context of the individuals concerned.” (1986: 89)

This discourse of practical logic or consciousness (see section 1.3.1) is analogous not only to speech, but to also to the reading of a text. Meaning does not inhere in the organisation of space but must be invoked. This invocation is the result of practical activity of social actors in socially and historically constituted relationships. Actual bodily movement through and action in ordered space are, therefore, simultaneously action and understanding. As meaning surpasses event “what is inscribed in the organisation of space is not the actuality of past actions but their meaning” (1986: 88).

1.4.2 The autonomisation of action

In spoken language the subjective intention of the subject and the meaning of the discourse overlap - it is the same thing to ask what the speaker or his discourse means. But written text "*frees its meaning from the tutelage of mental intention*" (Ricoeur 1981: 200, original emphasis). As text is detached from author, action is detached from the actor and develops consequences of its own (1981: 206). This is the second form of distanciation: that what the text signifies does not coincide with the readings of individual authors/actors.

Similarly, since the spatial order has a history and a future its significance cannot be identified with the intentions of individual actors. By analogy with words, actions, and the spatial orders they produce, usually have more than one meaning: they are polysemic (Moore 1986, 89). Hypothetically there could be as many interpretations as there are actors. This prompts Moore to ask why and how particular interpretations of a spatial text become necessary or appropriate under specific social and economic conditions? The answer lies in understanding that actions, like words, are not understood as islands, entire unto themselves. If it is true that there is always more than one way of interpreting a text it is not true that all interpretations are equal. Cultural convention and social and historical conditions determine the horizons of expectations within which a text becomes intelligible; they also determine whether or not certain interpretations will be deemed appropriate.

Like words, the action with respect to ordered components of the material world has metaphorical qualities. It is the interdependence of an action and the context of its performance that distinguishes its metaphorical component from mere polysemy. For instance among the Endo, ash generally has powerful associations with womanhood and women's power in the house because of the tasks for which women take responsibility (especially clearing the hearth of ash). But different metaphorical meanings are invoked from ash at the boys' circumcision house because of the associations of this context with clan and lineage. These associations are "not the product of an inherent ambiguity, but the result of a contextual invocation of "meaning" which allows for reinterpretation in specific contexts" (Moore 1986: 126).

This alerts us to social time as a place of durable effects and persisting patterns, which become documents of human action. Thanks to the sedimentation of action in social time, some actions become institutions in the sense that their meaning no longer coincides with the logical intentions of the actors. Meaning may be de-psychologised to

the point where the meaning resides in the work itself. As Bourdieu described (see Section 1.3.2.1), practices of individual actors are not to be accounted for in terms of rule following but as ‘working through’ sets of principles in social situations. Meaning, then, is articulated from within sedimented or instituted works. Ricoeur terms this a kind of ‘objectivity’, which proceeds from the social fixation of meaningful behaviour (1981: 207).

The example of the Endo use of ash shows that to ask about the meaning of an element within the totality of spatial text is to ask what it does. And to understand what it does one must analyse the developing activities of the actor in relation to their temporal and spatial trajectory through ordered space. An important action develops meanings, which can be actualised or fulfilled in situations other than the one in which the action occurred. The meaning of an important event exceeds, overcomes, transcends, the social conditions of its production and may be re-enacted in new social contexts. In it, a knowledgeable actor can recognise other aspects of a world surrounding the situation, in which the act makes sense. In the same way, actors are aware, in an unconsidered way, of an individual artefact’s past and future, its passage through different regimes of value, with which it acquires a kind of biography (Kopytoff 1986). The consequence for archaeology is that the meanings evoked from artefactual forms may have been informed by their mobilisation in other contexts, a point to which I return in Section 3.5.2.

1.4.3 World

Discourse refers to a world, which it claims to describe, express or represent. *Language* lacks world. In spoken discourse dialogue refers to the *situation* common to the interlocutors, which surrounds the dialogue. Written text frees its reference from the limits of ostensive reference. To read is always to read in relation to other texts, in relation to the codified mode of the norm of meaning production. What we understand first in a *discourse* is not another person but a *project*. Writing, in freeing itself from the narrowness of a dialogical situation, reveals this destination of discourse as a projection of the world (Ricoeur 1981: 201-202). While the meaning given to the organisation of space is context or “practice” dependent, it can also refer through association to those meanings that will be given in other contexts. Therefore the third form of distancing with which Ricoeur is concerned is this: a meaningful action is an action the *importance* of which goes beyond the *relevance* to its immediate situation. The reference limits of

the text, unlike those of speaking or acting, are not confined to the context of one action or set of actions.

As discussed above, the text presents a limited field of possible interpretations. But it is always possible to confront interpretations, argue against them or arbitrate between them. This process of argumentation (Giddens 1979: 88-94) usually involves the ability to marshal resources, appeal to authority or extend control in various ways and takes place interdependently on the discursive and the practical level (Moore 1986: 92). Thus while the Endo explicitly state that women are subordinate to men, the former have considerable power "over" the latter, deriving from their control over production, reproduction, consumption and from their involvement with an exclusive corporate group of neighbours and kin. This power might be exercised through the timing of meals, refusing to cook or refusing to provide grain for men's beer until their conditions are met (1986: 120-1). Similarly, Moore understands spatial organisation as a representation bound up with the conduct of a continual process of argumentation:

"To provide a reading of a spatial text is to stake a claim in the process. It is, quite simply, to provide an interpretation. The ability to provide interpretations, based on prior representations, and then to deem those interpretations appropriate, is not one held equally by all members of a given group." (1986: 93)

In the context of the Endo's new cash economy Moore shows that the changing organisation of the house seems to be related to changed gender relations and the emergence of new tensions and concerns. However, with men now understood as 'providers,' what had actually changed was the symbolic work done by symbolic representations given a new set of material conditions. The interdependence of the sexes was in fact concealed by an ideological representation of the woman as "provided for" grounded, sustained and produced as ideological discourse. Therefore "space considered as a text does not take as its object real social and economic conditions, but rather certain ideological representations of the real" (1986: 160).

Moore's examination of Endo domestic space has all the analytical components of what Barrett (1988a) describes as a *field of discourse*. It has a *tempo* of routine productive and consumptive tasks, marked by variable presences and absences of categories of actors (men, women and children). Its spatial extent, while not tightly bounded (it may 'shade off' beyond the house to include middens and ancillary buildings), provides a scale of face-to-face encounters. It also provides a historically contingent context for

engagement, as well as the mediation, transformation and mobilisation of authoritative and allocative resources.

1.4.4 Human action as 'open work'

The final form of distancing discussed by Ricoeur is that the signification of the text is not addressed to a particular audience, but to an indefinite range of possible readers. It is in *discourse* that all messages are sent. *Language* is the condition for communication but lacks other, another person, an interlocutor. Dialogue is addressed to the interlocutor. The *vis-à-vis* of the written is whoever knows how to read. In escaping the momentary character of the event, the bounds lived by the author, and the narrowness of ostensive reference, discourse escapes the limits of being face to face. An unknown, invisible reader has become the 'unprivileged' addressee of the discourse (Ricoeur 1981: 202-203).

This aspect of the textual metaphor has no particular importance for Moore, as the object of her study is the original lived context of spatial organisation. However, it has been crucial for other anthropologists. In the context of the colonial period in the Pacific Nicholas Thomas (1991) suggests that objects are not what they are made to be, but what they have become (1991: 4). Outside the sphere of normative ideology under which objects are produced objects become "promiscuous," re-constituted through moments of desire and incorporation in which shared histories or their absence become crucial; and moments in which prior meanings and affiliations can be violently distorted (1991: 208).

Similarly, in the context of Neolithic ceremonial structures, Richard Bradley (1993) has referred to "the afterlife of monuments," their re-use by people living centuries, sometimes millennia after initial construction. They also became "promiscuous" as they became harnessed to the concerns and ideologies they would then represent. In the study area of the current work, seven "monument complexes" may have developed over the course of more than two thousand years, over which social organisation may have seen considerable change (Barnatt and Collis 1996: 62-9).

All material effects of significant events and deeds are opened to this kind of practical interpretation through the *praxis* of the present. The interpretation by contemporaries, within either normative or argumentative discourse, has no particular privilege (Ricoeur 1981: 208-209). This indiscriminate use-value of durable material configurations is of course the textual aspect that makes archaeology itself possible, but also limits the

interpretations that it can bring to bear upon them. We too, in providing a reading of a spatial text, stake a claim in the process of its contemporary inhabitation, but are constricted therein by the limits of our historically contingent imaginations. To repeat the starting point of this chapter, our immediate grasping of these things is always mediated by the explanatory procedures that precede it and accompany it (Ricoeur 1981: 220). Therefore, some method for evaluating statements made about meaningful action in the past based on its material effects is required.

Hermeneutics regards texts as means for invoking experience, beliefs and judgements from one subject or community to another; interpretation of texts aims to make one's own what was initially alien (Ricoeur 1981: 159). Hence the determination of specific meanings is a matter for practical judgement and reasoning rather than *a priori* theory and scientific proof. And hence the notion of the hermeneutic circle employs attributes (understandings and definitions) that already presuppose an understanding or definition of that thing. Circles or spirals of understanding arise in interpreting one's own language, a foreign language or an observed action, in confirming and in distinguishing between background knowledge and 'facts.' The existence of these circularities raises questions for hermeneutics regarding the grounding and validity of understanding. That such questions be addressed is so important because, if archaeology is not a hermeneutic practice, it simply imposes common sense ideas on its constructions of the past (Shanks and Tilley 1987b: 16).

1.4.5 The hermeneutic circle

Ricoeur proposed that once objective meaning is released from the subjective intentions of the author, multiple acceptable interpretations become possible. Thus meaning is construed not just according to the author of the agent's world-view but also according to the reader's world-view. Ricoeur's *hermeneutic circle* (1981) combines two distinct hermeneutic arcs: one that moves from explanation to existential understanding and another that moves from existential understanding to explanation.

In the first hermeneutic, subjective guessing is judiciously validated or negated. Here, understanding corresponds to a process of hypothesis formation, based on mechanisms for interpretation such as analogy or metaphor. Hypothesis formation should propose senses for terms and readings for texts as well as assigning importance to parts and invoking hierarchical classificatory procedures. The wide range of hypothesis formation allows possible interpretations to be reached through many lines of argument.

Validation proceeds through rational argument and debate based on a model of judicial procedures in legal reasoning, distinguishing it from verification which relies on logical proof. Ricoeur escapes the dilemma of self-confirmation (when non-validatable hypotheses are proposed) by incorporating Popper's idea of falsifiability (Section 1.2.1.1) to the internal coherence of an interpretation and the relative plausibility of competing interpretations.

In the second hermeneutic that moves from explanation to understanding, Ricoeur distinguishes two stances regarding the referential function of text. A subjective approach incrementally constructs the world that lies behind the text but must rely on the world-view of the interpreter for its pre-understanding (1981: 158-159). Although the constructed world-view may gradually approximate the author's as more text is interpreted, the interpreter's subjectivity cannot be fully overcome. In contrast, a structuralist approach suspends reference to the world behind the text and focuses on a behavioural inventory of the interconnections of parts within the text (1981: 160-161). The structural interpretation brings both a surface and a depth interpretation. The depth semantics is not what the author intended to say but what the text is about, the non-ostensive reference of the text (e.g. the 're-presentation' of gender relations under conditions of westernisation discussed above). Understanding requires an affinity between the reader and the *context*, that is, the kind of world opened up by the depth semantics of the text. Therefore, unlike a simple structuralist approach, hermeneutic structural analysis is a stage between a naïve and critical interpretation. Instead of imposing a fixed interpretation, the structural method allows the subjectivity of both author and reader to be captured.

A satisfactory understanding, then, will never be a complete understanding, but will recognize our mediation of the data and not claim to be a reflection of the past. Understanding both *reproduces* and *produces*. Interpretation then seeks to understand the particular in the light of the context, and that context in the light of the particular. As the context is unfamiliar and intangible to us, prior to an understanding of archaeological material comes conceptualized intervention, principally through metaphorical models, discussed in Chapter 2, and analogy, which will be addressed now.

1.5 Analogy

Archaeologists are confronted with objects, created through social life, which can be understood “as we understand a text.” The final problem is how to most effectively ‘tack’ between interpretation and understanding as described by Ricoeur (1981: 209-221). In terms of the fourfold hermeneutic, how are we, working within the contemporary discipline of archaeology, to understand the residues of an alien culture involving meaning frames radically different to our own; how are we to transcend present and past? Given that conceptualized intervention by means of social or ethnographic analogies precedes that understanding we must come to a position at which analogy is acceptable. The key contribution to this effort is Alison Wylie’s paper “The Reaction Against Analogy” (1985).

Analogy is commonly understood as a process of reasoning whereby two entities that share some similarities are assumed to share many others. This is an incomplete understanding: analogy is not exclusively a relation of similarity. Analogical inference consists of the selective transposition of information from source to subject on the basis of comparison that, fully developed, specifies how the “terms” compared are similar (positive), different (negative) or of unknown (neutral) likeness. An argument by analogy proper involves the claim that, given the similarities and differences specified in the premises, some specific aspects of the neutral analogy may also assumed to be similar or to comprise further points of positive analogy (Wylie 1985: 93-4).

1.5.1 Formal and relational analogies

According to Wylie, a *formal analogy* involves a point for point assessment of similarities or differences in the properties of source and subject. Interpretive conclusions are drawn on the principle that where two objects share some properties they may be expected to have others in common. This process is entirely indiscriminate with respect to what properties may comprise the additional (undetermined) positive analogy. It is justified only insofar as it can legitimately presuppose a comprehensive principle of *uniformity* affirming that patterns of association observed amongst the properties in familiar contexts hold for all contexts (1985: 94).

There are three standard criteria for evaluating a formal analogy (1985: 97-98):

1. its systematic comparison of source and subject which establishes the number and extent of similarities between them;

2. the number and diversity of sources cited in the premises in which known and inferred similarities co-occur as postulated for the subject. For example the correlation between morphological and functional attributes should hold consistently across a wide range of source contexts despite variations in materials;
3. the expansiveness of the conclusions relative to the premises: the breadth and specificity of the similarities established in the premises should outweigh that of additional similarities claimed in the conclusions.

The closeness of mapping or 'fit' between source and subject should be so complete it seems to indicate that they are structured by the same causal or quasi-causal principle of connection; it suggests that a *relational analogy* may underlie the formal analogy (1985: 99).

A relational analogy compares analogs for the *relations* that hold among properties rather than the simple presence or absence of these properties considered independently of one another. Relational analogies incorporate considerations of *relevance*. "Relevance" can be described as a "function of knowledge about underlying principles of connection that structure source and subject and that assure on this basis the existence of further similarities between them" (Wylie 1985: 94-95).

1.5.2 Analogy in prehistory

Wylie draws on Thomson's model of research practice (1956), which suggests that archaeology consists of an indicative phase (when interpretive conclusions are formulated) and a probative phase (an effort to substantiate conclusions) (Wylie 1985: 77). This can be understood in the same way as Ricoeur describes the relationship between interpretation and explanation (1981: 209-221). The archaeologist injects a subjective element into inference at least twice: once in formulating the original interpretive hypothesis, and again when analogs are sought which will render plausible the reconstruction. Interpretation involves an intuitive leap, which cannot be secure. Therefore the credibility of interpretive, analogical reconstructions is a matter of professional competence. Available analogs only put archaeologists in a position to intuitively grasp (to find indicated) and to justify (to find anthropologically plausible) a wider range of possible interpretations of their data.

Relational analogies are still insecure when used to interpret prehistoric contexts because:

1. They always involve an extension of established anthropological, psychological, sociological or ecological theory to new domains.
2. Far from being a potential basis of interpretation, relations of dependence among properties and the causal “dynamics” responsible for them are necessarily among the features of past cultural contexts that archaeologists are concerned to reconstruct inferentially. (Wylie 1985: 96)

While this rules out the possibility of establishing any direct “analogy of relations” it does not mean that archaeological inference must rely on the purely formal, superficial “analogy of properties.” Wylie believes that consideration of causal and functional relations as they hold in source contexts “will provide an understanding of how, why, and under what conditions, the properties compared across source and subject contexts can be produced or co-occur” (1985: 96). This provides at least a baseline for making a reasoned and informed assessment of the relevance of known similarities to those inferred.

Wylie concludes that archaeologists must develop relational grounds for interpretation, working aggressively on both sides of the analogical equation. They must work specifically to establish principles of connection - the considerations of relevance - that inform the selection and evaluation of analogies. The two strategies for strengthening, the strategies of expanding the base of interpretation and elaborating the fit between source and subject, must be treated as directives for the active investigation of source and subjects rather than as retrospective evaluation tools (Wylie 1985: 107). Of course the process of analogical reasoning behind archaeological interpretation has rarely been made so explicit. Some of the analogical bases for interpretation and synthesis of the study period will be examined in the next chapter.

1.5.3 Analogy in practice

Analogical reasoning forms a central part of all archaeological interpretation, whether used explicitly, or implicitly. Traces of meaningful prehistoric action exist only in so far as they are conceptualised by us. As presuppositions provide the foundations for any understanding, truth or knowledge-claim, then analogy provides a powerful means of adjusting and situating them in relation to the conditions of and possibilities for action in the past.

Some analogies are drawn to make general propositions concerning humanity’s acting on the world. It is through such instantiations that general bodies of social theory are

developed. If analogies are being drawn to illustrate ways of thinking through social life then there may be no necessity to look outside the sociology of our own communities. It is therefore interesting that archaeologists often choose to draw analogies with the practices of communities from distant areas. Here, we must be wary that the motive, conscious or subconscious, is not to distance the logic of our own practice from those, distant in time or space, whom we perceive as “other,” in terms of the ‘myth of the primitive’ (Fabian 1993; see also below, Sections 2.3.1 and 3.4).

On the other hand, some of the social theory developed with respect to the practices of global capitalism may have limited utility for discussing less extensive “networks of practices and instruments, documents and translations” (Latour 1993, 121). The settings of interaction that dominate the lives of people in ‘small-scale’ communities are pervaded by the immediacy of presence, of face-to-face encounters. These locales cannot be regarded only as the backdrop or the given physical environment of interaction but are actively organised by participants in the production and reproduction of that interaction (Giddens 1981b: 161; Moore 1986). Therefore it is appropriate to draw analogies with the constitution of certain communities, other than our own, to demonstrate other scales of, and means by which, social life is structured.

For instance, Godelier (1977) identified that in communities without class systems, direct control may not be exercised over production, but that power derives from the control of the flow of high-ranking items in exchange. This process is used to control the movement of people in marriage suggesting that it is kinship and the relations of *reproduction* that are central to the social process rather than class and the relations of production. From the late 1970s, Godelier’s work has been frequently used by archaeologists to explain the circulation and exchange of exotic objects in Europe during the second and first millennia BC (Friedman and Rowlands 1977; Frankenstein and Rowlands 1978). These ‘prestige goods models’ for the first time couched exchange in terms other than trade models based on wealth accumulation, a significant departure possible only by analogy.

However such models are always provisional and another analogy, drawn upon in the same model, has received strong criticism. The local social unit was taken as representing the basic unit of production, the reproduction of which was held to have been determined by its position within a larger ‘world system,’ (as *per* Wallerstein 1974). A distinction was therefore drawn between mechanisms of production and exchange, internal to social units, and processes of exchange operating ‘externally’

between them. Crucially, archaeologists believed they could identify increasing complexity within the social units and escalating ranges of exchange between them. The social evolutionary models that informed such beliefs are examined in the next chapter. For now, what is important is that the patterns recognised by those archaeologists were objectifications of connections and regularities extending beyond the experiences of those who constituted them. Such a process clearly reduced the intentionality attributed to people and the way that institutions were held together by their routine social practices, as well as their argumentative challenges and effective alternatives to those structures.

“It is here that the crux of the matter lies, for the maintenance of routine by conscious beings was the maintenance of certain interpretations of, and expectations about the inhabited world. And while certain interpretations may have achieved a dominant position against alternatives, their frailty may ultimately have been exposed. It was the existence of competing and alternative realities which defined a social condition enabling the available material conditions to be occupied and used. The routines of social action reworked those competing interpretations materially giving the social system the particular form and historical trajectory which it followed.” (Barrett 1998: 21)

While Barrett rarely makes specific the position of analogy in his own work, key issues are signalled in this quotation. First, for an analogy’s base of interpretation to be strengthened requires work at temporal and spatial scales below the macro-scale at which functionalist and Marxist models operate. Second, the elaboration of the fit between source and subject must be addressed in terms of the flexibility of structures, particularly their variable capacity to accommodate conflict within the same social logic. In doing so we defetishise the ‘presence’ of the structures, the objectified connections and regularities that we perceive, and reveal their ‘becoming’. As the significance of the material world is inherently ambiguous and open to challenge, its becoming emerges not through one, but a number of provisional and competing perspectives. It is this, the definition of its historical quality, which warns us against appeals to universality (Barrett and Fewster 1998), and to acknowledge the vulnerability and provisional character of analogies.

1.6 Conclusion: moving on to metaphor

The ideas discussed in this chapter address the apparent paradox identified by Foucault (1970) – how humans can be both objects in the world and subjects constituting the

world. In the empirical sciences of biology, economics and philology the 'realities' of life, labour, and language appear as higher agencies, *determinants* of 'man' as an *object*. But the social sciences *can* show how human beings create and represent the very forces that make possible their lives, and their own representation as empirical objects. They *can* provide a coherent representation of human beings as subjects who represent their constitution through their structuring of functions, conflicts, and meanings relative to norms, rules and systems.

Archaeology's peculiar mission, which sets it aside from many other social sciences, is its effort to represent from durable material effects, worlds that were simultaneously real, collective, discursive and existential. Artefacts, whether a body, a tool, or architecture, are real because they materialise through their repeated enactment and are therefore intelligible. They are collective because they attach us to one another as they circulate, proliferate and disseminate and thus define our social bonds. They are discursive, because they are narrated, historical, passionate, and animated by autonomous actors. It follows that they are also unstable, hazardous and existential (Latour 1993). The significance of material things is open to interpretation as long as they are durable and their being is an issue for people. But the prior contexts of their becoming are only available to us through conceptualised intervention through analogy and metaphor. It remains to introduce the latter, to fully establish a level at which the former can be acceptable.

'The contemporary theory of metaphor' understands metaphor as any '*mapping*' between normally separate conceptual '*domains*' (Lakoff 1993). The purpose of this mapping is to structure an abstract, unfamiliar, or unstructured domain (the target) in terms of one that is more concrete, familiar, or structured (the source). Whereas analogy usually refers to the construction of explicit mappings between two well-established domains, metaphor is often more implicit. The linguistic form of analogy, the simile, keeps the two domains separated by using terms such as 'like': something *is like* something else. Metaphor draws a more immediate connection: something *is* something else. Analogies are powerful learning tools, but integration into cognitive structures comes through objectification by metaphor. One draws an analogy, but one lives in metaphor.

Aside from references to concrete physical objects and experiences (*perceptual* or *cognitive primitives*, such as 'up'), metaphorical understanding is the rule. Metaphor "is the main mechanism through which we comprehend abstract concepts and perform

abstract reasoning” (Lakoff 1993). Metaphoric ‘models’ are not merely optional embellishments to a fundamentally objective and literal mode of representation. They are *the* fundamental way of learning and structuring conceptual systems, a part of everyday discourse (Lakoff and Johnson 1980). To restate an earlier comment: language, and therefore metaphor, is the very condition under which materiality may be said to appear (Section 1.2.2.4). If analogies are provisional, fragile and vulnerable, then they are more so if their metaphorical bases are ill-defined. For this reason I have clearly identified objects for study over the course of this chapter, which are summarised here with their metaphoric articulation made explicit.

Prehistoric action can be an object for study because it produced durable effects. The metaphorical concepts with which I ‘grasp’ this object are thus: *action is self propelled motion for which purposes are destinations*. Therefore *efficient purposeful action is a direct motion to a destination*. Which is to say, behind actions we identify projects and through projects the material world is changed. Thus *the necessary prerequisite for change [the project of an actor] is the source of a moving entity [the action of the actor]*. This is a long-winded way of saying that the actor is motivated by desires and aspirations, conventions and habit, rather than any higher agency.

The regularity with which some spatial and material configurations are found is understood in terms of *practice*. Practice is *habitual* or *repeated* action (or *performance*), requiring the development of skill (q.v. Chapter 3). The regularity with which similar conditions are carried into effect, alerts us that at a very general level *many*, but not all, broadly contemporary projects coincide in terms of desires and aspirations. Once again it is *they*, not some higher agency, which produce the phenomena that they also regulate and constrain (the effects of boundary, fixity and materiality).

Praxis is *accepted* practice, a *given* and *received* way of doing things. But because it never quite aligns with its previous materialisation, it is always coming into being, changing incrementally, in a play of difference and repetition, and through the confrontation of opposing projects in argumentation. I understand the remains of meaningfully organised material in space as *texts* that were arranged by the performances of autonomous actors with different projects in mind. Therefore, it is the metaphorical objects of action, practice, and projects that will provide some sort of security in terms of analogy, not appeal to further objectified, higher agencies.

This creates a problem, in that my terms are in some senses incommensurable with those under which the discipline has constructed its account of the study-area and study-period. The next chapter, therefore, surveys the metaphorical construction of 'the Mesolithic,' 'the Neolithic,' and 'the Mesolithic-Neolithic transition.' Through discussing *archaeological practice*, and an account of archaeology-in-the-making, grounding it firmly in literature and groups of colleagues, we can discuss the becoming of knowledge and the materialisation of facts.

Chapter 2

Historiography of the Mesolithic-Neolithic transition

2.1 Introduction

This thesis concerns the practices and historical trajectories of a stretch of time which archaeologists over the last 150 years have made intelligible in different ways. The stretch of time became known as two distinct periods in human history, each associated with a different lifestyle and a different model of 'man'. The caricatured contrast between the two periods is easily stated in terms of their data sets: the Mesolithic is characterised by blade core technology and wild bones, whereas the Neolithic additionally involves pottery, monuments, houses, bifacial technology, as well as plant and animal domesticates. The significance of these differences and what they represent has been the focus of research since their identification.

With respect to my own research, if I am to use terms such as 'Mesolithic' and 'Neolithic', I need to be explicit about what they mean to others. How have others animated these terms through more basic concepts, such time, culture, society and technology? I take as my starting point Richard Boyd's (1993) idea of the theory-constitutive metaphor, something that expresses ideas for which no "literal" paraphrase is known, whose meaning has become fixed and traditional, integrated into a discursive tradition. Theory-constitutive metaphors *create* the structure of a new domain, based on the structure of an existing one. They *delimit* areas of discourse. Through theory-constitutive metaphors we select what we will treat as the 'things' of the situation. We set the *boundaries* of our attention to it, and upon it we impose coherence. We set problems, naming the things to which we will attend and *frame* the context in which we will attend to them. We make sense of a situation; we 'construct', 'filter', create 'facticity', and render the subject into something more tangible. We make 'frames of reference', frameworks, or mental models. Models establish images, names and an understanding of how things fit together. They enable people not just to understand or explain, but to attribute, extrapolate, and predict, thereby giving the models themselves meaning, purpose, and direction. In the human sciences, the key problem with this process is referred to as *objectification*, that is the process of turning a subject into an object. Such a process reduces the intentionality and self-determination attributed to

people in a theory (Boyd 1993). With respect to meaningful action, it is exactly this problematic process that led Giddens and Bourdieu to produce alternative theoretical concepts privileging human agency (Section 1.3).

This purpose of this chapter is to examine the key theory-constitutive metaphors that have structured British archaeological discourse on the study period of c. 7000-3000 BC. The more general roles of three key analytical objects – time, culture and society – are discussed, before addressing how they have been used in the representation of the Mesolithic-Neolithic transition in terms of settlement and subsistence, population growth and social models. The overall aim is to make clear the possibilities for resolving interpretations of evidence retrieved at massively different temporal and spatial scales with varying degrees of clarity. Without the metaphorical apprehension of time archaeology could not proceed, and so it is with the constitution of time in discourse that I shall begin.

2.2 Time

I could start by writing that Prehistory is a discipline through which the past is approached systematically as a topic of learning, discovery and practice. In stating that the past is something that can be ‘approached’ through discourse I have already objectified events and practices with which I am not temporally co-present. I have mapped a concrete, familiar, or structured *source* domain (the idea of an object in space) on to an abstract, unfamiliar, or unstructured *target* domain (Time). I have signalled a conceptualisation of time as *physical*. How did I come to think in this way, and how will it affect my archaeology?

2.2.1 Time in academic discourse

Fabian identifies the roots of *Physical Time* in “a succession of attempts to secularise Judaeo-Christian Time by generalising and universalising it” (1983, 2). Previously time was a medium of sacred history, celebrated as a sequence of specific events that befell a chosen people. The spatial metaphors of linear, as opposed to cyclical time (q.v. Eliade 1949), obscure an underlying similarity: neither allowed for time to be a variable independent of the events it marked.

“Faith in a covenant between Divinity and one people, trust in divine providence as it unfolds in a history of salvation centred on one saviour, make for sacred conceptions of Time. They stress the specificity of Time, its realisation in a given

cultural ecology – the Eastern Mediterranean, first, and the circum-Mediterranean with Rome as its hub, later” (Fabian 1983: 2).

The naturalisation of time by its separation from events meaningful to humankind allowed scientists to plot uneventful data over supposedly ‘neutral’ time. Thus it became possible for Darwin and Lyell to order essentially discontinuous and fragmentary palaeontological and geological records (Fabian 1983: 13) through metaphorically mapping time (target) as space (source).

It is questionable whether any nineteenth century archaeological enterprises can be characterised merely in these terms. Thomsen and Worsaae’s three-age system was developed, early that century, for use in conjunction with stratigraphic associations, to date archaeological remains relatively. Stratigraphy translated variation in space into variation in time, representing, in a tangible way, change across time as change in space. Change, like time, is socially constructed in language through metaphor and one of the key metaphors surrounding it maps Change (target) as Replacement (source). The three-age system predated any explicit social evolutionist programme, but was already informed by a specialised sense of change: ‘progress.’ In Britain, from the eighteenth century, an abstract understanding of movement as ‘from worse to better’ developed, in close association with ideas of ‘civilisation’ and ‘improvement’. “A further idea, that this was an evident or discoverable general movement of history completed the abstraction, notably in the Universal Histories of the Enlightenment” (Williams 1976: 206). During the nineteenth century the principle of development to higher forms, inherent to ‘evolution’, became the primary sense of ‘progress’ through time.

Social evolutionists thought that time “brought about things in the course of evolution” (Fabian 1983: 15) in other words that Time (target) was a Changer (source). With such a metaphor it is easy to see how their discourse lapsed into teleology, effectively attributing some “life-force” to time. Preoccupied with ‘steps’ leading to civilisation, social evolutionists saw each like a sentence leading towards the end of a story: the past was explained, through reverse causation, in terms of the future outcome. Fabian characterises this world-wide relation to time as *Mundane Time*. This is a mentality that devises ages and stages and “indulges in grand-scale periodizing” (1983: 23) to construct imposing visions of the ‘human career’. Thus Victorian social scientists such as Lubbock and Morgan introduced the term ‘Neolithic’ as a chronological entity, but also as a marker along a social evolutionary ‘path’. Lubbock defined the Neolithic, in opposition to the Palaeolithic, as a period when people lived by cultivation and animal

husbandry, but also enjoyed technological advances such as the polished stone axe and pottery (Lubbock 1865; cited in Zvelebil 1998: 1). Westropp (1872) first introduced the term 'Mesolithic' soon after to denote flint assemblages between Palaeolithic and Neolithic layers.

Behind these representations of time elapsed, as points on a linear scale, lay an attitude toward qualitative differences between socio-culturally meaningful events. According to Fabian, this attitude, manifested as *Typological Time*, "underlies such qualifications as preliterate vs. literate, traditional vs. modern, peasant vs. industrial . . . between "hot" and "cold" societies " (1983, 23). Instead of a measure of movement, time appears as a quality of states, unequally distributed among contemporary human populations. Morgan's *Ancient Society* (1985 [1877]), for example, defined three main 'cultural' stages: savagery, barbarism, and civilisation, each of which was also held to be present in communities of the nineteenth century world.

The naturalisation of Time was central to this 'comparative method,' which purportedly allowed the 'equal' treatment of human cultures at all times and in all places. Thus Morgan's evolutionary strata were intended as technical terms: barbarism, for example, was distinguished from savagery by the presence of pottery. However, while data may have been selected with positivist neutrality and detachment, "evolutionary sequences were *anything but* historically or politically neutral" (Fabian 1983: 17, original emphasis; c.f. Said 1995). Through these stadial perspectives anthropology provided intellectual justification for the politics and economics of the colonial enterprise, naturalising social evolution and placing living and past communities on a stream of Time – some upstream, others downstream (see Section 2.3.1).

Many anthropologists who dominated archaeological thought until the 1980s offered perspectives which were, essentially only refinements of schemes offered a century before by Tylor, Morgan and Spencer (e.g. Steward 1955; White 1959; Fried 1967b; Service 1975). While the Mesolithic is now often discussed in terms of 'complexity,' its status has remained that of post-glacial and pre-Neolithic 'hunter-gatherer societies' (Mellars 1981, Zvelebil 1986). It has appeared as a 'stop-gap' to the inevitable development of agriculture after the end of the Ice Age (as described by Binford 1968; Flannery 1969; Harner 1970; Smith and Young 1972; Cohen 1977; Hassan 1978; MacNeish 1977). The burden of this status is typified by Graham Clark's description of the epoch, as "perceived to be of crucial significance for understanding the course of prehistory, and not least for explaining the rise and spread of the Neolithic societies that

laid the foundations of the diverse civilisations of mankind.” He continued to describe it as an “essential prelude to fundamental advances in the development of culture” (Clark 1980: 7). Price recasts Childe’s definition of the Mesolithic as “simply that period of the Postglacial prior to the introduction of agriculture” (1983:762). All of these conceptualisations of the Mesolithic resulted from thinking that required reverse causation (the teleology of *Mundane Time*) and positioning of the ‘Neolithic’ as closer to the researcher, in time and in terms of the model of ‘man.’

With the emergence of *Mundane* and *Typological Time*, the idea of *Physical Time* now served not just to order material traces of the past, but to construct them as located irrecoverably in the past, giving logical and psychological firmness to the standpoint of the researcher (Fabian 1983: 28). Mapped as a Changer, modern temporality allows an understanding of Time that *passes* as if it were really abolishing the ‘past’ behind it (Latour 1993: 68). Modern Euro-Americans enjoy a vision of time in which they are separated from those they wish to make ‘other’ in terms of revolutions and epistemological breaks. But, as should already be apparent, this project is only achievable through the idea of typology of ‘models of man’ that stand for all the people who lived in a particular epoch. Time then, is always a product of practice and of discursive representation. Clearly an archaeology of practice requires a different sort of representation of Time – one that grasps not just epochs and societies, but Time as experienced and produced through the practice of people.

2.2.2 Time in practice

Based on the work of existentialist philosophers and Annales historians, Anthony Giddens (1981b) has suggested three types of time that relate to the experience of the actor, and better grasp the actor’s relationship to history: *durée*, *dasein* and the *longue durée*. Here, I have supplemented Giddens’ ideas with those of the anthropologist Tim Ingold, for whom temporality is also a key concern.

2.2.2.1 *Durée*

Bergson’s (1910) idea of *durée* is continuous emergence of novelty. It is not *in* time but constitutes time in ceaseless emergence, which is to say that the present is not in time, but has to be understood as ‘presencing’ (Adam 1990: 24) Time neither is, nor just passes. The *durée* of activity is the temporality of immediate experience, the continuous flow of day-to-day life (Giddens 1981b: 19). However, while *durée* is characterised by

Giddens as operating in “reversible time” (1984: 35) we must recognise that repetition can be the ‘same’ only in abstraction, by artificially excluding contexts and effects (Adam 1990: 29). “To argue that ancient peoples led their lives in a ‘perpetual present or cyclicity, where past and especially the future have little bearing on their existence, denies those cultures something that forms an integral aspect of all lifeforms” (Adam 1990: 134). An understanding of mythical societies as cyclical and therefore ‘timeless’ demonstrates that the person making that statement identifies time with historical, chronological dating. Peoples without history are an invention of those who think theirs is radically new (Goody 1986). The temporality of tradition is not coincident with chronology, because it is marked not measured (Shanks and Tilley 1987a: 128).

In tasks we carry out, such as ‘making’, we might discursively consider time in terms of labour (the common denominator of productive activities), which is quantitative and homogeneous. The currency of labour is clock-time, which is, like chronology, uniform, homogeneous and quantitative. But if we *reflect upon* ‘clock time’ we do not *experience* it. Social time is qualitative, something to which we can attach moral judgements, grounded in rhythms of the people in which it is found, tied to the particular circumstances of place and people. The array of the latter’s related activities, Ingold refers to as the *taskscape* (Ingold 1993d: 157-161). The *taskscape*, unlike labour, is qualitative, heterogeneous and experiential.

“The notion that we stand aside and observe the passage of time is founded upon an illusion of disembodiment. This passage is, indeed, none other than our *own* journey through the taskscape in the business of dwelling” (Ingold 1993d: 159).

In the temporality of the taskscape, the participants are ‘at their task’ rather than confronting it. It constitutes their present, and their sociality.

“Even features we identify as having a segmenting function - “rites, feasts and ceremonies - are themselves as integral to the taskscape as are boundary markers such as walls or fences to the landscape. The temporality of the taskscape is social, then, not because society provides an external frame against which particular tasks find independent measure, but because people, in the performance of their tasks, *also attend to one another*” (Ingold 1993d: 159).

There are cycles and repetitions in social life, but these are essentially rhythmic. Social life is never ‘finished’ and “there are no breaks in it that are not integral to its tensile structure, to the ebb and flow of activity by which society itself seems to breathe” (Ingold 1993d: 160). Furthermore the taskscape is constituted not from just one

rhythmic cycle but a network of many concurrent, interdependent cycles, and has a temporality which is intrinsic rather than externally imposed. These rhythms exist only so long as people are actually engaged in the activities of dwelling. They are irreducible to an ideal design for dwelling, a 'culture' that people are supposed to bring with them into their encounter with the world (Section 2.3.1). They are, however, embedded in experiences of time, which constitute the *durée* as historical.

2.2.2.2 *Dasein*

Both Giddens and Ingold have drawn extensively on Martin Heidegger's (1962) concept of *dasein*. Heidegger believed that time and human existence are inextricably linked, that being is really a process of becoming. This insight led him to reject Aristotle's idea of 'man's' essence as a rational animal. What comes first, Heidegger argued, is man's own existence. Existence for Heidegger is nothing but a 'stretching' in which a human constantly projects itself into a future, always expecting and hoping. This transcendence is the ultimate basis of all knowing and behaving. Its temporality is the irreversible directionality of 'living-unto-death'.

If humanity's knowledge of its own mortality is certainly an important facet of *dasein's* 'being-towards death' there is something more crucial for an archaeology of practice. Through the practical action of the *durée*, Heidegger suggested, we are pulled ahead of ourselves into purposes that we are trying to fulfil, into considering the next stage of tasks that we are working on: we live ahead of ourselves. If *durée* is the time of *activity*, then we might characterise *dasein* as the time of an actor's *project* (from the Latin '[a thing] cast forth'). Moments of reflection and moments of unconsidered action are implicated in each other, as are explanation and interpretation in the hermeneutic circle. How then can we relate the time produced by human action and forward projection to the consecutive lifetimes of many people, without resorting to the reifications of Mundane Time periodisation?

2.2.2.3 *Longue durée*

Braudel established the idea of multiple interwoven social times, which owe their importance to a sort of dialectic of durations, in order to arrive at a meaningful understanding of occurrences as simultaneously both, and neither, particular and universal. Giddens is able to use Braudel's (1980) concept of *longue durée*, to stand for his 'institutional time', because both theorists conceptualise structures as coherences,

rather than fixed relationships, between conditions and actors. It is essential that the *longue durée* intertwines with the other two forms of time discussed above. Every action, however trivial involves the actor in the long-term history of the practice in which it occurs, and continues the reproduction of that practice. No form of *durée* has primacy over any other.

The *longue durée* is not to be confused with evolutionary time, which depends on the metaphor of organisms with functions, adapting to environments. Giddens suggests that the *longue durée* should be approached by *episodic characterisations*, representing the occurrence of structural transformations in terms of practice. Giddens also coins the phrase *time-space edges* to emphasise the significance of *simultaneous* existence of practices,¹ rather than characterising their succession in terms of evolutionary stages (1981b).

Traditional academic historicity relies upon a peculiar kind of time-consciousness, namely that human social energies can be actively controlled to promote progressive social change in a 'linear' fashion across time. Giddens characterises time-space distanciation as a measure of a community's 'stretching over time' (1981b: 90). It entails a prior understanding of time as a quantitative measure and as a boundary within which life is enacted. It is meaningless in communities without such objectified time and is therefore an inappropriate tool for understanding any but our own contemporary, industrial society.

However there are other forms of historicity that co-exist in our own community, and these better demonstrate how we can understand the interpenetration of *durée*, *dasein* and the *longue durée*. Jarman's account of Orangemen parades in Northern Ireland would seem to indicate that to many people in the West the actual *measurement* of time is less important than what the remembered events stand for:

“ . . . the lack of any coherent narrative among the jumble of banners is an important factor in equalizing events of apparently vastly different significance, a means of condensing several hundred years of history by denying and refusing any temporal order. The juxtaposition of events of major significance, the Battle of the Boyne and the Battle of the Somme, creates an equality of value between events of

¹ Giddens' (1981b: 23) concern, when he writes in terms of episodic characterisations and time-space edges, is in fact with societies not with practices. For reasons discussed in Section 2.3, I do not consider society a viable or desirable object for archaeology's study, although Giddens' devices remain useful for an archaeology of practice.

the recent past, still recalled by the living and remembered in oral histories and those of the distant, almost mythological past. History and Time are condensed into a single concept of the past, an entity constructed of categories of events: sacrifice, martyrdom, betrayal, faith. The past has not ended; it continues to structure the feelings, expectations and fears of those acting in the present, who experience it as tradition. This tradition is extended with the commemoration of each new local hero whose modest faith and sacrifice are publicly recalled each year as they are displayed through the streets of Ulster” (Jarman 1998: 143).

Thus, Urry can write that people remember together as much as they remember individually, and that shared memories (whether of an event, place or person) involve co-operative work often in localised settings. “There are complex rhetorics surrounding memory-work. At the same time there are forms of institutional commemoration in societies which can silence alternative memories of the past” (Urry 1996: 50). The way history is experienced, then, is fundamentally futural in that it is an active, discursive approach to the past with respect to one’s aspirations for the future. It is part of the discursive process through which a sense of community is established as people identify shared interests and common hopes.

An understanding of ‘mythic’ history should not rest on its ostensibly flawed reasoning, or on some deep structure inaccessible to the actor. A myth is a statement of goals or objectives *and* a commitment to a line of action toward the materialisation of objectives (Sorel 1961). It is an expression of a determination to act, and its acceptance by other people ensures that the projects of others align with one’s own. In this sense, while the *longue durée* is a historian’s representation of the persistence of practice, it can also be understood in terms of the potential of actors to understand and rework their own historical conditions.

This section recognises time in general as the product of humanity. Chronology, our regular system of dated time intervals, *in which* events are said to have taken place, is, metaphorically, a container. When linked to the evolutionary project, history, a series of events which may be dated in time according to their occurrence in one or another chronological interval, is metaphorically a path, in which the destination is inevitable. Both chronology and history reify Time to focus on conceptual objects other than action and event and these are the subjects of the next section.

2.3 Culture and society

Latour (1993) describes the process which underlies the mythology of ‘modern’ natural and social sciences as a ‘purification’, as the world is conceptually divided into two distinct realms of being – nature and culture. Through the process of purification ‘natural’ entities and events are discursively constructed as operating solely in accordance with the laws of nature, while ‘cultural’ beings and artefacts are shown as the undiluted productions of human will, ignorance or intellect. Between and outside the two purified fields of knowledge rests phenomenal reality – a domain of contingency, mutation and hybridity. Over these expanses ranges the disembodied gaze of the academic.

Latour demonstrates that through this disjunction initially unitary phenomena are defined as intermediary ‘mixtures’ of ‘nature’ and ‘culture’ which are then distilled to abstract the pure forms of ‘natural’ and the ‘cultural’. ‘Hybrid’ knowledges, produced through the association of things and practices, are ‘purified’ by the radical separation of those ‘objects’ from the historical, political and ideological processes that made them meaningful in the first place (Latour 1993: 33).

This discourse produces “two entirely distinct ontological zones; that of human beings on the one hand; that of non-humans on the other” (Latour 1993: 10). The identity of the ‘modern’ person (*sensu* Latour) is based on two beliefs. The first is that there is a ‘great divide’ between our own scientific existence – which knows and mobilises nature – and all those other ‘cultures’ that compound the laws of nature and the processes of culture and know neither themselves nor the world they live in. The second is that an objective knowledge of the world is possible for those who are modern, and that this knowledge is grounded on a radical distinction between a ‘subject/society’ that knows the world of objects and the world as such. This ‘objective’ knowledge, as Haraway (1988) suggests, is predicated on the ‘view’ from a distance, a universal vision of a transcendent God or a privileged epistemology, in which to see is to know.

One implication of these beliefs is that we who can know others cannot know ourselves. The laboratory of life, in which we create/discover the laws determining the being of objects and those regulating the activities of subjects, is a place which must be disregarded and excluded to protect the axioms which enable our forms of knowledge. This idea is developed in Section 3.5. Another implication, to which I now turn, is that

the people who are identified as comprising 'other cultures' are objectified for the purpose of study by Western intelligentsia.

2.3.1 Anthropology and culture

While Latour's analytical concern is the natural sciences, the implications of his thesis are important for the history of early anthropology. In 'the field,' as in the laboratory, objectivity was to be guaranteed by a kind of dispassionate visual inspection to ensure value-neutrality. On the other hand, at the heart of their anthropological praxis, was intelligent interpretation, which required a deep knowledge of the *total* context: the culture. But one best knows the context of one's own times and one's own 'culture' and this seemed to demand the opposite approach, one of researchers drawing closer to their data.

Two injunctions resolved this dilemma and ensured intellectual proximity *and* emotional distance from the objects of their enquiry. Firstly, anthropologists of the colonial era would study only the hypothetical, unchanging 'ethnographic present' correlated with the Euro-American past. Through the *topos* of the journey, which confirmed the modernity of western civilisation, living societies were made equivalent to the prehistory of the west and characterised as part of a dead or dying past. In refusing distant peoples the same category of time as the traveller, and relegating them to "allochronic" time the 'other' is dehumanised, in a "denial of coevalness" (Fabian 1983: 27). Secondly anthropologists would study that 'ethnographic present' only after deep immersion in the context, through participant observation, while distancing themselves from the people whom they left behind after fieldwork. Through detached observation and systematic generalisation 'culture' was to obtain the same facticity as the things in our field of vision, studied by natural sciences. The field then was where anthropologists brought their presuppositions and experiences into relation with the conversations and other activities of the people they studied. Throughout its history, anthropology has continued to depend on imagining a 'subject who knows' as the mouthpiece of abstract knowledge concerning the objects which are 'known'. The tendency is to abstract atemporal and generalised codes or laws from informants' interpretations of their own practices.

What emerges is 'culture' as a freeze-frame or an (allegedly) enduring moment in the flux of social life. If culture *represented* practical activities it was not studied as its product, but asserted as an autonomous, irreducible symbolic system, distanced from

human praxis (Fabian 1983: 139-40). The anthropologist's diagram effects totalisation, by cumulating information which cannot be mastered by any single informant in one moment, by representing activities which could not possibly take place at the same time, and ordering it spatially on paper so it can be understood at a glance (Bourdieu 1977: 105-106). Bourdieu added that this orientation of root metaphors derived from vision (1977: 2) ensures more affinities to spatial order than to temporal process, maintaining the idea of the static ethnographic present. By academic sleight-of-hand, statements made by many different people *in different contexts* are coalesced into the unison chorus voice of a theoretical collectivity. What is subsumed by interpretative abstraction is the way in which people 'read' situations and contexts with reference to memories of previous encounters and in terms of knowledge about comparable encounters. Also lost is the way people re-enact or adapt previous responses to situations faced with respect to whether those encounters may conform with, or diverge from, previous situations. Anthropology concerned with generalisation disregards this process of assessment, reifying the eventual choice as an expression of 'culture'.

More importantly, the interrelation of anthropologist and informant produces new knowledges, which are neither, purely those of the anthropologist's own community, nor those of the peoples they observe. Anthropologists have become increasingly conscious that 'culture', is not only the subject matter of anthropology, but also its construct, and that the differentiation produced by it is neither neutral nor innocent. 'Culture difference' implicates hierarchy, evaluation and dominance, in the same way as do the paradigms of evolutionism and of race.

"How does one *represent* other cultures? What is *another* culture? Is the notion of a distinct culture (or race, or religion, or civilisation) a useful one, or does it always get involved either in self-congratulation (when one discusses one's own) or hostility and aggression (when one discusses the 'other')?" (Said 1995: 325; emphasis original).

In other words, culture is *de facto* caught up in the establishment of Typological Time. While many anthropologists (e.g. Clifford and Marcus 1986) have since addressed these concerns, the concept of culture remains problematic. In losing sight of the choices made by the actor within frameworks of logic, culture becomes a fetish. Bourdieu writes of "the fallacy of treating the objects constructed by science, whether "culture", "structures", or modes of production", as realities endowed with a social efficacy, capable of acting as agents responsible for historical actions or as a power constraining

practices” (1977: 27). If ‘culture’ is of a lesser concern, anthropology might recognise regularities and differences in the ways people, at different times and in different places, deal with what they encounter as they move through the world. For the most part this would not reveal explicit statements of comprehension or intent, but what Bourdieu has referred to as ‘articulations’. Articulations are, nevertheless, choreographed activities expressing that “immediate but unselfconscious understanding which defines the practical relationship [of the actor] to the world” (Bourdieu 1977: 18). A study of material expressions as articulations recognises the existence of projects and the tempo of social interaction (Bourdieu 1977: 15).

2.3.2 Archaeology and culture

The sense of the word ‘culture’, the independent noun, whether used generally or specifically, which indicated a particular way of life, whether of a people, a period or a group, was introduced into English by Tylor in *Primitive Culture* (Williams 1976). Culture, he wrote, is “that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society” (Tylor 1924 [1871]: 1). This Hegelian idea of Culture as an ‘expressive totality’ looks to normative consensus as the main basis of the unity of the totality. It is a mental phenomenon and its ‘transmission’ is rarely made explicit (Section 1.2.1).

As discussed in Section 2.2.1, social evolutionists accepted as a presupposition of natural history, but had no use *per se* for, *Physical Time*.

“It does not affect the main result that different tribes and nations on the same continent, and even those of the same linguistic family, are in different conditions at the same time, the *condition* of each is the material fact, the *time* being immaterial.” (Morgan 1877, 13)

For Morgan, what *mattered* was the ‘timeless condition’ of a collective. From here, as Fabian points out, “the later topos of cultural ‘configuration’ was a small, but logical step.” (Fabian 1983: 15) Since the nineteenth century, archaeologists have believed that ways of making and using things are in some way representative of social totalities or collectivities. Material manifestations are not seen as an integral part of the social process but related to norms and values held in common by all members of society. Pottery styles, funerary practices, monumental architectures were the outcome of cognitive norms and values held in common by groups of people. The most sophisticated expression of this idea came with Piggott’s *Neolithic Cultures of the*

British Isles (1954). Piggott posited a series of geographically and culturally distinctive communities, whole in themselves, but possessing an overall unity.

What distinguished Gordon Childe from other culture-historians was his overarching concern with understanding socio-economic conditions, a concern derived from his connections to historical materialism. Recognising that ‘types’ of remains constantly reoccur together he wrote, “Such a complex of regularly associated traits we shall term a ‘cultural group’ or a ‘culture’. We assume that such a complex is the material expression of what today would be called a people” (Childe 1929: v-vi). But, even to Childe, with his Marxist leanings, ‘culture’ was not subject to change through argumentation.

Interiorised through infancy, culture was thereafter a template for material production, kept in place by the “dead weight” of conservatism or tradition (Childe 1936: 28, 30; 1942: 16, 26). Man creates traditions, but traditions create man – man makes himself. Here is a view of culture as existing prior to individual agency. Culture was functional – “an adaptation to the environment” – and stylistic – “the concrete expressions of the common social traditions that bind together a people” (1950: 2) – but not a medium of conflict. It was a metaphysic and neither its materiality nor its temporality was of particular importance.

Culture was portrayed as static, undifferentiated and unitary. Since the critical forces of human development were generated within social and economic relations, material culture would never do more than reflect the emergence of a new social formation. Internal change in this model of culture was deemed to be incremental resulting either from an inbuilt dynamic or drift away from previously accepted norms governing artefact production, vagaries of tradition, or technological innovation. The extension of exchange networks, migration or invasion, or the diffusion of radically new and powerful ideas could explain radical discontinuities. Combinations of rare independent innovation and diffusion (Childe 1950: 8) would account for when people are ‘ready’ for new technology: this is ‘cultural change’.

From the outset the New Archaeology had an uneasy relationship with the idea of culture. As artefacts were now to be used as evidence for adaptive strategies relative to changing environmental conditions or stylistic epiphenomena (Binford 1962: 218, 1964: 440, 1972: 105-8, 259) rather than ethnic affiliation, the appropriate object of analysis, in theory, became ‘society’ instead (Section 2.3.4). Nevertheless, as the term ‘material

culture' remained hard currency among processual archaeologists, the sense of Childe's disembodied expressive totality remained, but explicitly subordinated to the conceptual metaphor 'society' as seen here in Sackett's definition:

"Since *material culture is largely the product of learned behaviours that are socially transmitted*, there exists a strong and direct correlation between the specific choices a society makes and its specific position in the stream of culture history" (Sackett 1982: 73, my emphasis).

What is so startling about reading the work of supposedly self-conscious post-processualist theorists is that there is never any doubt that the terms 'culture' and 'material culture' are anything but absolutely necessary. Moore (1986: 6-9; 80-97) is virtually alone in problematising the term culture, and, while she recognises it to be neither holistic nor coterminous with society, she retains it without substantive redefinition, relying instead on Bourdieu's practice theory to guide her efforts. Bourdieu, as discussed earlier, is explicit about the term, and when he uses it at all does so with irony and frequently inside quotation marks. I labour this point not to detract from Moore's work, which is excellent, but to signal the absurdity of maintaining archaeology's key theory-constitutive metaphor 'material culture,' when 'culture' itself is such a problematic concept.

Treated as an expressive totality, culture is identified as a whole in some sense present in its parts, and its parts in some sense connected in a dialectical relation. But to trace this unity to 'presence' alone – the expression of the 'whole' in the 'moment' – fails to adequately recognise the disjunctures, the strains or contradictions inherent in the way people organise themselves collectively (Giddens 1981b). In archaeology, the concept of material culture is too easily used to conceptually separate the inhabitation of tracts of space and time. Recurrent material forms are seen as evidence of a culture rather than as traces of the re-iterative actions of actors or practices which constituted that time. The concepts of articulation and *longue durée* enable us to understand time, not in terms of a culture living itself through people, but as the product of convergences and divergences in the projects of contemporary and successive actors. This perspective will also enable us to address the matter of how groups of people organised themselves in their productive activity, which is traditionally described in terms of another totality, society.

2.3.3 Sociology and society

The historical context for the evolutionary model described above can be identified in an increasing abstraction in the use of the word 'society' during the eighteenth century (Williams 1976: 244). The 'laws' of society were no longer dictates for getting on with other people, but more abstract and impersonal principles, which determined social institutions. By the nineteenth century society can be seen clearly enough as an object (the objective sum of our relationships) to define the relationship of 'man' and 'society' or 'the individual' and 'society'. In Spencer's metaphor the biological *taxon* acted as the source domain for classifying a society's position relative to an 'evolutionary' goal (civilisation). As cells combined to make up organisms, organisms themselves combined, in some species, to make up 'superorganisms', or societies. Like cells, societies displayed the tendency to grow in size, increase in structural complexity and develop specialised arrangements for performing different functions: economic and political systems. and the occupational division of labour (Spencer 1897, I-2: 452-453).

In contrast to the first (particularist) anthropologists, universalising disciplines such as sociology and economics insisted that objectivity be guaranteed by the use of replicable, quantitative data. In theory the closer the social scientist was (in time and space) to the data source, the more control could be exercised over the accuracy of the data. Following this logic, the best data was absolutely contemporaneous data, as 'hard' as possible, which permitted the researcher to measure accurately the correlation between two variables over a relatively brief period of time. With the assertion that truth statements were valid across all time and space, they inferred that their findings, which were based only on episodic, historically situated Times and Spaces, were to have general applicability. By the 1920s, sociological discourse was premised upon society as its object of study and the subordination of people to it. To be human meant to be a member of a society, which was ordered through a nation-state, with clear territorial and citizenship boundaries and a system of governance over its particular citizens (Urry 2000). Thus the metaphor of a region, "objects are clustered together and boundaries are drawn around each particular cluster" (Mol and Law 1994: 643) also came to inform the concept of society.

Anthropology became increasingly society-centred following Durkheim's (1933), quasi-natural science view of society in which the increased 'specialisation' of individuals was the key to organic solidarity. Radcliffe-Brown (1952) adapted Durkheim's perspective to examine social structure - the patterns of groups and statuses

- and how it was maintained and provided the basis for orderly social life. His 'comparative morphology' offered simplified but serviceable abstractions of the social structure for comparison to enable the formulation of more general, 'scientific' models. Sahlins and Service offered a Darwinian theory of specific evolution, focusing on adaptation as a necessary and immediate result of the occurrence of evolutionary change, and a Spencerian theory of general evolution focusing on the unilinear progression, increased complexity and hierarchical rankings of 'cultural systems':

“a cultural system which more effectively exploits the energy resources of a given environment will tend to spread in that environment at the expense of less effective systems... a cultural system will tend to be found precisely in those environments in which it yields a higher energy return per unit of labour than any alternate system available” (Sahlins and Service 1960:444).

There are four main complaints against this visual model of collectives, which relies on the metaphors of regions and organisms. First, the concept of function, which gave the 'society' concept a natural science veneer, is deterministic. Actors are understood to carry out the project of a higher authority, rather than acting on their motives, through flexible strategies in particular settings (Kuper 1992). Thus conflict is downplayed for the sake of organic unity, and the conceptual object is fetishised. Second, the model recognises collectives as bounded although the reality is now widely recognised to be otherwise, even in the case of nation states (Urry 2000). Third, it is ahistorical: society's construction in the “ethnocentric present tense” gives social structures a false sense of stability rather than allowing for their reworking through action. Finally, it is teleological. In terms of epochal time, whether Spencer or Sahlins and Service conceptualised societal change through time as a tree (multilinear), rather than a chain (unilinear) is irrelevant. Both metaphors are hierarchical, informed by the idea of progress, and enable the construction of relations with an “Other” by means of temporal devices which would affirm difference as *distance* (Fabian 1983, 15-16) along an evolutionary path.

2.3.4 Archaeology and Society

For archaeologists, the organic metaphor allowed connections and regularities in the spatial patterning of material traces to be ordered and grasped. Theorists such as David Clarke and Colin Renfrew made this approach explicit in the late 1960s and 1970s. Renfrew's (1973a; 1973b; 1976; 1979a) studies of monuments and population dynamics

were searches for meta-systems, totalities, theoretical or substantive, which, like Spencer's framework, could incorporate all approaches. Society was conceived of as a system, 'an intercommunicating network of attributes or entities forming a complex whole' (Clarke, 1968: 42). To processualist archaeologists, durable, organised material resources not only recorded the 'real' existence of societies but also allowed their characterisation by the visible principles of their internal organisation.

Each subsystem (a technology amounting to a regular pattern of social behaviour) fulfilled a 'function' in maintaining the existence of the whole cultural system (Renfrew 1972: 13). Renfrew addressed the reconstruction of prehistoric social organisation by finding in the spatial distribution of 'contemporary' artefacts and sites a reflection of the spatial organisation of the activities that gave rise to those phenomena. As society implies the government of people and the allocation of resources, it can be understood in terms of the partition of the world through administration. It therefore presupposes the delineation of a bounded, territorially integral entity, the polity (Renfrew 1977: 98) with continuous territorial jurisdiction over its domain (1984: 55).

As Renfrew conceptualised societies as bounded (1977: 89, 98; 1984: 55) and material culture as the manifestation of a particular level of social evolution (1973a, 146-56; 1976) he could undertake comparative studies and to construct generalisations concerning the shared regularities (1982: 13). He concluded that the "evolution of human society can profitably be considered in terms of spatial patterning" (1977: 89). His social evolutionary schema (1973b: 543) which explicitly drew on the work of Sahlins (1968) and Service (1962), allowed autonomous communities engaged in localised processes of adaptation, to be seen as largely equivalent to one another. He used the chronological and spatial distribution of Neolithic monuments, as well as labour estimates calculated for their construction to represent an evolving hierarchy in the quantity of construction costs. He offered an account of long mounds clustered around causewayed enclosures as Early Neolithic tribal territories (1973: 548) which over time coalesced into Late Neolithic chiefdoms centred on henge complexes (1973: 552).

There were then three logical stages to Renfrew's argument, involving assumptions about order, society and evolution. First he suggested there was some order 'out there' to be anticipated. This order is recognised through the co-presence of artefacts and architecture within a geographical area and their synchronicity (through typology and C₁₄ dating) within a span of Mundane Time (e.g. 'The Early Neolithic). Second he

employed the metaphor of society as an organism with internal functions to make that perceived order appear real, tangible, and less ambiguous. Such a metaphor would be particularly effective in capturing and conveying large amounts of information and ideas, because the way in which it abstracts and groups ideas is open-ended, and therefore allowed more powerful inferences. However it would also give a correspondingly more partial view and introduced unarticulated assumptions and beliefs by the acceptance of the representation as if it were reality. Not all visible traits of the period could be considered: some had to be held in common, some used in forming classes, and some ignored, in what Clarke called “usefully separating ‘noise’ from information” (1968:31). Renfrew acknowledges his categories are arbitrary, labels of convenience (Renfrew 1972: 13), but fails to explain *for what* they are convenient.

This biological idea of function cannot conceptualise the totality beyond ‘functions’ versus ‘dysfunctions,’ and exists only in the Mundane Time of periodisation. It therefore lacks any sense of duality of structure as ‘binding’ the interplay of presence and absence in the *durée* of social interaction (Giddens 1981b) or of structures being reworked by the projects of actors in the time of *dasein*. People become props for the institutions they inhabit. The sociological model of ‘society’ as organism assumes a system of governance and clear territorial boundaries such as that present in the modern nation-state. However, in small-scale communities there are no separate agencies of either political administration or of legal sanctioning (Godelier 1977; Giddens 1981b: 161) and the ‘political’ positions such as ‘chief’ do not embody the same allocative and authoritative power as despots of a state (Clastres 1977: 174). Further the boundedness of such affiliations as tribes are rarely anything but fluid (Ingold 1986: 143), and linguistic or stylistic practices often overlap partially distinct tribal groups without clear dividing lines (Fried 1967a).

Third by imposing the organism metaphor Renfrew could characterise the entity he believed he was dealing with in terms of a typology based on social evolutionary models drawn from structural-functionalist anthropology. In general, such work involves once more the masking of variation: “millennia of change and variation are often subsumed under one typological concept” (Kowalewski 1990: 54). This framework “systematically excludes difference and instead asserts identity . . . differences become subsumed and relegated as secondary or contingent” (Shanks and Tilley 1987a: 149). The social evolutionary framework then imposes categories of contemporary Typological Time (tribes vs. chiefdoms) onto categories of synchronic

Mundane Time (the Early or Late Neolithic). This combination makes change difficult to theorise except in terms of a caricature involving “a group of linked evolutionary traits that defines the social stage, all of whose constituents evolve together until they transform into a totally new... identity” (Bawden 1989:331).

“The neoevolutionary paradigm suggests that once a proposed solution to an environmental problem develops, realization is automatic; people follow leaders down paths that benefit all (the rise of civilization) or impoverish all (the fall of civilization). Any hint that social evolution has generally undesirable consequences, that resistance to change in certain directions might be significant or that the trend in cultural evolution might be a compromise between strongly conflicting tendencies is not considered . . . If agents are free to act, societies may be something other than functioning wholes” (Paynter 1989:378).

We can see that Society, like culture, downplays the roles of agency and conflict in change in favour of representations of a totality bounded in space and time. It assumes a boundedness and internal coherence uncharacteristic of known small-scale communities. It imposes a temporal demarcation that results in a synchronic ‘time-slice’ approach and makes change difficult to conceptualise in terms other than environmental determinacy or the idea that either time or the totality itself drive change toward the next evolutionary change. Metaphors take on a life of their own as scholars forget they are merely abstractions of convenience which represent real people. The representation becomes accepted as if it were reality.

An archaeology of practice must be critical of such totalising ambition, and attentive to the variation normally (and normatively) subsumed by the imposition of holistic metaphors. In taking action, practice, and categories of experiential time as its objects, it can also recognise how conflicts of interests and coeval representations develop new experiences of space, time and community. This will be further discussed in Chapter 3. The remainder of this chapter is dedicated to the examination of how, given the constrictive metaphors of society, culture and disembodied time, archaeologists have attempted to express the changes they believe are represented in the archaeological record.

2.4 Settlement and subsistence

Economy was an important way of defining both ‘The Mesolithic’ and ‘The Neolithic’ throughout the twentieth century. Culture historians imagined Mesolithic diets to be

unimpressive. Perceptions of a poor diet (Clark 1932: 10) in a harsh and inhospitable environment (see Rowley-Conwy 1986, on Iversen 1949) fostered comparisons with denigrative early colonial accounts of modern hunter-gatherers (Zvelebil 1986). By contrast it was supposed that food production allowed populations to gain mastery of those environments.

Agriculture had not been a core element of Lubbock's Neolithic Age, which implied a technological rather than an economic phenomenon (1865). But at some point in the early twentieth century, the use of ground and polished stone tools, pottery and agriculture came to be seen as inextricably linked. Adjunct was the view of agriculture as a difficult invention that, once achieved, spread rapidly from a single origin because it made life much easier and more secure. Trigger (1989: 152) attributes this shift to Smith's diffusionist synthesis, which characterised these elements as part of a single process or episode of cultural transmission: these technologies were discovered once, and diffused from the point of origin.

This idea was reinforced by Childe's label of a 'Neolithic revolution' in human economy, as an evolutionary response. The time of the 'Mesolithic' and 'Neolithic' was typologised in terms of subsistence economy, to distance the former and construct a palatable origin myth in the latter. It was universally agreed that "this revolutionary change from hunting to farming laid the foundations of civilisation" (Cole 1965: 1) and many continued to identify in the change of productive practices the divide between savagery and barbarism (Atkinson 1956: 148). As often as not the role of subsistence innovation among existing populations was downplayed. The regime of emmer, einkorn and barley cultivation with the tending of cattle, pig and sheep/goat was "highly likely to have been introduced" (Case 1969: 177).

2.4.1 Palaeoeconomy and the Mesolithic

Among those practicing an ecological approach to archaeology, subsistence practice became a key means of defining the Mesolithic itself in terms of adaptation. The changes in plant and animal communities over five thousand years as well as the inundation of large areas of Europe are still understood as affecting the relationship between hunter-gatherer communities and their environments. Typically, these changes are described in two terms: a 'diversification' of the resource base, involving a wider range of resources, especially small package resources; and 'specialisation' or planned exploitation of specific species identified at particular sites. The diverse resource base,

and planned exploitation of certain species prompted Zvelebil to suggest that 'the complex foraging adaptation ought to serve as the defining characteristic of the Mesolithic period' (Zvelebil 1986: 112).

In practice, the study of the inland economy has focused on specialised exploitation of large land mammals, whose remains are the most common surviving indicators of subsistence practices. J.G.D. Clark's (1972) model suggested that Early Mesolithic populations would have been largely dependent on red deer. Based on contemporary observations of the movements of hunter-gatherers and red deer, Clark concluded that Star Carr was a winter aggregation site, from which Mesolithic groups dispersed to the uplands in summer following red deer.

Clark's ideas influenced subsequent models of upland 'hunting sites' contrasting with lowland 'base camps' (e.g. Jacobi 1978a) which also assumed a dominant role for red deer in subsistence. Mellars' (1976b) analysis of the functional components of upland and lowland lithic assemblages set up a model of expectations of Mesolithic settlement systems that essentially supported Clark's model (Sections 4.5.2 and 5.4.1.1). Since then, the idea of a functional contrast between upland and lowland sites has remained a strong structuring principle in interpretations of Mesolithic sites (A. Myers 1986, 1989; Smith 1992; Spratt 1993; Simmons 1996).

Even within current ecological schools these ideas have less currency today. The pervasive emphasis on red deer in Mesolithic palaeoeconomic accounts has a questionable basis in either ethnographic or archaeological evidence. The actual contribution of large game (while a much-prized resource) to the diet of many known hunter-gatherers is often low (Kelly 1995). Recent sources have stressed the role of small mammals (Clark 1954; Coles 1971; Smith 1990: 145; Charles 1997), fish (Keene 1981) and birds (Clark 1954; Coles 1971; Smith 1990: 122) for Mesolithic communities. The idea of upland-lowland seasonal movement and migratory habits of red deer have been called into question by Andrew Myers (1986; 1989) and by Legge and Rowley-Conwy (1988; 1989) given what is known of the early Holocene forested environment. The identification of 'staple' resources is problematic for settlement modelling as 'poor season' resources may take on a major role in survival, while other resources are highly focused and abundant for a short interval, such as salmon 'runs.'

2.4.2 Palaeoeconomy and the Mesolithic-Neolithic transition

Corresponding to the new appreciation for Mesolithic diversity and social complexity, new studies of the transition to agriculture focused on forager-farmer interaction (e.g., Barker 1985; Gregg 1988; Green and Zvelebil 1990). Zvelebil and Rowley-Conwy (1984) proposed a framework for the study of the transition to farming that includes the concept of an “availability phase,” i.e., a period during which agriculture is available to, but not necessarily adopted by, hunter-gatherers. Regions with long availability phases raise significant questions concerning the nature of forager-farmer interaction and the mechanisms behind the transition to agriculture (Zvelebil and Rowley-Conwy 1986).

Such an approach recognises agriculture as one among many possible hunter-gatherer ‘adaptations,’ but while acknowledging variability, defines the Neolithic as set of economic innovations reducing it to agro-pastoral farming. Historical specificity and contingency are erased, for the sake of unifying and maintaining the periodisation of *Mundane Time* and all non-agricultural practices are reduced to ‘cultural’ epiphenomena. Thus Renfrew’s emergent chiefdoms and monumental landscapes were seen as entirely conditional upon the transition to farming and the foundation of networks of subsistence territories (Barker 1985: 200). The transition to ‘the Neolithic’ remains synonymous with the transition to agriculture.

The palaeoeconomic model also persists with the assumption that while foragers led mobile lives, farmers were sedentary. Sites tend to be equated with settlements, because farming requires ‘settled life’ despite the general absence of permanent structures associated with agricultural activity beyond about 3100 BC (Thomas 1999: 9). Isolated ‘facts’ become the basis for a generalised evolutionary model of how people lived in the Neolithic in which, having advanced beyond the limitations of the Mesolithic, all people should practise mixed agriculture, should be sedentary and should live in houses.

Zvelebil’s language is also marked by attention to *Typological Time* by the use of phrases such as “from simple to complex” and “from mobile to sedentary”. These terms presuppose a standard of measurement (complexity and diversity of technology or degree of sedentism), to which all other aspects of practice can be reduced. When used as *leitmotifs* recurring from epoch to epoch, such phrases maintain the teleological idea of a predestined future, as if the outcome of human history could not have been different. Like culture-historians before them, palaeoeconomists see the farming regime of the Neolithic as having been introduced to Northern Europe by acculturation

(Zvelebil and Rowley-Conwy 1986) in an inexorable spread of a new economy from the central Europe and ultimately the Near East. They accept the proposition of a totally archaeologically invisible first Neolithic in Britain (Zvelebil and Rowley-Conwy 1986: 74) without attempting to understand how indigenous agencies transformed the values and practices they assimilated.

Zvelebil's (1998) recent attempt to break complexity down into independent areas of technological, economic, social and symbolic complexity, each with anthropological and archaeological signatures is an interesting effort to historicise the transition in 'processual' terms, but its uni-directionality is problematic. There is no examination of the idea of 'complexity' as stable, or allowance for farming and hunting and gathering as coeval practices *within* a community, with different importance at various points in a trajectory which has more than one potential outcome. Once again, ethnography serves to problematise generalisations which equate economy with mobility. It is possible to see sedentism as the cause of the adoption of food production, rather than food production as the enabler of sedentism (Bender 1978). Ethnography has produced many examples of more or less sedentary foragers, as well as mobile farmers. It also offers a more refined vocabulary with which to describe different kinds of mobility to address variability in patterns of both residence and mobility (Whittle 1997).

2.4.3 Critique

Most crucially, palaeoeconomy fails because it relies on the organic metaphor of bounded societies with functional parts, in this case sites related to resources. People rather than transforming their material circumstances in accordance with their projects merely fulfil the executive function of the relationship between site and environment.

“Palaeoeconomy proceeds by assuming that ‘sites’ have ‘economies’ rather than that persons take part in productive and reproductive practices, creating and drawing upon material residues as they go. Sites are reified into entities which not only provide sealed and bounded assemblages of faunal remains, but which ‘have’ territories or catchments.” (Thomas 1993: 373)

The consequence of such an approach is that interpretations of subsistence practices tend to be very static, even though environments and historical circumstances were probably very variable. Significant spatial and temporal variations in the resources of Early Holocene environments have been overlooked in the application of concepts derived and simplified from ethnographic sources. After all, well-documented examples

of changing settlement practices through time are limited in ethnography, and hunter-gatherers are often portrayed as living in a timeless past, a preconception influenced by political motivations (Fabian 1983; Trigger 1989).

An archaeology of practice recognises that small-scale communities have no apparent economic 'level' apart from other superstructural levels. Rather institutions and social practices are embedded in each other and mediated through kinship, so that no particular productive practices can be described as dominant or determinant (Godelier 1972: 95). This is to say that we are talking not about the effects of "economy" on "society" but of one set of social practices upon another. Economic wants are social and socially determined (K. Thomas 1963). The reaction of post-processualist archaeologists to the challenge of this statement has been disappointing: in general, productive practices have simply not been discussed (e.g. Tilley 1994). At worst, some fall back on the assumption of a will to sedentism and intensification (e.g. Hodder 1990: 41). But clearly these positions are no more satisfactory.

One solution is to examine the potentials set up by the adoption of certain productive strategies by actors, especially in terms of their production time. The requirements of even small-scale cattle husbandry, for instance, involve movement into different areas, and different combinations of animals across the seasons. Mark Edmonds (1999a: 27) has suggested that it may also have been caught up in the working of relationships between people, in terms of practical necessity (the extension of livestock breeding pools or tenorial claims) and less tangible matters of prestige and exchange in the staging of hospitality or marriage. Production has no beginning and ending, but is continuously going on. And immanent in every productive act in the *durée* of day-to-day social interaction is not only the projects of all the actors concerned (in the time of *dasein*), but the *longue durée*, which is constituted by the reproduction and transformation of productive practices. Production and consumption present, not only energy, but also power, knowledge and Time itself.

2.5 Population

Spencer's source of social evolutionary change derived from an inverted account of Malthus' account of population increase. From "the beginning population has been the proximate cause of progress . . . It forced men into the social state; made social organisation inevitable and has developed social sentiments . . . It is daily pressing us into closer contact and more mutually dependent relationships" (Spencer 1852).

Spencer's assumption is that all populations will inevitably rise to their carrying capacity, based on the idea that all social and technological innovations owed their genesis to the balancing of relations between populations and resources. This idea has had a profound influence on the construction of the Mesolithic and Neolithic over the last thirty years.

2.5.1 Population and the Mesolithic

Meiklejohn (1978: 68) comments that 'Of the variables that most control the social systems of any group, population size is the most important' and constructed population estimates based on numbers of archaeological sites. Given a poorly preserved and incompletely recovered site distribution, poor temporal resolution and little understanding of the actual population represented by any individual excavated site Meiklejohn's technique is fairly meaningless. It has, however, been surprisingly influential. Newell and Constandse-Westermann (1986a), for example, used it to suggest a gradual increase in population throughout the Mesolithic. Based on analogies with hunter-gatherer groups from North America, they concluded that by the end of the Late Mesolithic population levels marked the transition from a 'band' to a 'tribal' level of society.

In Britain too, population increase over the Mesolithic has been based on increasing numbers of radiocarbon dated sites from the beginning of the Holocene (Smith 1992) or increases in the numbers of sites which can be typologically assigned to the Early or Late Mesolithic (Jacobi 1976; A. Myers 1986). However, Andrew Myers notes that there is a higher ratio of microliths to other artefact types recovered on Late rather than Early Mesolithic sites (1986: 235: table 5). The chance of recovering a diagnostic artefact (a microlith) is thus greater in any assemblage of Late Mesolithic artefacts. The fewer microliths likely to be found on Early Mesolithic sites effectively acts against these sites being identified in comparison to Late Mesolithic sites. Thus we would expect, *ceteris paribus*, that many more Early Mesolithic sites remain unidentified. Additionally, the Late Mesolithic spans a time period approximately twice as long as the Early Mesolithic, thus differences between the two periods easily become conceptually inflated and population numbers extrapolated from site numbers may be exaggerated. Even on its own terms, the evidence does not support the argument.

Ecological changes are normally seen as the prime mover with respect to changes in population. Several authors interpret changes in woodland types in the Mesolithic (from

boreal to temperate woodlands) and warming climates in terms of an increase in populations both in Britain and more widely in the rest of Western Europe (for example Jacobi 1978a; Myers 1989; Rowley-Conwy 1983). Simmons (1996) appears to have derived his estimated population density figures for Mesolithic England and Wales from Constandse-Westermann and Newell (1989). Clearly figures for absolute population densities and for changes in population have been substantiated through ethnographic analogies, the relevance of which (Section 1.5) is difficult to established. In fact, Kelly (1995: 205, 221) illustrated that for hunter-gatherer groups for which information is available, population densities are extremely variable: only 69 (34%) lie within Simmons' defined range. Once more, the argument cannot be justified even on its own terms, due to the character of the evidence.

Another indicator of population growth supposedly comes from a decrease in the size of 'style zones' through time. Processualist theorists commonly link particular styles of items (tools, shelters, clothing) with population levels of a 'tribe' or 'maximal band' (Wiessner 1983; Sackett 1982; Wobst 1974, 1976). The appearance and increase in the numbers of identifiable regional Mesolithic microlith industries has been interpreted in terms of increasing numbers of these bands (which would each cover a smaller area) and increases in absolute population numbers. Jacobi (1979) suggests the appearance of regional social territories after 6000 BC in England on the basis of more regionalised artefact distributions, with smaller style zones (c.f. Care 1982; A. Myers 1986).

While Jacobi's idea is certainly interesting, it is unlikely that microliths, tiny as they were and practically invisible under birch gum and hafting, were capable of displaying any sense of 'emblematic' style. This if anything makes the apparent long-term stability of their manufacture even more fascinating, as it suggests a persistent alignment of projects over time. While these artefacts appear to have a range of uses (Section 5.4.1.1) and our ideal typologies fail to capture the range of variation in their form, they can certainly be taken as tacit, but potent articulations of procedural norms and beliefs, so powerful that they were beyond question. The creation of certain artefacts would have subconsciously reminded knapper and onlooker alike of the tasks to which they were to be put, and the place and meaning of those tasks in the 'taskscape' or social landscape. This would have been all the more the case when the artefacts involved were relatively everyday objects – it would be their very 'every-day-ness' that reinforced those taken-for-granted views of how to behave and who should perform what activities in a community.

2.5.2 Population and the Neolithic

Gradually increasing populations in the Mesolithic are also a clear component of many models of agricultural origins (Binford 1968; Flannery 1969; Harner 1970; Smith and Young 1972; Cohen 1977; Hassan 1978; MacNeish 1977; Newell and Constandse-Westermann 1986a; 1986b; Constandse-Westermann and Newell 1989). Most processualist researchers have now abandoned population size as a determinant of the intensification of resource production and the adoption of agriculture (e.g. Zvelebil 1986:167-188). However, population models remain influential in characterising the development of Neolithic 'society'.

In Britain, the supposed adoption of mixed-agriculture was seen to lead to an unleashing of productive potential, after the heavy constraints of foraging existence (Mercer 1981, 236). The Malthusian dictum – that population will always rise to the highest levels allowed by resources – then became in many accounts the driving motor for agricultural expansion and increased competition for land. Once again the variability in artefact style and monumental architecture substantiated perceived local sequences of changes in the territorial boundaries of population groups (Renfrew 1979a: 207, c.f. Mercer 1981; Burl 1987: 32). For Renfrew, population is a parameter of the social or cultural system, along with environment and settlement pattern. His assumption was that increasing investment of effort in monument construction through out the Neolithic was a consequence of steady and unbroken growth in population.

As we have already seen, such 'processual', 'adaptive models' frequently characterise interaction between population and environment as mediated by technology. Such conjectures, whether they suppose a teleological in-built capacity towards increased differentiation or focus on the result of environmental adaptation, are incompatible with attempts to understand the social in anything other than functionalist terms. The failing of population-based models is that, despite aspiring to dynamism, they collapse into a static system three thousand years of prehistory, for the sake of achieving a bounded model of a society. The idea of such rigid bounded totalities at temporal and spatial scales so inconceivably far beyond the recognition of the actor, can be of no possible use in understanding action, only in establishing society as object of study. But society explains nothing – its very suggestion requires explanation.

2.6 Post-processualist approaches

In theory the rejection of totalities rather than people as productive of artefacts is what is supposed to have set post-processualist archaeologies aside from processualist work (Hodder 1986: 9; Shanks and Tilley 1987b: 124). This section demonstrates that in practice such a project is far from being realised in the context of the study period. Ian Hodder and Julian Thomas have both appealed to the same battery of social theory discussed in Chapter 1, but it is arguable that neither has achieved the goals set by those appeals. Rather, the theory-constitutive metaphors of culture and society are still very much in evidence.

2.6.1 Ian Hodder

In *The Domestication of Europe* (1990), Hodder interprets the European Neolithic 'sequence' as the playing-out of a long-term structure which underlies architectural form, artefactual style and funerary rites. This structure, involving an opposition between the *domus* (the house and the domestic) and the *agrios* (the wild), thus constitutes a set of rules or codes which underpin a 'story which unfolds gradually across Europe' (1990: 42). He argues that "the process of domestication – the control of the wild – is a metaphor and mechanism for the control of society" (1990: 12). Conceptual domestication precedes agriculture and originates with closer control over environments by Palaeolithic populations. Palaeolithic and Mesolithic control of the wild was merely extended to the plants and animals which "were separated from the wild, brought in and controlled within the cultural sphere, dominated in order to enhance social prestige by defining the cultural against the wild" (1990: 291).

"The *domus* . . . is the concept and practice of nurturing and caring, but at a still more general level it obtains its dramatic force from the exclusion, control and domination of the wild, the outside . . . Culture then is opposed to nature but in an historically specific manner." (1990: 45)

"The main reason for using a term linked to *ager* and *agrios* is that a play can be made on the idea of 'agri-culture' as a 'culturing' of the 'wild'" (1990: 86).

Through his choice of terms derived from Indo-European roots Hodder hopes to "think the archaeological 'data' in their terms" (1990: 45) and highlight the way we construct the past through our own historically constituted language (1990: 46). While the latter is admirable, the former constitutes a substantial violation of the hermeneutic ideal in which artefacts are considered meaningless prior to their constitution through an

interpretative project. As discussed in Section 1.4.5, the depth semantics of hermeneutic structural analysis is not an imposition of fixed values, but a stage between a naïve and critical interpretation allowing the subjectivity of both author and reader to be identified. Had Hodder taken this seriously, he may have rethought his ‘agri-culture’ pun.

The word culture itself did not originate in a binary opposition to ‘wild’, but in connotations of nurture. It is in the language of the last three centuries that “culture” has become a metaphor for the domination of ‘society’ and ‘nature’ (Williams 1976) and this conceptual binary opposition is by no means a universal. Recent studies of gatherer-hunters and small-scale cultivators suggest that human relations with the non-human world are more often organised along kinship lines rather than expressed as domination of a ‘societal’ object over conceptual “others” (Descola 1994; Ingold 1996a; Bird-David 1999). In fact it is difficult to imagine the domination of the wild being equivalent to the nurturing of children prior to the emergence of Victorian middle class tastes and distinctions. By imposing this post-renaissance metaphor on prehistory Hodder merely continues a deeply conservative, modernist project: the disjunction of an initially unitary phenomenon into conceptually purified realms of ‘nature’ and ‘culture’ (see Section 2.3).

Hodder’s sense of history is also deeply traditional and static. A closer reading of his own philological source, the work of Benveniste (1973), might have led instead to a focus on how language and concepts are continually reworked through practice. For instance, Hodder (1990: 45) identifies the Greek *domos* as being equivalent to the Latin *domus*, whereas Benveniste takes great interest in the way the former came to mean merely the physical structure, as the noun *oikos* came to represent domestic life. Presumably this new word gave expression to a variety of new connotations not available from the former. Language (and the dispositions it represents) does not exist outside of, and is constantly transformed through, its use.

Hodder recognises different expressions of his metaphor in different regions but his rendering of that conceptual transformation is profoundly unsatisfactory. In the early Neolithic he sees the principles of the *domus* as tied to primarily ‘domestic’ production. Through time the older symbolic principles of the domestic scale of production came to legitimise higher levels of productive organisation that he finds implicit in long barrow construction and alleged craft specialisation. Of the great monuments of Wessex, he writes that “The bank barrows, cursus, avenues, and henges simply extend the *domus*

principle to a new level of social control” (1990: 270). Clearly we are witnessing a restatement of Renfrew’s social evolutionary model, wherein Time is expressed as structural-functionalist typological categories. This model accounts for a societal object discovered not in arrays of artefacts but in the interpretative strategies of earlier social science projects.

For instance, Hodder claims that “‘docile bodies’ are created through transferring the idea and practice of domesticating the wild . . . to the domestication of society” (1990: 270). But Foucault’s principle of ‘docile bodies’ was coined in relation to the historically emergent and *specific* “ordered municipalities” of capital production (1979: 148). Hodder does not make clear exactly how such control is supposed to have been maintained in the third millennium BC without the apparatus of state violence and ideology, but clearly it is ‘society’, not prehistoric practice or agency, that is his object of study. With all his appeals for “some room for agency” (1990: 276) his effort has been received with suspicion. His claim it seems is to have ‘discovered’, through the application of linguistics, a hypostatic structure residing in the medium of people rather than being transformed by their agency, a kind of ‘evolutionary structuralism’ (Barrett 1994; Pluciennik 1998).

While Hodder finds different expression of the *domus* across Europe, its articulation *within* those geographical regions is deeply normative, and this jars with the potentials of the Latin noun he has appropriated. In Roman civic society, men’s lives were lived mainly in the public domain, while the existence of women, children, and slaves was confined for the most part to the house. But Roman authors recognised the social and historical contingency of this ideal. Varro wrote that Illyrian men and women were equally able to herd flocks, gather wood, keep house, or cook food (*De re rustica libri* 2.10.7). The stories of Baucis and Philemon (Ovid *Metamorphosis* 8.620-720), and Simylus and Scybale (Virgil *Moretum*) depicted rural women and men working harmoniously together in food preparation and other tasks. Likewise, if Henrietta Moore claims to have uncovered structuring dispositions behind the organisation of the Endo house, it is in terms of the symbolic work of *varying* ideological representations within *varying* material conditions, neither of which is determinative (1986: 161). Within wider social affiliations the same metaphors can be articulated for radically different ends, and this will always defeat any attempt to unify those expressions, especially at a continental scale as in Hodder’s project.

To treat 'the Neolithic' as a metaphor of small groups and the larger social entity is to reduce the phenomenon to a problem of style; as such, a metaphorical structure is potentially present, while variably expressed, in all prehistoric communities. Hodder's vision of a 'structure' of meaning appears to determine thousands of years of history. Meanings are unlikely to maintain this degree of stability over time, and structural qualities are not contained in a mental template. Rather they are interpretations which people create through their engagement with the material world. Hodder's essentially diffusionist thesis offers a narrative of the dissemination of concepts as well as domesticates and cultigens which spread when neighbouring groups are conceptually compatible (1990: 182). This is to neglect the ethnographic evidence that people re-categorise new resources and transform ideas (N. Thomas 1991) and that material conditions are socially constructed. Assimilation, acceptance or rejection is an active matter of social context and attitude (Pfaffenberger 1988: 240; Torrence and van der Leeuw 1989), rather than depending on passive and abstract structural or conceptual compatibility (Pluciennik 1998: 73).

Today, the Englishman's (*sic*) home may be his castle; and home may be where the heart is. But to search for the origins of this sentiment in the early to mid-Holocene, is to ignore the importance of the ancestors (Barrett 1994) and the living, albeit mythopoetic, landscape (Tilley 1994) as objects in their own right for prehistoric communities. That Hodder chooses to subordinate their representation to 'domesticity' says far more about his post-renaissance metaphors and the quest for the origins of agriculture and civilisation than it does about the projects of prehistoric agencies.

2.6.2 Julian Thomas

Julian Thomas' career has been in some senses a struggle to come to terms with the idea of culture with respect to the Neolithic. Originally, he referred to the spread of a coherent "ideological package": a "whole structure of ideas could now be transmitted which contained within it the blueprint for a particular set of social relationships" (1988: 64). The Neolithic "is the wholesale transformation of social relations which results from adopting an integrated cultural system . . . It is the recognition of the symbolic potential of these elements to express a fundamental division of the universe into the wild and the tame which creates the Neolithic world" (1991: 13). Once again culture is understood as an 'expressive totality,' a normative consensus as the basis for the unity of the totality, society. It also unwittingly reintroduces an economic definition of the

Neolithic through the use of the word “tame” as well as imposing a Western conceptual nature: culture dichotomy which is nonsensical to small scale communities (Ingold 1996a). Once again, despite arguments for continuity (1991: 14-25), Mesolithic communities are portrayed as ‘the people without history’, a *tabula rasa* on which the Neolithic beginning of history can be inscribed (Pluciennik 1998: 74).

Thomas has since reworked his definition of the Neolithic. Writing on the period around 4100 BC, he finds it “possible to suggest that a particular repertoire of material forms had become generally available, which was drawn on and used in highly regionalised and idiosyncratic ways” (1996: 134). He talks of this time being a “phase of rapid change in the forms of material culture which were in use, the whole role of artefacts had been transformed” (1996: 135). This is clearly not the case. The individual components of ‘the Neolithic package’ took a millennium or more to find their way into all parts of England, a time through which essentially ‘Mesolithic’ traditions of manufacture and use persist (see Chapters 4 and 5). Additionally, as Pluciennik notes, archaeological symbols in the ‘Neolithic package’ may sometimes represent different media rather than changed practices. Each of these categories of ‘Neolithic’ material “have been shown to occur singly or in conjunction, in contexts which would not otherwise be described as such” (1998: 78). Thomas’s idea that for the most of the period 4000-3100 BC there was a “closely integrated tradition” (1996: 135) is difficult to justify outside of Southern England. As for Hodder, the identification of a unified phenomenon at a continental scale is more important for Thomas than the representation of transformation and difference.

Parts of Thomas’s account are eerily reminiscent of Childe’s technological determinism – for instance, the statement that “the set of material media was appropriate to Mesolithic as to Neolithic groups” (1996: 135) with no reference to what it was that made them suddenly ‘appropriate’. However the biggest flaw in his argument is his awkward attempt to express the transformation in social relations during this period. He attributes to this change in artefactual repertoire “an opening out of social relationships and an enhancement of exchange and the circulation of information” (1996: 134).

“The compatibility of the things themselves with those used by distant and far-flung communities meant that exchanges, alliances and shared meanings might at least be negotiated between them. The effect of a material culture’s emergence as a ‘technology of the social’, a set of resources which enabled social relationships to

be constructed and maintained, was twofold. Between social entities relationships might be re-created, and the atomisation and regionalisation of the previous era might be reversed” (1996: 136).

Such a parochial representation of the preceding period is a product of ethnographically created bounded social units circumscribing a finite set of individuals with shared behaviour patterns (Wobst 1978). Despite attacking processual traditions of synthesis, Thomas has relied on them for his pre-fourth millennium background. The implication seems to be that ‘Mesolithic’ people did not engage in exchanges, alliances or shared meanings which were comparable to those employed in the ‘Neolithic’. Once again, as with Hodder’s account, there is no sense of the existing, historically contingent social relations as fundamental for the re-categorisation of new resources.

The truth is we know very little about the kinds of exchange that took place in Britain before the beginning of axe production in the fourth millennium. However it is ludicrous to suggest that these communities lacked ‘technologies of the social’ which ‘emerged’ only around 4100 BC. What we are missing is the media through which such relations were worked. Stone tools are highly durable, but they make up a tiny fraction of the material repertoire of hunter-gatherers and small-scale farmers. I have argued elsewhere (Hind 1998) that inter-regional exchange of raw materials may have played a key part in the lives of some 6th and 5th millennium communities in Northern England. Recent anthropological research suggests that many egalitarian communities are at least symbolically dependent on inter-regional exchange of other categories of materials (Spielmann 1986).

Instead of supposing a sudden and fundamental shift in the modes of interaction we need to explore the way continuity and change in traditions of manufacture and use may be tied into the development and transformation of regimes of value (Appadurai 1986). We can learn from Nicholas Thomas’s accounts of recent exchange on the peripheries of the colonial enterprise. “New things were assimilated into extended categories, appropriated, constituted and used in ways mostly beyond the vision of the foreign transactors. While native peoples appeared to be seduced by foreign values, they were actually drawing novelties into persistently autonomous strategies and domains” (N. Thomas 1992: 38).

Julian Thomas is strong in his appreciation of the classificatory potential of objects: “Neolithic material culture served to draw distinctions between classes of persons (younger, older and ancestors; genders), places and activities. In some cases, the

outcome of this would have been more internally differentiated social groups” (1996: 135). But however clear Thomas is on the genealogy of ‘The Neolithic’ as a discursive product of archaeologists (1993), he continues to use ‘the package’ as a means of defining a period of time in a way that his theory seems to prohibit. Clearly his position needs further thought especially with respect to the ‘Mesolithic’ background and more localised perspectives on changing traditions.

While it is beyond doubt that there were cumulative social transformations over time, the historical trajectory on which novel artefacts and practices became accepted was by no means a one way ticket for all groups towards social ‘stratification’ or ‘complexity’. Qualitatively different social worlds developed. But at the same time, “it is necessary both to question whether there is any straightforward temporal axis of change and suggest that the analytical and explanatory focus should be upon interconnected spatial developments” (Bender 1990: 256). We should focus especially on how these unravel over time through the practice of everyday life, and through the situated projects of actors.

2.7 Conclusion

Whatever the metaphor with which we animate hindsight, “our past is present in us as a *project*, hence as our future” (Fabian 1983: 93). Prehistorians *represent* the past as a closed field, affixed to the present and accessible through remnants of the real past. Their representations are possible through discursive frameworks of meaning that encompass particular combinations of “narratives, concepts, ideologies and signifying practices, each relevant to a particular realm of social action” (Barnes and Duncan 1992: 8). Discourse, rather than a thing to be seen and touched is an implicit set of capabilities. It is an ensemble of rules by which readers/listeners and speakers/audiences are able to take what they hear or read and construct an organised meaningful whole. Discourses construct and position objects (‘the thing thought’ rather than the thing itself) and subjects (the thinker), (Foucault 1972; Gregory 1994). They gain their power from, and are shaped by, metaphor (Barnes and Duncan 1992).

The words ‘Mesolithic’ and ‘Neolithic’ are such discursive constructs developed to capture or make sense of large bodies of archaeological data. They are ‘objects’ that exist *for us*, not for the people we represent through them. Whether expressed as typology or periods of continuous duration, they are reifications of people and their practices, denials of their agency. Through our practice they have become associated

with a network of other metaphors, particularly models of culture and society, which also serve to reify human choice and expression. In other words these metaphors are “constitutive of the theories they express, rather than merely exegetical” (Boyd 1993: 360). No interpretation is possible without the use of metaphorical language (Lakoff and Johnson 1980). However, it is necessary to develop a reflexive critical awareness of the role of metaphor in archaeological praxis in order to expose how metaphorical mapping emphasises certain parts of the world by marginalising others. Particularly problematic are projects that assume the existence of time, culture, society and nature apart from the subjective intentional activity of human beings. As stated earlier, such terms do not explain anything, but rather, they demand explanation.

All the archaeologies reviewed in this chapter base their discourse on root metaphors derived from vision, consequently exhibiting more affinities to spatial order rather than to temporal process. To suggest these objects exist independently of the theorist implies that there is a view from everywhere and hence from nowhere, a view without limitations and hence no connections to humans located at specific places and times. In her vision metaphor Donna Haraway (1988) emphasises that every perspective is partial and contingent, rather than full and unlimited, and that all knowledges are situated. The same logic ironically demonstrates that ‘situatedness’, far from being a barrier to knowledge, enables it (Merleau-Ponty 1962). The imposition of boundaries through metaphorical models rescues inquiry from solipsism and radical subjectivism but offers no direct, unmediated access to reality, which is always perceived perspectively. We do not know time, culture and society except as objectifications. What we, as archaeologists, can know as real, are the historically contingent traces of the materiality upon which human beings act. We can understand them as the products of actions, projects and practices, constituted by and constitutive of their makers and of time. But we now require a mode of representation that can articulate that history in some way other than as *contained in time*.

Archaeological discourse establishes a particular form of historicity (Section 2.2.1) whereby we understand that time passes, as if it were abolished behind us by technical revolutions. Thus we understand that the Neolithic succeeds and surpasses the Mesolithic, because we extrapolate from apparently distinct artefactual strata, the periods of Mundane Time. The representation of diachrony is so difficult to achieve because each stratum is accounted for in terms of a different model of ‘culture’ or ‘society’. But an archaeology that recognises artefacts, as well as time, as produced by

the actions, projects and praxis of people understands that one set of socio-technical behaviours does not immediately replace another. Rather practices are coeval in the time that they produce. Latour captures this idea eloquently in the following passage:

“I may use an electric drill, but I also use a hammer. The former is thirty-five years old, the latter hundreds of thousands. Will you see me as a DIY expert ‘of contrasts’ because I mix up gestures from different times? Would I be an ethnographic curiosity? On the contrary: show me an activity that is homogenous from the point of view of modern time.” (Latour 1993: 75)

Instead he concludes that we are exchangers and brewers of time, that it is exchange that defines us “not the calendar or the flow that the moderns have constructed for us” (1993: 75). This is to say that our actions are polytemporal, that we innovate constantly, and that the idea of stable tradition is an illusion:

“We have never moved either forward or backward. We have always sorted out elements belonging to different times. We can still sort. *It is the sorting that makes the times, not the times that make the sorting.*” (1993: 76, original emphasis)

Both archaeologist and the prehistoric actor apprehend the material world, not only through reflection on models of perception, but through situated, sensuous engagement with elements of the material world. What is needed then, as a corrective to the reification of Time, is a theory that situates the traces of prehistoric actions and projects in the material world rather than in a system or an expressive totality. It is to such an end that the next chapter turns to the constitution of landscape and technology.

Chapter 3

An integrated theory of landscape and technology

3.1 Introduction

In a sense, this thesis is the product of a long tradition, that of the regional survey, which attempts to characterise distributions of artefacts over a large geographical area in terms of a variety of activities. Often, artefacts are understood to give us uncomplicated intellectual access to prehistoric technical practices (e.g. settlement and subsistence; Section 2.4). In this case the geographic distribution of techniques is usually understood as a synthesis of several very basic social processes. Two are most common: (1) adaptation to surroundings or the management of resources and physical constraints, and (2) processes of producing and transmitting innovations. It is widely admitted that these processes cannot be understood without some recourse to the knowledge of their working in the contemporary world, whether that is then animated by uniformitarianism, middle-range theory or analogy. However, whatever the method, these processes have generally been attributed to conceptual totalities prior to, or to the exclusion of, human agency. The last chapter problematised some of archaeology's theory-constitutive metaphors, particularly anthropological culture, sociological society and the physical time of the natural sciences. These conceptual objects rely on visual metaphors to apprehend the social processes in which the material world is caught up. But in abstracting such processes away from the actor and experiential time, they fail to grasp how the materiality of bodies, artefacts and the world in general, are constituted by and constitute agency. The aim of this chapter is to attend to this failure through addressing that mutual constitution. I will argue space and technology, like time, are socially informed constructs rather than neutral *a priori* facts, and failure to recognise them as such has had profound consequences for the types of history that can be written. With respect to lithic artefacts and prehistoric landscapes, the main themes of later chapters, I aim here to provide a framework for their interpretation in terms of practice.

3.2 Previous approaches to spatial distributions

Three approaches to the interpretation of regional artefact distributions have dominated archaeology since the 1970s: the identification of ecological determinants; site

catchment analysis; and spatial or locational analysis. The first was assimilated by the New Archaeologists (Binford 1962) from the work of Julian Steward, in which technological and environmental determinism were the essential 'motors' of the historical process (1955: 13-14). The second originated with the British school of Palaeoeconomy (Higgs 1972), and drew on Von Thunen's (1966) model of relationships between spatial distributions of activities and land-use around a centre¹. The third was adapted, notably by Clark (1968) and Renfrew (1973a), from the mathematical models of the positivist New Geography (Chisholm 1962; Haggett 1965, 1972; Chorley and Haggett 1967). A spate of models based on the movement of materials and artefacts at a supra-regional level also emerged in the 1970s (following Hodder and Orton 1976). While these are important to this project they have been comprehensively critiqued elsewhere (Bradley and Edmonds 1993: 3-11), and my particular concern here is the characterisation of space and technology at the level of the community. In what follows, the three internal spatial models are examined on their own terms, before a critique is offered in Section 3.2.4.

3.2.1 Ecological modelling

In ecological perspective, artefacts, apart from those that are essentially decorative, increase our fitness or efficiency and are associated with a specific master function given by their physical properties. This common-sense view is frequently associated with a theory of technological evolution. For the New Archaeologists, culture "function[ed] to adapt the human organism, conceived generically, to its total environment both physical and social" (Binford 1962: 218). Therefore every artefact had two dimensions, the instrumental, related to function, and the symbolic, relating to its social meaning (Binford 1965). Ideas or norms could be drawn on in adaptive situations but their presence alone, as knowledge, was not sufficient to cause human behaviour: "transmitted knowledge and belief are . . . a reservoir of accumulated knowledge *to be used differentially when appropriate*" (Binford 1972: 259, original emphasis).

The New Archaeology advocated positivism as a research philosophy advocating the orderly collection of data within a framework to acquire knowledge expressed as general statements (Section 1.2.1.1; Gibbon 1989). With respect to the spatial

¹ An expression of the law of diminishing returns with distance.

arrangement of artefacts there were then two burning questions: how do we identify archaeological patterning at different spatial scales; and how do we make sense of those patterns, i.e., what do they tell us about the character and development of past human societies? A positivist framework could accommodate neither ideas such as the 'culture area' which, it was felt, contributed little to 'big questions' such as urbanism or craft specialisation, nor under-theorised use of ethnographic analogy, common in culture-historical archaeology. Rather, explanations of culture process would be grounded in anthropological theory with *reference* to case studies (Binford 1962).

This reaction against the normative approach of Culture-History came into sharp relief in the debate between Binford (1973) and Bordes (1973) over whether Mousterian assemblage variation was an indicator of functional variability between activity sets or of ethnic identity. Binford began ethnoarchaeological work amongst the Nunamiut (1978) to create a frame of reference within which he could explain, at both a regional and somatic level, the character and spatial organisation of the Mousterian groups with which he was specifically concerned. Drawing on cultural ecology, he placed his own case studies and those of Yellen (1977) amongst the !Kung San on a continuum which correlated settlement and subsistence patterns with environmental conditions (Binford 1980). The basic assumption in Binford's work as with all cultural ecology, is that human settlement is located in response to particular sets of environmental factors. Therefore determining the specific environmental factors should permit the construction of rules governing settlement location and the prediction of site distributions in areas not yet investigated. The social and the economic could be separated as different sets of behaviour and through middle-range theory (Binford 1977) could predict artefact deposition without reference to social process. Thus for ecological approaches the character of space, i.e. the environment, becomes a determining factor, while technology is essentially functional, and both have normalised potentials within any one mode of production.

3.2.2 Site catchment analysis

Like the adaptive, ecological models site catchment analysis uses contextual data to build interpretations of functional inter-relationships. First introduced in the Mediterranean region to investigate of the origins of agriculture, it proposes that, other things being equal, the further away from the site, the less attractive the resource (Higgs and Vita-Finzi 1972). Typically it might assess the different types of land (arable or

pasture) within easy walking distance of an archaeological site. Circles are drawn around sites that represent the distance a person could effectively exploit on foot in a day (pre-established by analogy with, for example, African Bushman groups), then potential resources available are identified.

While many site catchment studies have been criticised for reconstructing economic behaviour, without recourse to excavation, on the basis of distribution maps and predictive models, this mode of analysis was widely used as a heuristic device for an inductive approach, to explore the economic potential of different categories of site. Flannery (1976) looked at the range of materials used at sites in Mexico and determined the distance they must have come from. This established different catchment radii for different resources relative to different task-sets. It was then possible to ask how catchment areas of different settlements might have related to each other, for instance to what level catchments might have been exclusive to settlements and to what degree they were shared. Thus, he could suggest a degree of interaction present in the settlement pattern in which communities related to the environment as well as each other. As an inductive aid (as Flannery uses it) site catchment analysis is no longer an end in itself, since its implementation and interpretation are recognised as founded on other theoretical objects, such as models of social structure.

3.2.3 Spatial/locational analysis

The Spatial/Locational Analysis approach emphasises levels of interaction between settlements and the study of hierarchies of interaction. It draws extensively on Christaller's (1966) Central Place Theory, first developed in the 1930's to account for settlement patterns of societies with developed market economies. Central Place Theory proposes that in such economic systems, any settlement that provides services for other settlements will be determined by convenience, and will be located so it can be reached with the least amount of effort. On this basis, a hexagon is the most economical geometric form for the equal division of an area between a number of points. One can examine interactions among complex society settlements, which functioned as local or regional distribution centres, and predict the patterning of lesser settlements at each level. In theory, central places that provide similar services will be spaced equidistantly from each other.

As discussed in Chapter 2, Renfrew argued that all societies could be thought of as systems of human organisation. He further suggests that the social structure will always

be mapped diagnostically by the spatial characteristics of their residues. As the different kinds of 'monument' involved different quantities of labour, he found it possible to order them in terms of hierarchies, which might be related to the level of vertical hierarchy present in 'society'. Positing that only complex social structures could mobilise sufficient labour to build large-scale earthworks and megalithic structures, he delimited five 'chiefdoms' within Neolithic Wessex on the basis of their distribution and through the application of central place theory (1973a: 552). 'Monuments' could be understood as symbols of a corporate group's claim to land and resources, and he posited that they constituted the "natural counterparts of other features of society" (Renfrew 1973a: 556). Sequences of such residues in categories of *Mundane Time* can therefore represent the passing of time between one kind of social organisation and another (Section 2.3.4). The presentation of the evidence as a static system once again presupposes a particular relationship between material production and social reproduction. Like the ecological and site catchment analysis models, Renfrew's application of central place theory understands the materiality of artefacts and architecture to be relatively unproblematic. Culture, and therefore material culture, is still humanity's, or rather society's extrasomatic means of adaptation (Renfrew 1972: 13); thus megaliths *functioned* as "focal points" and "territorial markers" to maintain the unity of dispersed segmentary societies (1973b: chapter 7).

3.2.4 Summary

These models can all be critiqued on the basis of arguments rehearsed in Chapters 1 and 2. In all three cases, whether the archaeological 'system' is interpreted in terms of universalising laws of human behaviour or analogy, generalised social taxonomies (e.g. forager vs. collector) of Typological Time are imposed onto categories of synchronic Mundane Time resulting in a static, systemic, models of society (Section 2.3.4). All three models offer a world of abrupt moments *in* time, where time is, metaphorically, a container for action. For the spatial and locational models, it is irrelevant *when* the activity takes place, as time is homogenous. On the other hand, Binford's (1980) work contains a sense of activity as constitutive of temporality, and temporality in the annual round, as constitutive of identity. However there is no sense of development, either of the environment or of the practices through which people engage with it: his aim was still to collapse the perspectival and situated logic of experiential time and the taskscape into a static synchronic model of land-use, with general applicability. Changes "in the

ecological setting of any given system are the prime causative situations activating processes of cultural change” (Binford 1964: 440): the creative capacity of human agency to alter the conditions of its existence is largely denied. In the case of site catchment and locational analysis, actors are still reacting to environmental stimuli, but are analytically separated from the animals they exploit because culture, rather than genetic make-up, works out their strategies for them.

These criticisms are important. However my purpose here is signal the particular but related failing of these models to address the materiality of archaeological material and landscapes. The rules governing settlement location and resource exploitation were given by *behaviour* or *culture*, rather than meaningful action, disregarding the way the *potentialities*, as well as pressures, of institutional constraints, techniques, technologies, styles and materials are realised in the materiality of artefacts and environment (Butler 1993). Further the notion of adaptation, to which all three models implicitly or explicitly subscribe, assumes, *a priori*, an identifiable environment to which people proceed to adapt. But environment in this sense has no observable existence. The only truly observable environment is the one a group perceives and uses, and in particular, the set of resources and constraints that it recognises in *practice*. Each social group then has its ‘own’ environment, which can be, and often is, different from that of another group sharing the same territory (Sigaut 1994).

New Geography and New Archaeology, in particular, considered space as an abstract dimension or, metaphorically, a container in which human activities and events took place, technology being merely the interface. This is a perspective that conceptually separates activity and event from context. Both site-catchment and locational analysis are based on cost/benefit principles whereby productivity is maximised and effort minimised. While site-catchment analysis at least understands humans to be rational actors, as opposed to biological specimens responding to environmental stimuli, the assumed rationale is one peculiar to Western thought from about the seventeenth century (Section 2.4.3; Bourdieu 1977 175-181). Therefore the space imagined by analysts is one comparable to the spaces of advanced capitalism. However the logic of practice is not only comprehensible in terms of accumulation, but also in standing in the eyes of others, that is, ‘symbolic capital’. Bourdieu, commenting on the Kabyle, wrote:

“Activity is valued for its own sake as there is no distinction between productive or profitable and unproductive or unprofitable work. There is only the opposition

between the idler who fails in his social duty and the worker who performs . . . whatever the product of his effort” (Bourdieu 1977: 175-6).

To summarise, aside from the lack of contingency for when results fail to fit the model, all three methods described above are incredible because of their historically specific conceptualisation of space and an unproblematic, under-theorised attitude to technology. In Section 2.2.2 I discussed time as socially constituted through experience, action and discourse. It is now necessary to establish a similar framework for space and technology.

3.3 Space

3.3.1 Space as a product of discourse

Foucault described different ways in which space has been defined in our Western experience, the first being “medieval space” which incorporated the history of “a hierarchic ensemble of places” (1986: 22). It conveyed relatively simple binary relationships: the sacred and the profane, the protected and the exposed, the country and the city, and so on. This ‘pre-modern’ space was bounded; things within it were assigned a place along a predominantly vertical axis – ‘heaven-earth-hell’, or the ‘chain of being’, extending down from God. In the terrestrial sphere – the space of human action – every being, and each thing, had a place preordained by God. Foucault’s concept of ‘emplacement’ described a place that found its natural expression in its installation in medieval life. But Foucault emphasised that it also assigned anything – an object, event, or idea – that appeared out of place an ‘artificial’ location in order to secure its place in the medieval world and the imaginary. In this way even incongruous events fell into a system of local comprehension. Local comprehension, as an articulation of ‘emplacement’, could only consider the object world within its own parameters.

However, with the development of science, particularly astronomy, the presence of the world outside the local began to infiltrate popular consciousness. Foucault argued that with Galileo’s “constitution of an infinite, and infinitely open space”, the notion of emplacement was destroyed, that “a thing’s place [was] no longer anything but a point in its movement” (1986: 23). In other words, emplacement (or localisation) became replaced by “extension”, an extension of itself within a larger system and understanding of space.

In this model, spatial distinctions, both metaphoric and representational, based on scientific knowledge of the universe, are transferred to the public imagination. Modern space becomes understood as Euclidean, horizontal, infinitely extensible and, in principle at least, boundless. The reproduction of those models in Western epistemology continues in direct relationship to social practices of all kinds. In the early modern period it was the space of the humanist subject in its mercantile entrepreneurial incarnation. In the late modern period it is the space of industrial capitalism, the space of an exponentially increased pace of dispersal, displacement and dissemination of people and things. Foucault argued that any conception of regulated space is necessarily accompanied by the need to manage it through the imposition of rules, ordinances, and central governmental controls. A disciplining of the 'extension' as well as the system in which it belongs and participates changes the public conception of space (1979).

So in Foucault's view, regulatory ideals (potentials and constraints for action) and the organisation of space are interdependent and historically constituted. The medieval "space of emplacement", where there were clear and specific hierarchies, is today replaced by the "space of extension", where the "hidden presence of the sacred" vis-à-vis state power has been dispersed, displaced and decentralised. Such a dispersion facilitated by the complex networks of the urban grid represents a new "microphysics" (Foucault, 1979: 139) of power, of disciplinary control and panoptic surveillance, which continues to regulate "docile bodies" into "ordered municipalities" of capital production (1979: 148). Space, like time, is not *a priori*, but has a history.

3.3.2 Landscape and place

Space, conceived in modernity, is quantitative and homogeneous. It is abstract, independent of any point of observation, it is the dimension of the map. In the cartographic imagination the mind is laid out upon the surface of the earth, but this is not the orientation of the agent situated in its environment. Spatial differentiation implies segmentation, because the *raison d'être* of cartographic space is the creation of boundaries (*q.v.* Gow 1995). With space the world is partitioned and meanings are attached to the world. Therefore a geometry of abstract, isotropic space will not help us understand the way people move around, perceive and engage with their surroundings.

From the beginning of the 1990s a number of archaeologists (e.g. papers in Bender 1993) became interested in the experience of space as historical, perspectival and contested rather than constant, homogeneous and normative. The concept of landscape

has been most notably formulated in Tim Ingold's *The temporality of the landscape* (1993d). Landscape is qualitative and heterogeneous: you can ask what a landscape is like but not how much of it there is. Landscape is not nature, because people construct the concept of 'nature' as the material, the object world as opposed to the ideal, the subject world of humanity. "In a world construed as nature, every object is a self-contained entity, interacting with others through some kind of external contact. But in a landscape, each component enfolds within its essence the totality of its relations with each and every other" (1993d: 154). As it is never finished but constantly 'becoming', "*the landscape as a whole must be understood as the taskscape in its embodied form: a pattern of activities collapsed into an array of features*" (1993d: 162, original emphasis).

This perspective, along with the textual approach to space (Section 1.4) and experiential time (Section 2.2.2), allows archaeologists to understand the organisation of the wider material world as at once, real, social, discursive and polytemporal. It incorporates not only the rhythms of day-to-day activity, but also the projected goals of actors and the enduring coherences between actors and material conditions in different forms of praxis. The metaphor of space as a container for action is not an adequate object for an archaeology that acknowledges the role of human agency in prehistory. Rather an approach is required whereby the identity of locales and the people who inhabited and worked upon them are understood as mutually and historically constitutive in terms of identity. If we envisage prehistoric actors as rational, but their rationality as unlikely to reflect modern economism, then it is appropriate that we should proceed by analogy with people who are motivated by other concerns. One study which has taken up this challenge and deserves scrutiny is Christopher Tilley's *A Phenomenology of Landscape* (1994).

3.4 A Phenomenology of landscape

Tilley rejects positivist approaches to archaeology in the 1980s and in *A Phenomenology of landscape* (1994) attempts an alternative, social archaeology grounded in the idea of landscape. Tilley's starting point for this project is the lived-in world, an approach derived from recent trends in Human Geography from where he derives his concept of the humanised landscape, (e.g., Tuan 1974; Cosgrove and Daniels 1988). The book is in three sections The first establishes his theoretical stance, the second offers an ethnographic survey of landscape perception and, the third provides three case studies.

Tilley is quick to replace Cartesian space with “place” as the conceptual locus at which human activity is concentrated. ‘Space’, he writes, provides the tonal and textural context for the ‘places’ it surrounds and partially defines (1994: 14-17). Key to his project is the notion of the journey as a metaphor, the experiential manifestation of which is a path along or within which people travel, usually toward a ‘place’ (1994: 29-31). Paths come to represent forms of knowledge and discourse and Tilley takes time to stress that way in which we ‘construct’ our ‘mental’ landscapes is overwhelmingly visual in nature, a legacy of post-Enlightenment thinking in which sight is characterised as the omniscient and objective sense of reason.

This provides the rationale for a series of modern ethnographically derived studies of landscape use and perception to provide “a conceptual background for attempting to think through the archaeological evidence in the field” (1994: 71). Tilley does not attempt to analogically model the significance of prehistoric landscapes explicitly in terms of these contemporary examples, but uses them to show the kinds of “intimate and affective” relationships that people on the fringes of capitalism have with the landscapes they dwell within. And sure enough, he makes no reference to anthropological studies in the consecutive three chapters. This sleight of hand – to discuss exotic cosmologies, in order to help us think, open possibilities, and then to present archaeological material ‘in their light’ – is problematic without identifying specific situations to be understood by analogy. Failing this the ‘ethnographic presents’ of non-western communities come to represent the European past, a strategy with grave political implications (see Section 2.2.1 on Fabian 1983, also Gosden 1999, 8, for a similar critique of Tilley’s method). “Temporality is reified and salvaged as origin, beauty, and knowledge” (Clifford 1988: 222) and the value of other ‘cultures’ (and their artefacts) becomes the insight they give us into our past. There is no necessary need to go to the ends of the earth to provide analogues: even urban communities have such relationships with landscape as demonstrated by de Certeau (1994). The choice to use exotic ethnographic material for analogy needs to be justified on relational grounds that establish principles of connection (Wylie 1985).

Tilley writes about that relationship by using observable prehistoric traces with the idea of the universality of landscape experience, linked by the metaphor of the path-bound journey:

“The skin of the land has gone for good and can only be partially recovered through the most diligent of scientific analyses; but not its shape. The bones of the land - the mountains, hills,

rocks and valleys, escarpments and ridges - have remained substantially the same since the Mesolithic, and can still be observed . . . it is the bones of the land with which these archaeological studies are concerned . . .”

“This perpetually shifting human visual experience of place and landscape encountered in the walk has not altered since the Mesolithic. Things in front of or behind you, within reach or without, things to the left and right of your body, above and below, these most basic of personal spatial experiences, are shared with prehistoric populations in our common biological humanity. They provide tools with which to think and to work” (1994: 73-74).

Tilley argues that the ‘natural’ topography of each study area, “The bones of the land” (1994: 73), draws attention to the ‘cultural’ monuments in it. Alternatively, the ‘cultural’ monuments mimic elements of the ‘natural’ topography. From here, his objective is to demonstrate that, far from being eras where fundamentally different ways of life were engaged, the Mesolithic and Neolithic have more consonance than dissonance (1994: 86-87). The Neolithic, he believes, formalised many earlier understandings of the landscape, which were embedded in the social and individual times of memory (1994: 27) and expressed in ‘monumental’ architecture. Exactly how or why this formalisation occurred he never states. He merely concludes that monuments physically anchor or ‘domesticate’ the symbolic geography contained in social memory since Mesolithic times (1994: 203, 206) a notion he claims to support with evidence of Mesolithic-Neolithic locale re-use. However the supporting data is detailed rather sketchily and the character of that continuity is not discussed (see e.g. 1994: 87).

3.4.1 Empty landscapes

On that point, an acknowledged but devastating empirical contradiction in *Phenomenology* is the interpretative weight given to monuments for the characterisation of Neolithic life, given that ‘domestic’ remains in the three study areas are “virtually absent” (1994: 71). While contending that economic rationality and symbolic logic are mutually constituent (1994: 2), Tilley proceeds to ignore the role of cattle and crops in Neolithic worlds until the last three pages of the book. Tilley makes only scant mention of non-monumental places, evidence of which has not survived due to acidic soils. While acknowledging the routine importance of these places, the landscape is nevertheless characterised as inhabited by people with “a major preoccupation in exchange, feasting and ritual” (1994: 206). Similarly his dismissal of the need for environmental evidence is puzzling:

“It is simply impossible to know exactly where the trees and bushes were in relation to sites and monuments, where flowers bloomed and rushes sighed in the wind” (1994: 73).

If Tilley is considering the development of practice and landscapes, then he is working on a scale of some five millennia - somewhat longer than the lifespan of most trees. The tree would matter in a synchronic study - a genuine time slice - but this is exactly what Tilley wants to avoid, and with the data in our possession it is, regardless, an impossible scale of analysis. The landscapes Tilley is studying are open now, but if they were forested in prehistory, this would affect both the way in which one comes upon a monument, and the visibility of other foci in the dwelt-in landscape. Moreover there is wide-ranging evidence that, for forest-dwelling communities the wooded environment is a fundamental referent for ontology (Bahuchet n.d.). In this sense there is a very real need for environmental evidence for the sort of analysis he proposes, even if we may not always be able to tie down the character and extent of woodlands and their management. This leads us onto the principal problem with Tilley’s approach, that it is always unclear whether he is writing about a physical or conceptual landscape. This stems from the conflicts between the textual model and phenomenology.

3.4.2 *The textual model and phenomenology*

Tilley is anxious to establish whether ‘landscape’ exists in a material, objective sense, or is essentially resident in the human mind (1994: 13-14), and leans toward the latter proposition, suggesting that geographic loci have had many lives over the course of time. Tilley’s is an “intelligible” (1994: 14) landscape, an on-going mental construction: “naming is an act of construction of landscape” (1994:33). He writes that the landscape is “a cultural code for living, an anonymous ‘text’ to be read and interpreted, a writing pad for inscription . . . a signifying system which through the social is reproduced, transformed, explored and structured” (1994: 34). Clearly there is a contradiction here: the text cannot be both anonymous *and* social. What Tilley glosses over here is the way that the explanatory arc of the hermeneutic circle always draws the object world into a system of local, contemporary comprehension. Prehistoric actors and archaeologists always attribute materiality to agency, whether that is contemporary genealogies and living tenorial practice as well as ‘hidden’ ancestral beings, or ‘natural’ geomorphological processes and ‘Mesolithic culture’. Neither is the landscape ever a code: meaning is always evoked, differentially, within a historically situated, discursive framework of understanding (Moore 1986).

At the same time Tilley's attempt at a phenomenology leads him in another direction. Phenomenological approaches aim to provide a universally applicable interpretation of the nature of 'Being' and takes as its starting point the idea that 'Being' is constituted through the directed and practical intervention of humans in their surroundings. The material world is constitutive of existence, not a place in which an autonomous subject has existence, thus overcoming the subject-object opposition. Having drawn attention in his introduction to the ways in which places are unevenly experienced, and at the same time contended that the landscape is a social construct, Tilley then proceeds to suggest that space is experienced as a real quality which structures space universally (e.g. 1994: 184). Using "the body of an 'average' adult male from a specific historical context as a yardstick" (Brück 1998: 28) he ignores the different ways that historically-situated 'others' in various states of bodily development may have experienced the landscape. Phenomenology has its problems, first and foremost that 'being' will vary according to material conditions, as well as how gender and other aspects of identity are developed. If we are to believe Judith Butler (1993) and Henrietta Moore (1986) then both the body and its socio-physical environment is continually coming into being through citational practice. These studies and papers in Descola and Pálsson (1996) also alert us that there are fundamentally different ways of 'being in the world'.

3.4.3 Diachrony

It is partly because of the lack of resolution between the phenomenological and textual approaches that Tilley's study does not overcome the problem of synchrony. For instance while Mesolithic "ancestral connections between living populations and the past were embodied in the Being of the landscape . . . monuments served to make permanent, anchor, fix and visually draw out for perception the connections between people and the land for the first time" (1994: 202). Is this to say that Mesolithic people's perceptions of their connection with the land could not be drawn out visually? Or is it to say that monuments somehow made fixed this interpretative process? Although he believes that Mesolithic groups altered the land with paths, clearings and burning, he writes, "Through the culturally embedded horizon of the tomb and its setting the landscape became visibly encultured" (1994: 205). Tilley unwittingly re-established the cliché of Mesolithic foragers as 'natural' and Neolithic cultivators as 'cultural', and clearly this is not satisfactory. The discussion persists as a comparison between the Mesolithic and the Early Neolithic as homogenous blocks with little sense of the

gradual development of landscape and taskscape. Assertions of continuity over the *longue durée* are frequently made on the mere presence of typologically dated lithic artefacts, without reference to the character of activities that took place in a location. Places are constituted through action yet become the contexts in which specific historical trajectories are created. They are the medium and outcome of cycles of temporality. This leads us on to my last point the characterisation of power in Tilley's account.

3.4.4 Power

In his discussion of three prehistoric landscapes Tilley suggests that the control of movement through space and the perspective from which a place could be approached were extremely important in enabling the maintenance of power relations. This approach owes much to Foucault's exploration of the role of space in the creation of the disciplinary society, and de Certeau's analysis of 'walking' in the city. These are of course historically and geographically situated studies of contingent practices, and their use in Tilley's study has the effect of projecting certain kinds of power relationships back into the past, again, ignoring different ways of being and different forms of authority. Of course, as Foucault (1979) famously wrote there is not only 'power *over*' but also 'power *to*', an idea which has also been expressed well by Bourdieu with respect to communities whose constitution is based on face-to-face interaction:

“each agent shares directly in the collective capital, to an extent directly proportionate to his own contribution, i.e. exactly to the extent that his words, deeds, and person are a credit to the group. The system is such that the dominant agents have a vested interest in virtue; they can accumulate political power only by paying a *personal* price, and not simply by redistributing their goods and money; they must have the 'virtues' of their power because the only basis of their power is 'virtue'” (Bourdieu 1977: 194).

This is not to deny that people are driven by self-interest but, as Bourdieu put it, it is clothed euphemistically, with the complicity of the whole group, in terms of obligation and honour. This is to understand power as diffuse and varied, present in many areas of life and inherent in all relationships.

3.4.5 Summary

Despite his best efforts, Tilley's prehistory continues to be one of a disembodied human being, himself, alienated from the places and the temporalities in which he dwells. In retaining the concepts of (if not the radical disjunction between) culture and nature, Tilley continues to reify human choices and the processes of life as if they were determined by some pre-existent symbol system. He writes that the "*natural* landscape is cognized form redolent with place names, associations, and memories that serve to *humanize* and *enculture* landscape" (1994: 34, my emphasis). But if relations between humans and their environments as mediated by culture, then people can neither know nor act upon their environments directly. By avoiding the double problem of connections to the referent and connections to the context, semiotics of this kind prevent us from following materiality to the end. Materiality is simultaneously real (or physical), discursive (or narrated), social (or collective), and existential (it has a past, present, and future). Autonomising discourse by turning nature over to epistemologists and society over to the sociologist makes it impossible to reintegrate the three conceptual domains (Latour 1993: 64).

Approaches, such as Tilley's, recognise the situated, contingent production of space and time through explicit discourse, *but not through non-discursive practice*. The landscape is not a stable surface to be acted upon by agents, but, like all matter, is a process of materialisation (Butler 1993). For humans this materialisation takes place through the citational and reiterative acts of agents in the contexts of projects (Butler 1993; Giddens 1981b), the latter also being the basis for the actor's *evocation* of meaning (Moore 1986). Interaction with other beings are integral to this, and through failing to attend to the social constitution of technology Tilley fails to articulate how actors lived their past and present into the future, and into a world that is also constituted by non-humans.

3.5 An integrated theory of landscape and technology

In Section 2.3 I recalled Latour's (1993) argument that the discourse of modernity conceptually separates human beings from non-humans as distinct ontological zones. An objective knowledge of the world is held to be possible for those who are modern, and this knowledge is grounded on a radical distinction between a 'subject/society' which knows the world of objects and the world as such. One achievement of pioneers of modern science such as Galileo, Newton and Descartes was to establish the metaphor of the universe as a vast machine. Through "a rational, scientific understanding of its

principles of functioning, this machine could be harnessed to serve human interest and purposes. Understood thus, technology is the application of the mechanics of nature, derived through scientific enquiry, to the ends of art” (Ingold 1997: 131). This is the basis for the standard view of technology.

3.5.1 The standard view of technology

In the same context, Ingold demonstrates the historical contingency of definitions of humanity. “The Roman author Varro drew only the finest line between human slaves and domestic animals” both of which were classified as instruments of true humans (1997: 118). Karl Marx on the other hand, placed domestic animals on a par with simple tools, distinct from slaves, which he conceived of as “beings with will” (1964 [1857]: 102). Clearly, while the bracketing of the concept of humanity has varied through time, what both definitions achieve is the separation of the subject world, as active humanity, from the object world, as passive non-humanity. In such a schema, actions towards other humans are considered social, whilst actions towards non-humans are considered technical. In such a conceptual framework, the relationship between humanity and nature is obviously fundamentally exploitative: the claim made is that ‘nature’ is a trammel for ‘man’. This ‘Machiavellian intelligence hypothesis’ (Byrne and Whiten 1988) expresses the idea that ‘intelligence’ developed from intense interactions of the primate group, and stresses the idea of manipulation, both of people and things. In this perspective ‘material culture’ is produced as the forms of artefacts are inscribed by the rational intellect upon the concrete surface of nature (see Clark 1968: 153, fig 48 for explicit statement and diagrams highlighting this exact schema). However, while most theorists have shared the idea of a subject-object division, the relationship between humanity and technology has proved somewhat more difficult to express. Bryan Pfaffenberger identifies two key approaches within the standard view of technology.

Technological possibilism holds that technology exerts no influence on social action. Within the outer limits on the scope of human action set by technology, society and culture are said to follow their own historical course, irrespective of the nature or complexity of the technological system (Ingold 1997: 106). Bryan Pfaffenberger (1988) characterised this approach as *technological somnambulism*, because it views humans as willingly sleepwalking through the process of reconstituting the conditions of human existence. Human choices are masked so that technology seems to operate beyond human control. It appears to embody the result of an automatic, inevitable process and

therefore can be considered morally and ethically neutral. For the somnambulist technology is about making and using objects first, and about belief systems only as a last-resort explanation (Pfaffenberger 1993: 238). In archaeology this view is typified by those following the definition of Binford (1962: 220; see Section 3.2.1). Against this view Pfaffenberger suggests that technology provides structure and meaning for human life. As technologies are created and put to use, so patterns of human activity and institutions tend to alter.

Technological determinism, on the other hand presents technology as “a powerful and autonomous agent that dictates the patterns of human social and cultural life” (Pfaffenberger 1988: 239). In the last two centuries, technical development in the eighteenth and nineteenth centuries has seemed so spectacular that it was discussed in terms of an ‘industrial revolution’ (e.g. Marx and Engels 1974). It later became a paradigm to explain the technical advances identified by Lubbock (1865), in terms of an agricultural revolution (Gras 1925: 208-32), and inspired Childe’s (1936) notion of the Neolithic and urban revolutions. Childe frequently and explicitly made technology a determining factor in history (1947: 71-2; 1949: 69; 1979: 93). However this view, which characterised history as “a chain of technological events in which people have been little more than helpless spectators” (Pfaffenberger 1988: 239) must be internally inconsistent. For if autonomy is associated with the notion of free will, of an individual no longer subject to externally created laws, surely the idea of an autonomous technology raises an “unsettling irony, for the expected relationship of subject object is exactly reversed” (Winner 1977:16). Instead Pfaffenberger argues that a new or introduced technology does indeed bring a new set of possibilities to a situation, although whether people capitalise on those possibilities depends on their ability to conceptualise the reconstructed political field (1988: 240; c.f. Torrence and van der Leeuw 1989).

Therefore both possibilism and determinism fail to appreciate that choices exist in the process of technological deployment and the consequent transformation in social relations. As a corrective, Pfaffenberger defines technology as a set of operationally replicable behaviours: no technology can be said to exist unless the people who use it use it over and over again. Pfaffenberger therefore suggests that any technology

“be seen as a system, not just of tools, but also of related replicable social behaviours and techniques. We mean just this when we refer, for instance, to ‘woodworking’ or ‘irrigation’ . . . To the extent that technological behaviour is

replicable, the interpenetration of physical elements (e.g. tools, resources, etc.) and social communication (diffusion, apprenticeship, etc.) is presupposed . . . And further still: the product of technology . . . is far more than a practical instrument. Technology is, simultaneously, a social object endowed with sufficient meaning to mystify those who become involved with its creation or use. Technology is *essentially* social, not 'technical'. (1988: 241)

In short if we speak of the impact of 'technology' upon 'society', we are actually identifying the effect of one form of social behaviour upon another. Pfaffenberger's definition also makes it clear that technology is not the same thing as tools or artefacts, which many people refer to instead as *technics*. "A tool, in the most general sense, is an object that extends the capacity of an agent to operate within a given environment", while an artefact "is an object shaped to some pre-existent conception of form" (Ingold 1993b: 433). A tool is not necessarily an artefact and an artefact is not necessarily a tool, but in either case, if their involvement in human action can be determined, then they are of interest to the archaeologist, not least because they are observable. Technology, as defined by Pfaffenberger, is not observable, but inferred from the study of technics and their context.

3.5.2 A relational view of technology

Any archaeological project is concerned with the interpretation of artefacts, whether they are tools, architecture or inhabited landscapes. We recognise that all of these things emerge through actions, which are also material actions (in the sense that each effects a material change in something), and intentional actions (in that they are conjoined to projects).

For instance a woman who makes an axe may follow a set of procedures she knows to be technically efficacious. But she might also know that the axe will be exchanged, that the recipient will use it to cut down trees and that the wood will be used to make stock enclosures. The ground will be cleared for pasture, the stock in turn will provide milk, blood, meat, or evidence of their owner's status. Likewise she has already acquired the stone and an appropriate flaking instrument in anticipation of her task. All human activities, then, are also responses to successive goals, which step by step, affect every aspect of life in a community. In this sense, social goals have taken the form of material requirements, and these have become the agent's immediate goals. The activities that concern us are not simply material, they are intentionally material, which is to say that

ultimate social and material goals are never separable. But there are some activities in which the social goals have become material imperatives for their agents and these are what we call 'technical'.

3.5.2.1 Describing technical facts: operations, paths and networks

The most elementary material change involves an operation, 'someone doing something', for instance removing a flake from a bifacial core, extending one's hand (which holds an axe) to another person, or swinging one's arm (to which the axe is appended) to strike a tree. In each case, if one were present, or if the operation had durable effects, the change would be observable.

Operations of this kind rarely occur in isolation but more often as part of a sequence as exemplified by Leroi-Gourhan's (1943, 1945) notion of the *chaîne opératoire*: a conventionalised, learned sequence of technical operations. At the level of individual material production episodes, *chaînes opératoires* consist of sequences of applied techniques, which Leroi-Gourhan viewed as the manipulation of conventional tools by means of habitual, learned gestures. So in our example of the axe-maker, the chain of operations involves flaking the core, turning it over, and flaking again, occasionally pausing to reflect on progress, before finally grinding and polishing with stone, sand and water. Raw material can be unforgiving and chance happenings demand re-evaluation of the making process. Therefore the axe-maker has in mind successive goals (rather than one outcome), "a series of intermediary stages and geometric cues" (Pelegriin 1990: 117). Even in an apparently simple productive act, the *durée* of activity interpenetrates with the project of *dasein* (Section 2.2.2.2).

Viewed more broadly, *chaînes opératoires* can be seen as organised into more encompassing technical systems as we have already seen in the example of our axe-maker. Operational chains that are present in any one community are woven into networks, which are socially organised and quickly extend beyond the range of any one actor's experience of time-space. In this sense too, Kopytoff (1986) recognises the artefact to have a biography; transformations, at once social and physical, are involved in the object's movement through the process of production and consumption, through different arenas of value.

All this is to reiterate that the 'technical facts', which the archaeologist observes, have to be located within social space, and concepts such as operation, path and network are

flexible metaphors with which to achieve this. As Leroi-Gourhan and others have recognised, these underlying technical paths and networks are never the only ones possible (Lemonnier 1986: 161). Starting analysis with observable operations allows that superficially similar artefacts may have resulted from, or be implicated in, different socio-technical processes. As pre-existing explanatory procedures must be modified by interpretative procedures, so the imposition of common sense categories is undesirable in technological analysis. Sigaut (1994: 430-432), for instance, compares the simplistic, universalising concept of 'knife', against the range of artefactual forms, contexts and techniques implicated in the working mode of cutting, recorded by Pitt-Rivers.

To summarise, an operation is identified: (1) by the nature of the changes it produces in a physical system; and (2) by its location on a production path or network. In other words, identifying an operation means locating it in both its physical and social spaces.

3.5.2.2 Techniques, functions and workings

When two operations have been found to occupy the same places in both, they are 'homologous'. Then it is possible to compare the various ways in which these operations are performed by different (or sometimes the same) human groups. On the whole the ways will be different, and it is to these different ways of carrying out homologous operations that we apply the term 'techniques' (Sigaut 1994).

As Sigaut demonstrates with the example of the knife, the standard view of technology confuses effect and technique, as it cannot distinguish, in artefacts, between workings and function. In a goal-orientated system, function describes what an artefact is for, workings, how it works. We may think we are talking about function when we say that an axe is made for striking, but striking alone is not a function, but a category of working modes. For striking to be a function we must know what is struck, in what context, and to what precise purpose; in other words we must know what operation we are talking about. Its workings, on the other hand, lie in the way an artefact or tool intervenes in the effect that is to be produced, that is how it is conjoined to a technique.

Given an artefact from an archaeological context, the means of investigation outlined so far allow us to describe its structure (geometric and physical properties resulting from its manufacture and use) and to figure out something about its workings, but they do not allow us to discover its function. This is only accomplished by analogy, comparing the object under study with similar objects whose function is already known. The danger

comes when analogy is implicit and unreasoned – for instance, when a stone object that resembles a sickle is considered as a tool used for the function of reaping cereals. Simpler tools of other shapes can also be used for the same function, and gloss, like that observed on stone ‘sickles’ can also be caused by the cutting grasses, reeds or rushes (Anderson-Gerfaud 1983). Therefore flint blades with silica gloss should no longer be taken as providing unequivocal evidence of agricultural activity.

The interpretation of technics then, especially the identification of function, involves a hermeneutic operation, whereby the possibilities for action and project are acknowledged by analogy with anthropological and other archaeological instances. In other words in situating technics in historically generated social space we are concerned with meaningful action, and the kind of knowledge it involves.

3.5.2.3 Technological knowledge

Turning the idea for an artefact into the real thing necessitates a process of concretisation, at the end of which the initial raw material components have disappeared, leaving in their place a new material object. As we saw with the example of the axe-maker’s *chaine opératoire*, there are a series of successive goals and re-evaluations: as Mead (1977: 97) put it, every object can be regarded as a ‘collapsed act’. That which is collapsed incorporates not only, as Pelegrin (1990) implied, the isolated interplay of the artisan and her raw material. The wider networks of projects, which account for why the woman is making an axe rather than something else, implode, or converge in on the artefact. For this reason technics cannot be reduced to the application of scientific knowledge (Ingold 1993a: 466; Sigaut 1994: 439).

Neither does technical innovation result, directly or necessarily, from the ‘progress’ of knowledge alone. “The social acceptance of technology occurs when *one set of meanings gains ascendancy over other ones* and wins expression in the technical content of the artefact” (Pfaffenberger 1988: 240, original emphasis). In the case of introduced novelties this acceptance will often also involve the re-categorisation of resources and transform of ideas (N. Thomas 1991). The accumulation of knowledge therefore follows its own logic, which alone does not necessarily produce effective solutions (Lemonnier 1986). Knowledge is necessary for action but, as it is embodied in the very process of action, it is no longer the kind of ‘knowledge’ we are used to talking

about, that is knowledge as the goal of action (Sigaut 1994), or discursive knowledge (Bourdieu 1977).

This marks, once again, the failure of any evolutionist project that relies on 'accumulating' techniques and 'increasingly complex' artefacts to distinguish successive periods of Mundane Time, and stages of civilisation or modes of production of Typological Time. The opposition between the categories of hunter-gatherer, agriculturalist and pastoralist, for instance, implies that 'societies' are defined by their techniques. But in prehistory, the real criterion of the category 'hunter-gatherer' is not based on the presence of hunting and gathering, but on the absence of farming (Pluciennik 1998). Further, using techniques as a criterion for classification assumes that they are already known, which locks the researcher into false common-sense assumptions from the start. Those who characterise 'the Neolithic' in terms of agriculture in fact know very little about fourth to third millennium agriculture, that is about the associated techniques. Moreover, some possibilities that we understand by analogy are frequently ignored – for instance, that pastoral pursuits are often a supplement to hunting and gathering (Ingold 1980; Zvelebil and Rowley-Conwy 1986) and are often more important for skins and fleeces than for calories (Sigaut 1994). The acceptance, production and circulation of innovations *do* introduce new conditions and therefore affect the historical trajectory of the community. They are therefore valid themes for an archaeology of practice, but *not* in isolation from the study of the physical and social differences of real, inhabited landscapes.

In what has been discussed so far, I have referred to technical operations, chains and networks, functions, workings and structure, which are metaphors to help us conceptualise technology, as if it were a system. But while technology is a useful analytical object for archaeology, the identification and understanding of meaningful technical practice through hermeneutics is its goal. Therefore before we lose sight once more of the actor, a framework is necessary for understanding the *use* of technics in terms of a fundamentally different type of knowledge, that of practical mastery.

3.5.3 Technical knowledge and skills

It is not sufficient to know how an axe is flaked if one is actually to make one: the condition for effective action is not knowledge but *skills*. More than a mechanical application of external force, skilled activity involves qualities of care, judgement and dexterity grounded in an attentive perceptual involvement *with* the material world. "It is

precisely because the practitioner's engagement with the material is an *attentive* engagement that skilled activity carries its own intrinsic intentionality, quite apart from any designs or plans that it may be supposed to implement" (Ingold 1997: 111).

3.5.3.1 Practical Mastery

Skill then, is tacit, practical mastery (Bourdieu 1977: 2) or 'know how,' at once practical knowledge and knowledgeable practice (Ingold 1993b: 434), as Heidegger's famous hammering anecdote will demonstrate:

"an entity of this kind is not grasped thematically as an occurring thing . . . the less we stare at the Hammer-Thing, and the more we seize and use it, the more primordial does our relationship to it become . . . The kind of Being which equipment possesses - in which it manifests itself in its own right - we call "readiness-to-hand". . . . 'Practical' behaviour is not 'atheoretical' in the sense of 'sightlessness' . . . action has its own kind of sight . . . The ready-to-hand is not 'grasped' theoretically at all" (Heidegger:1962:69).

The hammer is so taken for granted that it literally may be said not to exist until its presence forces itself upon our awareness because of a problem in the performance. Then "one becomes painfully aware both of oneself and of the instrument, and of the distance that separates them" (Ingold 1993a: 460). Such attunement is not limited to the domain of technics but characterises our relations with other beings, human and non-human. For instance Cree hunters know animals in the way we might say we 'know' other people, with a kind of sensitivity and responsiveness, or *intuition* towards the being's moods, and idiosyncrasies and past history (Ingold 1998: 177-8). Similarly in their work people submit to collective rhythms in various temporal scales and spatial structures and order their representations of reality and the community itself (Bourdieu 1977: 163; Moore 1986: 95; Ingold 1993d: 171).

Efficient conduct of any kind is unconscious. Prior to mastery of a practice every act has to be thought out in advance, for instance as a child learns, one movement at a time, every way of doing things that will make it a normal social being (Sigaut 1994: 438). Once embarked upon, an action cannot be changed without further deliberation, which results in interruption and often failure (Ingold 1993a: 462). At the point where one's attention and movement is aligned to the movement of others (whether people, animals or tools or materials), a fluent, automatic performance is achieved. At this point the child's schematic 'steps' are not 'learned' but dispensed with, as the capabilities or

technical knowledge have become internalised, literally *embodied* or *incorporated* (Bourdieu 1977: 81; Ingold 1997: 113; Sigaut 1994).

This is crucially important for archaeologists: no body of context-free propositional knowledge - technology or, more generally, culture - informed the 'becoming' of the artefacts and landscapes upon which we discourse. While these things were caught up in intentional action and projects, they also resulted from a situated, pre-objective and pre-scientific kind of knowledge, with no existence outside the context of its practical application. The *habitus*, which Bourdieu described as "history turned to nature" (Bourdieu 1977: 78), merges objective conditions and procedural principles in and through the production of practice. "It is", he wrote, "because subjects do not, strictly speaking, know what they are doing that what they do has more meaning than they know" (1977: 79). The standard view of technology takes it for granted that technical knowledge is *merely* utilitarian, but an archaeology of practice recognises it to be as social as any other kind, all the more so because it is unconsidered, as I shall now discuss.

3.5.3.2 The social production of technical skills

Skills cannot exist apart from permanent practice and the production and reproduction of skills therefore is inseparable from the production of material goods and consequently the way people organise themselves into communities. While Fentress and Wickham (1992: 97) understand the sharing of memory to be primarily communicated in the arena of the oral, we might say that it is equally maintained through materiality, inasmuch as practices are perpetuated through embodiment. There is no innovation without tradition and no tradition without its perpetuation by people through their communities. It is for these reasons that the coherent technical traditions that constitute our objectified *longue durée* are both and neither cyclical and linear. The repetition we 'observe' can be the 'same' only in abstraction, by artificially excluding contexts and effects (Adam 1990). Every technical act contributes not only to the diverse cyclical rhythms of the *durée*, but also the project of *dasein*, which makes the actor's task coherent with the past and future of the *longue durée*, recognised by us as enduring praxis (Section 2.2.2.3).

Normal social life requires that each person acquire a minimum number of materially and socially effective practices, and the skills underpinning these practices can be

produced and reproduced only in communities. This reproduction of skill, as established earlier, is a property neither of genes nor of culture, but of embodiment through training oneself, typically through play, observation and imitation in the company of others, rather than formal verbal instruction. “The child grows into social maturity rather than being trained into it” (Strathern 1980: 196). As there is usually more than one way of achieving a material end, embodiment is nevertheless a social rather than simply utilitarian phenomenon, as suggested by Mauss’s idea of *prestigious imitation*:

“The child, the adult, imitates actions which have succeeded and which he has seen successfully performed by people in whom he has confidence and who have authority over him. The action is imposed from without, from above, even if it is an exclusively biological action involving his body. The individual borrows the series of movements which constitute it from the action executed in front of him or with him by others. It is precisely this notion of the prestige of the person who performs the ordered, authorised, tested action vis-à-vis the imitating individual that contains all the social element.” (Mauss 1979b: 101)

What each generation contributes to the next is the specific contexts of development (Ingold 1997: 111). With this ‘enskillment’ in practice, a person’s identity develops, but the process is not complete once a level of practical mastery has been achieved. Rather, one must continue displaying cues that signify that mastery. Butler’s (1993) concept of performativity takes seriously Nietzsche’s argument that “there is no ‘being’ behind doing” (Nietzsche 1989 [1887]: 45); identity is never finalised. The creation of certain stone artefacts would have subconsciously reminded knapper and onlooker alike of the tasks to which they were to be put, and the place and meaning of those tasks in the ‘taskscape’ (Section 2.2.2.1). This would have been all the more the case when the artefacts involved were relatively everyday objects - it would be their very ‘every-day-ness’ that reinforced those taken-for-granted views of how to behave and who should perform what activities in a community. But when people work in the company of others, work itself can also become the object of discourse in terms of prestigious imitation or argumentation (Section 1.4.3), over mistakes or successes, incompetence or prowess.

The situational context of work involves working alongside different combinations of people. A whole host of different classificatory distinctions and types of authorities can come to the fore in each situation, as people categorise themselves on various levels, ranging from a unique individual through various *nested* or overlapping group identities

or relationships. The notion of relational personhood described by Strathern (1988) and Battaglia (1990) conceives of the person as an amorphous, non-centralised but continuous entity, in connectivity with multiple selves in multiple contexts. Human beings are both relational and actual entities or unities (Bird-David 1999). The changing articulation of identity depends on the relative salience of various social categories, which are highly context-specific through temporalities and places. It is heightened by comparison, “where two or more categories appear simultaneously, either actually or symbolically” (Turner 1987, 120). For instance, the social category *adult* may be more salient by the presence of members of the category *child*, that of *man*, more salient by the presence of *woman*. Therefore, the skill-producing group can take a wide variety of forms and enter into diverse combinations with other units such as the family, the residence group and the age group. The articulation thereof will depend on factors such as the kinds of skills concerned, the social values placed upon them, indigenous ideas on learning, the distribution of activities by rank and gender, and so on.

All this, in turn, suggests that an act is technically efficacious only if it is also socially effective, whereby success is designated through norms and argumentation, surrounding concepts such as purity and pollution, merit and blame. Somebody watching a flint-knapper might reaffirm through the actions observed aspects of their relationship, and of their place in the community. Obviously whilst there are aspects of flint-knapping which are relatively easy, certain ways of working would take considerable practice before expertise, and attendant social status, was achieved. Equally, it may have been that certain artefacts could only be made by certain members of a community or indeed that their manufacture was performed away from sections of the community because of pollution beliefs (McBryde 1984, Paton 1994).

These latter ideas are inaccessible to the archaeologist from the artefacts alone but may sometimes be invoked, through analogy, when they repeatedly appear in combination with other objects in certain contexts (e.g. Edmonds and Thomas 1987). To be in a position to attempt such a task requires that we reformulate the object world upon which humanity is supposed to act. For if we now understand technical practice as the product of historically specific social, rather than universal utilitarian logics, then the divide between society and nature must also be called into question.

3.5.4 Technical activity in real, inhabited landscapes

The standard view of technology (Section 3.5.1) proceeds by the conceptual purification of society and nature as separate domains, inhabited respectively by other human beings and by non-human components of the environment. Acts towards other humans are thus identified as social, whereas acts directed towards non-humans as technical and exploitative, as interventions in nature. Thus:

“The most that the animal can achieve is to *collect*; man produces, he prepares the means of life . . . which without him nature would not have produced. This makes impossible any unqualified transference of the laws of life in animal society to human society” (Engels 1934: 308).

That such a distinction between collection and production also underlies the division in Typological Time between hunter-gatherers and farmers allows the former to be understood as people without history. In this way, coevality is denied to any form of life whose practices are fundamentally different to our own (Fabian 1983). The same conceptual purification also reveals a kind of transactional failure in our relations with the world symptomatic of the modern condition of alienation (Latour 1993; Ingold 1997: 117). However people who have direct relations with nonhuman agencies often structure those relations as they would relations with other humans, marked by the same qualities of mutualism and trust rather than domination and exploitation.

3.5.4.1 Persons and things

For these reasons, Bird-David rejects the idea of food-*collection* as denigrative. Instead she proposes that hunter-gatherers procure – a word that means:

“to bring about, to obtain by *care* or effort, to prevail upon, to induce, to persuade a person to do something’. ‘Procurement’ is management, contrivance, acquisition, getting, gaining. Both terms are accurate enough for describing modern hunter-gatherers who apply care, sophistication and knowledge to their resource-getting activities” (1992b: 40: emphasis mine).

Hunters may understand their relationships with animals, not as exploitative, but in terms of reciprocity (Guenther 1988). “Whereas Western thought sets out from an assumed dichotomy between the human and animal and then searches for possible analogies or homologies . . . the Cree . . . assume fundamental similarity while exploring the differences between humans and animals” (Ingold 1996b: 133). “They say

that the animal offers itself up, quite intentionally and in a spirit of goodwill or even love towards the hunter” (Ingold 1998: 159). Similarly, the Mbuti recognise their dependence on the Ituri Forest in reference to it as ‘Father’ or ‘Mother’ (Turnbull 1965: 19). Sometimes benevolent, sometimes destructive, they thus appeal to it for the benevolence normally expected from a parent (Ichikawa 1992: 41). They get to know the forest’s plants, animals and landforms in the same way that one becomes familiar with other people, by investing time with care and attention. “Time in the forest is time-well spent even if one returns empty-handed since it allows people to ‘keep in touch’ with the non-human environment” Ingold 1996b: 129).

Like ‘collection’ the term food *production* can be considered erroneous, because the work that people do does not *make* plants and animals, but rather establishes the environmental conditions for their growth and development: it provides nurturance or assistance. Among Mount Hageners and the Achuar, domesticated animals and crops are incorporated into kinship relations as if they were children (Strathern 1980; Descola 1994). Similarly the peasant farmers of Boyacá and the Kabyle recognise the lands itself as a suitable partner for exchange (Gudeman and Rivera 1990: 25, 103-8; Bourdieu 1977). For this reason, the delegation of tasks such as ploughing is not an honourable course of action for the Kabyle peasant. According to the logic of gift exchange, the land bestows its bounty only on those who bring their care as a tribute:

Everything in the peasant’s practice actualizes, in a different mode, the objective intention revealed by ritual. The land is never treated as a raw material to be exploited, but always as the object of respect mixed with fear . . . it “will settle its scores”, they say, and take revenge for the bad treatment it receives from a clumsy or over-hasty farmer. The accomplished peasant “presents himself” to the land with the stance appropriate when one man meets another (i.e. face to face), and with the attitude of trusting familiarity he would show a respected kinsman. (Bourdieu 1977: 175; c.f. Morphy 1995: 198)

To speak of non-humans in terms of kinship or exchange relations is to identify an underlying ontological equivalence between human and non-human components of the world as agencies of attention, care and nurturance (Ingold 1996b). This *animism*, in Bird-David’s definition, involves responsively engaging with beings/things, then perceiving them as persons. It is not metaphorical in the sense of figuratively papering over dualities, but rather dualities draw attention to real relational unities, in the sense that the dog is not *like* a friend: it *is* a friend (Bird-David 1992a: 44). Thus we recognise

both humans and animals as fellow participants in the *same* world, not separate spheres of society and nature. Such relational epistemologies do not represent forms of knowledge exclusive from or opposed to scientific rationality, but seem to enjoy authority in the plurality of specific communities we know as hunter-gatherers, as well as many small-scale pastoral and cultivating communities.

A common animistic belief is in spirits who 'own' wild herds, just as domestic herds have human owners. Such spirits may be considered immanent within certain places, such as caves, or sometimes within certain animals that responsively relate to humans (Ingold 1986: 249; Descola 1994: 257; Bird-David 1999: 75). The sequence of events leading from the stalking of a sentient animal to its consumption as food involves a series of classificatory transformations whereby animals may in various contexts be understood as *persons* or things (Bird-David 1992a; 1999). There is no simple dichotomy of other beings *vis-à-vis* humanity, but rather, personhood emerges through the reproduction of sharing relationships with others, regarded as differentiated, but nested within each other. In short, human is just one of the many possible outward forms that persons can take.

From these examples we can understand that the world is not constituted by actors in terms of their subsistence techniques, but through their classification in terms of social relationships. For the most part, the difference between hunting or gathering and cultivation or husbandry may merely be "the *relative scope of human involvement in establishing the conditions for growth*" (Ingold 1996a: 21, emphasis original) and the relative positioning of the self and other *vis-à-vis* kinship or exchange identities. What is important is that we recognise contexts in which nonhumans may have been drawn into social relations. I am not suggesting that any of these accounts can be superimposed on archaeological material in any simplistic way. Rather they provide a corrective to the historically situated separation of the humanity and others, which makes apprehending the materiality of social life impossible. My point is merely that such a division is unlikely to have informed the actions we, as prehistorians, attempt to understand. By the same logic, the incorporation of nonhuman elements into social relations also calls for a re-evaluation of ritual or magical action.

3.5.4.2 Ritual, routine and the community

Ritual action, which, while supposed by anthropologists to be communicative and metaphorical, is thought by its practitioners to have technical efficacy. For instance, as the Achuar or the Maori accept cultivated plants as beings rather than mere things, it makes sense to them to maintain a harmonious relationship with them, by means of magical songs or friendly conversation (Descola 1994: 214; Te Awekotuku 1996: 29). This is no substitute for hard work, but disposes people in a particular *relationship* to the constituent beings of their environment, to orient and focus their attention, so as to achieve an attunement typical of any other social relationship (Gibson 1979: 284; Ingold 1996a: 23; Bird-David 1999: 74).

Likewise, the qualities and values attributed to materials inform how they should be used and by whom, especially when, local or exotic, they are understood as spiritually charged. The status attributed to Australian tools and weapons is often informed by 'presencing' the raw material itself with origin myths surrounding stone sources. The importance of stone may relate to whether it is on or off ancestral routes (Fullagar and Head 1999), and it may even be taken as a trace of ancestral bodies (Taçon 1991). Under such logic the closest or most accessible material is not necessarily chosen for tasks as not only the material but also the practice of procurement itself may be socially informed in terms of other social concerns (Paton 1994: 180). Crafts too may have mythological connotations (Battaglia 1990: 5-6), and craft experts may be regarded as "vehicles through which the gods expressed their power in the human domain" (Neich 1996: 69). Some designs in particular media may be understood as visible expressions of ancestors, while poor efforts were open to criticism in terms that implied not only poor technical competence but spiritual ignorance and poor communication.

In a relational ontology the dead too may be brought within the sphere of social relations. Baudrillard suggests that in Euro-American society the dead are discriminated against, that they are categorised and contained. Like the mad, children and the elderly "they are no longer beings with a full role to play, worthy partners in exchange, and we make this obvious by exiling them further and further away from the group of the living" (1993: 126). In contrast, for people with a relational ontology, like symbolic exchange, death is a social relation rather than a biological or economic fact. The symbolic *is* an act of exchange and a social relation which puts an end to the real, which

resolves the real, and at the same time, puts an end to the opposition between the real and the imaginary.

For such people, mortuary practice is part of a relational network of transformations throughout the life cycle. The result of one transformation is necessarily implicated in the previous and next transition. The analysis of one act isolated from the relational network generated by this inevitably recursive process is inevitably partial (Barraud *et al.* 1994). The deceased is often reformulated, through the rites of 'forgetting', as an absent presence. The creation of this absence through the disarticulation of the personal worlds of the living and the dead in mortuary practice frames the ongoing formation and entanglement of the mutuality of the living necessary to the performance of those self-same rites. At the same time while the corporeal existence of the dead is ended, they may be recognised, individually or in ancestral communities, in a relation of metonymy to, or by their immanence in, places, substances or objects (Morphy 1993: 234, 1995: 203; Küchler 1993, 96-100; Battaglia 1990). Mortuary practices, too, are performances, coherent, continuous with and nested within other practices.

As the symbolic pervades all areas of life it is meaningless to assign as ritual all non-mechanical actions (Goody 1961). In the rhythms of work, gossip and lore, ritual and technical routine, all melt into one, as the *durée* interpenetrates with other forms of experiential time. The actors' tasks project them into the temporality of *dasein*, while those projections, the forms they engender, whether in artefactual/architectural forms or body movements cohere with the many others in the constitution of the *longue durée*. Similarly, as the bodies and materials move between locales the actor is conscious of the wider landscape and community.

3.5.4.3 Place and the wider community

Technical groups often have a well-defined and visible identity, which stems from the way their members concentrate in, and move between, specific locales to perform certain tasks and specific material practices. Like any other practice, it is necessary that we define such aggregation and transit in experiential and socially meaningful terms rather than relying on genetics or culture as agency. For those writing on British prehistory, prehistoric landscapes are now frequently addressed, not in terms of space, but in socially and experientially meaningful terms such as tenure (e.g. Barrett 1994: 137; Edmonds 1999: 29). The concept of tenure allows us to accommodate into the

realm of social activity the empty spaces on distribution maps, which formerly allowed people to pretend that nobody lived there.

In characterising different concepts of tenure, Ingold suggested that “we speak of surfaces rather than planes, paths rather than lines, and places rather than points” (Ingold 1986: 147). He argued that hunter-gatherers operate zero and one-dimensional rather than two-dimensional systems of tenure, that is they are responsible for places and paths, rather than areas of land. “A place owes its character to the experiences it affords those who spend time there” (Ingold 1993d: 155). Each place draws its unique significance from the relational context of people’s engagement with the world. It can only be appreciated perspectively. A country “is not a part of the whole *containing* a specific place, it is rather a partial view of the whole *from* a specific place, or the whole as it is enfolded by that place (Ingold 1986: 155). It is not ‘cut out’ from the whole, either on the plane of ideas or on that of material substance. “Rather, each place embodies the whole at a particular nexus within it . . . [it] owes its character to the experiences it affords to those who spend time there, which in turn depend on the kinds of activities in which its inhabitants engage” (Ingold 1993d: 155). Ingold relates two specific examples of how the Yolngu estates and the Kalahari equivalent focus on centres, but have no boundaries. Anthropologists who try to determine where the boundary is are frustrated. Either you are not in the other tenorial province until you reach the centre or the people, or the boundary is just unimportant.

Hunter-gatherers do have territories, but Ingold argues that territories are essentially an immediate, communicative means of effecting co-operation. They are mostly important when co-operating groups are working over an extensive but common range in an ecological situation that precludes regular face-to-face contact. Establishing territory “prevents adjacent groups, ignorant of each others’ positions from traversing the same ground and thereby spoiling the success of their respective . . . operations” (1986: 143). While this definition is essentially functionalist, it at least allows us to understand territoriality as just one aspect of the way people organise their work and practical conduct in a landscape. Unlike systemic models that assume rigid boundaries enclosing tracts of land and units of people, it also allows for the considerable movement of people characteristic of many small-scale communities (Bahuchet n.d.).

Any community must balance its exchanges with other groups, which depends on the efficacy of the socio-technical skills it produces, not merely apparently utilitarian productive practices, but also exchange and hospitality. A group that is ineffective in

these spheres will decline until it is subsumed by other groups or disappears altogether (Morphy 1995: 190). The profit a group can expect to draw from such practices is its standing in the eyes of other groups, and often depends on the capacity of the group to acquire powerful affines, as well as to preserve its land and honour (Bourdieu 1977: 181). Exchange in particular is often as concerned with asserting the group or individual's place in the local area (Gregory 1982; Paton 1994: 180), that is with authoritative resources, as with allocative resources (Giddens 1981b). A similar argument has been made for the role of hospitality in relations between hunting and gathering communities. Access for those without tenorial privilege may involve the re-negotiation of relationships between individuals and communities (Burton 1984; McBryde 1984), but is rarely refused. Ingold (1986) and Bird-David (1999) have made persuasive cases that hunter-gatherers, in particular, normalise 'demand sharing', whether in terms of the kill in the community hunt, or allowing a neighbouring community access to a tenorial resource. Here, however, we enter a realm of generalising anthropological models.

Egalitarian human communities do experience social conflicts and recurrent attempts by high status individuals to dominate, take more than an equal share of resources, or hoard are known (Knauff: 1991). However, in 'immediate-return economies' such attempts to breach the egalitarian distribution can be readily detected, and met by public complaint, ridicule, threat, group violence, expulsion of recalcitrant individuals, or mass emigration to another group (Woodburn 1982; Boehm 1993). In 'immediate-return economies' no one person can become so powerful as to be immune to these counter-dominant strategies. In 'delayed-return economies' high status individuals are easier able to sustain inequality by building alliances among high status individuals; and by enlisting supporters to create larger and more powerful alliances, trading the stored resources as payment for co-operation (Gellner 1988). However, we should be wary of any simple opposition like that between 'immediate' and 'delayed' return economies, lest we once more begin to place action in typological time. While useful ways of thinking about people's attachment to things and people, these modes of exchange are by no-means stable states of affairs. Kirch (1984) for example, describes the collapse of a delayed return system on Easter Island, apparently due, at least in part, to ruinous, violent competition between the two chiefdoms on the island. Further both types of transaction appear to have existed side-by-side in some Polynesian contexts (N. Thomas 1991: 24).

The point of this exposition is to establish that while people who live off the land frequently experience an attachment to place and to community, this is rarely rigidly bounded or stable in the manner assumed by locational analysis models (Section 3.2.3). Reciprocal access to tenorial resources, collective hunting expeditions or ceremonies, specialised task groups, the exigencies of kinship demands (such as bride service), and settlement mobility can all make for considerable fission and fusion of communities regardless of ‘the mode of production’. The social logic that informs technical activities also informs the inhabitation of the landscapes they constitute, and it is because of this that any objectified institutional stability, with respect to landscape inhabitation, is likely to be simplistic in the same way as ‘observed’ stable technical traditions. Once again we can accommodate such lacunae through understanding the *longue durée* as constituted through practice.

3.5.4.4 Place and the *longue durée*

Ingold’s model of tenure also stresses that it is the inhabitation of locales, rather than the maintenance of boundaries, that is most important to the way people understand themselves and their relationship to the land. Tenure “is about the ways in which a resource locale is worked or bound into the biography of the subject, or into the developmental trajectory of those groups, domestic and otherwise of which he is a member” (1986: 137). Through tenure the locale stands to its holder in a relation of metonymy: the countries with which a person identifies, constitute a kind of record of who they are, with whom they are identified or related, and where they have been. Kinship and the land are mutually implicated (Cronon 1983; F. Myers 1986).

Where people have remained in a continuing and active relationship with their land and its other inhabitants, they learn through practice, not only about relationships between place and their ancestors, but also about themselves and their particular rights and responsibilities (Gow 1995: 47; Morphy 1995: 186; Smith 1999: 193). In Section 2.2.2.3 I touched on the idea of experiential, mythic history as an active, discursive approach to the past with respect to one’s aspirations for the future. In these terms the *longue durée* can be understood as a representation of the persistence of practice, the potential of actors to understand and rework their own historical conditions. The Yolngu triadic relationship between the individual, the ancestral past, and the world in which he or she lives (Morphy 1995: 187) is one demonstration of the durability, flexibility, materiality and active political character of mythic history.

“Landscape and myth are . . . machines for the suppression of history. The place names refer to ancestral action when the form of the earth was set forever . . . However the very capacity of the system to mask history means that it has been able to accommodate change, in particular change in the groups that occupy the land and in the constitution of the groups that are formed” (Morphy 1993: 234-236).

“Each place is part of a network that connects places together in a chain, and the links on either side depend for their connection on the one in the middle. The condition of moving into a place to take over from other people is that links of the same type continue to remain in place. People do not move in and take over a country by imposing new myths: rather they act as if *they* are taken over by the new country. This makes the political struggle for land no less intense, but it preserves the illusion of continuity between people, place and ancestral past” (Morphy 1995: 186).

Mythic histories such as the Dreaming are structures in the sense of coherences (rather rules), which are lived and then allow the evocation of connotations through their incorporation in subsequent history, accommodating the exigencies of successive historical events. Such representations *produce* landscape *as* memory, that is, as a process not a static form, which embodies current concerns and projects (Küchler 1993). The oral tradition’s commentary on the landscape perpetuates moral norms while allowing argumentative discourse relative to tenurial rights and community relations through explicit discourse (Basso 1984; Morphy 1993, 1995). However the explicit discursive links made between kinship, genealogy, morality, work and the land, are only as important as the sharing of food and shoulder-to-shoulder work that should follow them (Bourdieu 1977: 35; Gow 1995: 49; Thornton 1997). In this sense, the developing of the muscular consciousness of bodies is recursively related to the developing tracks, gardens, woodland and mortuary structures of the landscape they inhabit. “In this network is sedimented the activity of an entire community, over many generations. It is the taskscape made visible” (Ingold 1993d: 167).

With the landscape at large, as with the technical traditions that are part of its becoming, we see an array of activities, networked by projects with apparent coherences that enable us to produce prehistoric time in archaeological discourse. There is no landscape for an actor without its constitution through technical practice. There is no technical practice without the materiality of the constantly developing landscape. For the

archaeologist there is no access to prehistoric social life except through the durable materiality of landscape inhabitation and technical practice.

3.6 Conclusion

As archaeologists we do not observe culture, society or technology, which, like time and space, are conceptual objects to help us think through the material with which we engage. However the material is not the product of any of these things, but of practices. Practices cannot be reduced to strategically programmed responses to external environmental stimuli (foraging), nor as planned interventions in nature, launched from the separate platform of society (production). It is neither a genetic make-up nor cultural intelligence that acts upon the material world. It is “as entire persons, not as disembodied minds, that human beings engage with one another and, moreover, with non-human beings as well” (Ingold 1996b: 129).

What archaeologists actually observe is material, formed by actions or operations, and often we can identify that these were intentional actions – that is, conjoined to a project – because we also identify a chain of operations. Concurrently we understand the production of two types of experiential time, that of the *durée* and *dasein*. Through other material within and beyond the context, we apprehend metaphorically and by analogy the intersection of many projects in networks which extend, not just through these two experiences of time, but beyond the rhythm of everyday activity, beyond the birth and death of the actor. It is the coherences within the projects of actors, whether a disposition towards artefact-making or tenorial biography, which constitute both the actor’s *habitus*, and the archaeologist’s *longue durée*. It is the materiality of artefacts and inhabited landscapes, at once physical, social, discursive and existential, never complete and always becoming, that alone can be the object of an archaeology of practice.

It becomes increasingly clear that the ‘Mesolithic’ and ‘Neolithic’, are inadequate terms or themes for such a project. Defined substantively they are conceptual objects for archaeologists, with no existence outside our field of discourse. Defined functionally they perform a purification, which prevents us from seeing underlying similarities in emerging materiality and the production of time. They have no validity unless truth is something external to materiality. They have no elegance except in an aesthetic of disembodiment. Finally, as empirical observation does not require them and analytical insight is a hermeneutic rather than a predictive operation, they have no utility except to

preserve evolutionary frameworks (however subtle), and the imposition of Typological Time.

The construction of closed technical systems as implied by these terms can be considered complete only when their effects are denied. Traditionally, archaeology has perpetuated this denial by developing an impossible atechanical conception of society and an asocial conception of technology. As Latour would have it, they have bracketed off the work of hybridisation (the creation of entirely new types of beings, mixtures of nature and culture) on the one hand and the dual social and natural orders on the other. As I have tried to demonstrate in this chapter:

“‘Premodern’ communities on the other hand, thoroughly think through ‘the close connections between the social and the natural order so that no dangerous hybrid will be introduced carelessly’ (Latour 1993: 41).

In thinking through the emergence of new practices and new artefact forms I wish to finish by returning to Latour’s adage that:

We have never moved either forward or backward. We have always sorted out elements belonging to different times. We can still sort. *It is the sorting that makes the times, not the times that make the sorting.* (1993: 76, original emphasis)

Through this sorting, inhabited landscapes and technical traditions emerge. It is their material traces that allow us to discuss the times they produced. Within this framework I will discuss our approach to the technologies and landscapes of the seventh to fifth millennia BC in Chapter 5, as a basis for the regional survey presented in Chapters 6 and 7. But first, the next chapter will introduce the study area and review previous work therein relating to the study period.

Chapter 4

Literature review: problems in Peak District research

4.1 Introduction to the Peak District

The preceding discussions have been pitched at a general level, drawing on a body of social theory to indicate inadequacies in the way archaeologists have constructed regional prehistories. Particularly, I have urged caution with respect to metaphorical objects that allow or require the particular to be interpreted in terms of analytical totalities, such as large geographical areas, chronological periods, assumed artefact functions or typologised social units. I have identified themes crucial for writing an archaeology that takes prehistoric practice as its object and understands that practice as constitutive of landscape, temporality, technology and identity. With respect to artefacts and landscapes I recognise the constraining and enabling character of their materiality, their attachment to the projects of agents, that they are meaningful only through evocation and that, for archaeologists, meaning is evoked through analogical and metaphorical models.

The statements of these views, aims and objectives in the previous three chapters are in no way an optional preamble. Rather I see them as integral to writing an honest archaeology of prehistoric social life. Further, they are all the more necessary for writing an account of the fifth and fourth millennia of the Peak District, where many of the structural coherences which characterise the 'record' of some other regions at this time are considerably less distinct. While a considerable body of original data has been recovered and analysed during the course of this research, a large part of this dissertation is necessarily concerned with the reappraisal of previous work, produced under different social and intellectual conditions. The purpose of this chapter is twofold: first, to introduce the reader to the empirical data collected by others prior to the current work, and second to outline the themes which have driven that research.

The latter are not always parallel to those developed in areas such as Wessex and East Yorkshire, where high profile institutional research has built around data the sorts of grand narratives discussed in Chapter 2. This is partly because of the character of the regional data set, in which few occurrences are tied down chronologically as well as might be desired. But there are also a variety of material conditions that make the Peak

District fundamentally distinct from academic heartlands. When its prehistory has been characterised in terms of generic models, such models have shown a profound insensitivity to the particular and unique historical character of the region.

More often though, the historiography of Peak District archaeology recognises it as somewhat of a Cinderella region, where publication has been rare, despite rich bodies of data produced by enthusiastic amateurs. Their tradition is as old as archaeology itself, although much of it remains only in oral history, outside the canon of state-sponsored synthesis. Section 4.2 traces their antiquarian and culture-historical approaches focusing on their main areas of research, barrow digging, caves and artefact scatters, finishing with a review of the only culture-historical synthesis, Don Bramwell's *Archaeology in the Peak District* (1973).

Academic interest in the region stirred at the end of the 1970s, when university-based researchers began to assimilate 'peripheral' regions into grand synthesis by the applications of ecological and social approaches, fashionable at the time. Section 4.3 focuses on the environmental evidence, much of which was produced in the 1970s, but continues to be supplemented, paying special attention to Hawke-Smith's important palaeoenvironmental thesis on prehistoric land-use (1979). Section 4.4 reviews Bradley and Hart's important synthesis, *Prehistoric Settlement in the Peak District during the Third and Second Millennia bc* (1983), still, until recently, considered the last word on the Neolithic and Bronze Age of the Peak in terms of social models. Section 4.5 examines the work of Andrew Myers (1986, 1987, 1989), a processual synthesis of Mesolithic stone tool manufacture and use in the Mesolithic of Northern England informed by ethnoarchaeology and ecological modelling.

At the same time, post-war reconstruction and development in the 1960s and 1970s had led to the growth of rescue archaeology, as well as the emergence of local government archaeological officers and county archaeological units (Jones 1984). Section 4.6 examines a flood of fieldwork activity undertaken over the 1980s by Derbyshire County Council and Trent and Peak Archaeological Trust. Sheffield University excavations over this period worked in close association with the Peak District National Park Authority, and while their work was research driven, it was also informed by management requirements. Daryl Garton's (1991) review of the state of (then) current knowledge, a well-developed management perspective, is summarised at the end of this section. Section 4.7 condenses the recent works of John Barnatt, including his recent

paper *Moving Beyond the Monuments* (1996), the first published 'post-processual' synthesis of the region's 'Neolithic'.

There are, then, a number of areas of archaeological *praxis* through which the discipline has been constructed in the context of the Peak District, only some of which has expression in written records and then rarely in grand synthesis. Material traces from the time with which this thesis is concerned come in a variety of forms. The ways in which this data have been selected and made sense of, the ways in which problems were identified and resolved, have changed according to the disciplinary context. 'The evidence' has never spoken for itself, but has always submitted to the interests of researchers. In taking a chronological and thematic approach to the production of archaeological evidence, this chapter aims to make such interests explicit. In doing so it will be possible in later chapters to bring to the fore subjects, which are evident but have been passed over in the literature, to flag those things which slip between the lines.

4.2 The antiquarian and culture-historical traditions

The area known as the Peak District lies at the southern limit of the Pennines and occupies the north-eastern quarter of Derbyshire and part of northern Staffordshire. At its centre is a dissected plateau of carboniferous limestone (Figure 4.1), some 30 kilometres north to south, the greater part of which is between 150m and 400m above sea level (Figure 4.2). Deep dales running along the eastern and western sides of the plateau have only occasional tributaries with streams. Today the water table is low due to lead mining activities in the seventeenth and eighteenth centuries, but springs emerge in places from igneous rock sills that occur in the limestone. The soils tend to be clayey and shallow except in some of the smaller dales. Today this land is used mainly for pastoral farming although some areas on the central plateau are now being ploughed regularly for corn crops.

Along the eastern and western sides of the limestone plateau are narrow ridges of millstone grit rising as sheer walls up to 500m but sloping southwards to generally 350m. On the eastern side coal measures and a magnesium limestone belt flank the gritstone. On the west side the gritstone hills are wider and more divided. To the south they continue as the low hills of the North Staffordshire Coalfield which separates the Cheshire Plain from the Upper Trent Basin. To the north of the limestone is the southern end of the Pennines, which reach their highest point in the Black Hill – Bleak Low – Kinder Scout massif. Here the land rises to about 650 m and is divided by deep

steep-sided valleys that radiate in all directions. Much of the Pennine Range's grit and sandstone rocks is covered with vast blanket bogs above 400m. The pollen content of these stratified peat deposits have enabled various authors to reconstruct the environmental conditions of the Late Mesolithic and Early Neolithic (see Section 4.3.2). Up until the middle of the twentieth century most of the work relating to the prehistory of the Peak District was focused on the sepulchral traditions of the area. Mortuary structures now attributed to the fourth millennium (Barnatt and Collis 1996) were built exclusively on the limestone plateau

4.2.1 Barrow –digging

At the time of the first Peak District barrow excavations, archaeology was a gentlemanly pursuit, growing in popularity among the new mercantile classes along with disciplines such as philology. William Bateman (1787-1835) found in antiquarianism an escape from the drudgery of his father's cotton business. Unlike some of his more famous peers, neither he nor his son Thomas (1821-1861) received a university education or undertook a grand tour of Europe. However, both were well read and members of learned societies (respectively, the Society of Antiquaries and the British Archaeological Association). In these contexts, and more locally, they consulted 'experts' in other young disciplines such as geology and phrenology (Marsden 1988).

I have already discussed the both the intellectual (Chapter 2) and political (Chapter 3) consequences of archaeology's involvement with social/cultural evolutionary theory, and the published work of Thomas Bateman situates him squarely in this paradigm despite its early date. This is most clear in his occasional appeals to analogy, here in the matters of stone 'celts' and paired burial:

"Numbers of these adzes have been brought from New Zealand; and the well-known fact that man, of whatever country an inhabitant, in certain phases of incipient civilization, chooses the same means to accomplish his purposes, at once assures us that the celts so frequently found in the kingdom [of Britain] are neither more or less the heads of adzes." (Bateman 1848: 6)

This said, the three age system had made little impact on British Archaeology at the time Bateman was writing. While he attempted a confused tabular dating system for tumuli, on the basis of artefact typology (1848), his subsequent accounts merely attribute all pre-Roman activity to 'Ancient Britons,' 'Celts' or 'Druids.'

Fortunately, a recent survey by John Barnatt has made the chronology of the Peak District barrows more accessible and the descriptions that follow owe a great debt to his work (Barnatt and Collis 1996: 25). Barnatt is rightly nervous about dating mortuary structures on morphological grounds but suggests that the majority of the Neolithic types may well have originated in the fourth millennium BC. While unchambered long barrows in the Peak District have been discussed as a discrete entity of early date (Hart 1986) Barnatt identifies that in many cases chambers may have existed prior to modern disturbance. At Minninglow, for example, a small, circular barrow was later converted to a long barrow. In a western chambered cairn context such structures can be seen to have developed relatively late in the fourth millennium, after a period when simple chambers in round mounds were the norm. While passage graves may have emerged rather later, the following discussion should not be interpreted in typo-chronological terms.

4.2.1.1 Long barrows

There are five definite long barrows in the area: Perryfoot, Harrod Low, Longstone Moor, Gib Hill, Rockhurst and Long Low (Figure 4.3). Structures at Gospel Hillocks, Ringham Low, One Ash, the Tong and the Bull Ring are also likely to have been long barrows on the grounds of morphology and position (Barnatt and Collis 1996). At least three Peak District long cairns, Gib Hill, Minninglow and Long Low, have complex histories of reworking and protracted reuse, in some cases stretching over a millennium or more.

William Bateman and Samuel Mitchell excavated through the Gib Hill beaker barrow and into the Early Neolithic long barrow beneath during 1824. The lower clay level, which comprised the long barrow, contained large numbers of burnt bones, charcoal, two flints and a fragment of a polished axe in the make-up of the mound. In 1848 Thomas Bateman re-excavated through to the stiff clay to find wood, charcoal, quantities of disarticulated ox bones and a flint scraper (Bateman 1848: 31; Bateman 1861: 17, 20; Ward 1908: 163-6; Radley 1968b).

It is irrefutable that at least some of these structures had a role in mortuary practice. As early as 1775 Bray noted the presence of large numbers of human bones within structures at Perryfoot, Harrod Low and the Tong (1775: 239). However in others, like Gib Hill, animal bones are rather more prominent. At Perryfoot, in addition to a sherd of pottery, bones of cow, sheep or goat, pig, horse, red deer, roe deer and dog were found

(Pennington 1874: 86; 1877: 28). Test pit survey during the 1980's identified concentrations of cattle bone and prehistoric pottery at One Ash Farm (Barnatt and Collis 1996: 86; this volume 4.6).

4.2.1.2 Chambered sites: passage grave type

Four certain examples of simple 'passage graves' are to be found in the Peak District: Five Wells, Minninglow, Green Low and Harborough Rocks (Figure 4.4). Of these, Five Wells has attracted the most attention and excavation. Originally surrounded by a cairn 23 metres in diameter, Five Wells has two chambers built of large slabs with drystone walling between. The chambers are oriented east/west, placed back to back, with tall portals and low septals separating each chamber from an approach passage. The passages led to the drywalled outer edge of a stone plinth, over one metre high, that revetted an inner mound with a diameter of 16 by 14.5 metres. The outer earth and stone mound may have been a later addition and may have sealed the chambers (Barnatt and Collis 1996: 87). Bray (1775) recognised Five Wells after stone robbers found several skeletons in an orthostatic chamber. Thomas Bateman (1848: 91) excavated the site in 1846, finding the remains of at least 12 skeletons in the two chambers. Three skeletons were found in the west passage, accompanied by animal bones, and another two in a cist built against the retaining wall of the cairn along with Grimston and Mortlake pottery, a leaf-shaped arrowhead and a plano-convex knife (Marsden 1977: 6).

The circular cairn at Green Low is about twenty metres in diameter. Its single chamber has an entrance passage, which led to a blocked forecourt, defined by a drystone wall and two small horns. Excavations by Bateman (1848: 44) and Manby revealed a disturbed inhumation, as well as disarticulated human and animal bones, together with sherds of plain Neolithic coarseware. In the forecourt, human and animal bone fragments, plain Neolithic sherds, several quartzite pebbles and flints were found. The contexts of some of these are uncertain: further material, including a polished axe fragment (Group VI) and other lithics, were found under the cairn. Manby comments that most of these flints have a "Mesolithic aspect" (1965: 17) and it seems that they belong to a pre-tomb use of the site; however, he takes this idea no further.

The massive barrow at Minninglow is over forty metres in diameter and over two metres high. The ruined remains of four chambers can be seen, and Thomas Bateman also located a partly collapsed chamber passage. The site has been disturbed both by grave robbers and for its stone, and there are no diagnostic finds except beaker pottery.

However Marsden's (1977) excavations and subsequent analysis by Barnatt suggest that "the mound, while finally converted to a massive oval barrow, had once been a long cairn" (Barnatt and Collis 1996: 88). Furthermore, the position of a central cist and its east-west passage indicate that "the mound started life as a relatively small structure, possibly circular like Green Low and Five Wells, prior to being transformed into a long barrow" (Barnatt and Collis 1996: 88).

Ward discovered the partly destroyed structure at Harborough Rocks (again about twenty metres in diameter) in 1889. The simple three-sided paved box-chamber contained at least six partly disturbed or disarticulated inhumations. In its passage were a further three to four disturbed inhumations and four leaf-shaped arrowheads. Further bones of six to seven disturbed inhumations, were found in a trench at the levelled centre of the barrow (Ward 1890: 118-31; Manby 1958: 35).

4.2.1.3 Chambered sites: closed chamber type

Four certain closed chamber sites are known at Tideslow, Ringham Low, Stoney Low and Long Low (Figure 4.5). The mutilated structure at Tideslow (about 35 metres diameter) and its inhumations were recognised by Rhodes in the nineteenth century (1818: 98). Radley and Plant carried out excavations in 1968-9 and discovered two free-standing cists. The eastern cist was surrounded by paving set on a thin layer of compact yellow clay laid on the old ground surface and subsequently buried under a (possibly multiphased) mound. The eastern cist contained two to three disarticulated inhumations at one end, and ox teeth and flint flakes. A kerb may have defined an enclosure around this cist, against which the western cist abutted. The western cist, a low and irregular six-sided structure, contained disturbed contexts including human bones, a perforated boar's tusk, flint flakes, as well as the teeth of ox and sheep or goat. The pavement and associated clay contained several fragments of human and animal bone and flint flakes, which had fallen between the paving slabs in prehistory. Outside the 'kerb', near the mound edge, a shallow pit contained a part-inhumation consisting of articulated ribs and vertebrae (Radley and Plant 1971).

The large, mutilated, oval mound at Ringham Low contains at least five large, subrectangular, slab-built cists, one with two compartments. Placed half way along the mound, each is oriented at right angles to the long axis of the barrow. Bateman's excavations of 1847 and 1855 found at least 12 disturbed or disarticulated inhumations, fragments of ox skulls, horse and dog teeth and three leaf-shaped arrowheads. The

double cist had bones of four inhumations and a bone pin in one half and two disturbed inhumations and two leaf-shaped arrowheads in the other. Another cist contained an inhumation with a flint and a cow's tooth. The others were previously disturbed (Bateman 1848: 103; 1961: 93).

The large barrow at Stoney Low was largely removed around 1800, except for its oval rim, the ruins of at least two chambers or cists, and perhaps remnants of an approach passage. Thomas Bateman investigated the disturbed remains of two stone structures, one possibly a 'closed chamber'. It contained the bones of six or more individuals, both children and adults, animal bones and a sherd. The other structure, a square 'vault', contained at least two disturbed inhumations and a leaf-shaped arrowhead (Bateman 1848: 46; Barnatt and Collis 1996: 89). Long Low, which appears to be two subsequently linked barrows, also has a 'closed chamber' in its NNE mound set on the old ground surface with thirteen or more overlapping contracted inhumations, ox, pig, deer and dog bones, and three leaf-shaped arrowheads. At the same end its long barrow phase has a crescentic forecourt between horns (Barnatt and Collis 1996: 21).

4.2.1.4 Discussion

The first mortuary structures have often been understood as the outcome of cognitive norms held in common by a generation of agriculturalists, at the end of a pioneer phase in a new land (e.g. Megaw and Simpson 1979: 79). Structural-Marxist approaches addressed the functionalist elements of that argument (Shanks and Tilley 1982), but did nothing to situate monuments in a landscape context. In terms of historical processes, acculturation by way of the continent, if not colonisation, remained the dominant interpretation (Hodder 1990). While Tilley (1994) has since attempted to redress these issues, his assertions of historical continuity with respect to landscape inhabitation are frequently made without reference to the activities that took place at a given site. As examined in Section 3.4, he also maintains the great divide between an alien 'Mesolithic' and a familiar 'Neolithic' through the metaphor of domestication. However, while human and cattle bones are undoubtedly the most common depositions in mortuary structures, wild faunal remains have been found at Perryfoot, Long Low, Ringham Low, Tideslow and Green Low. If we assume a relational and unstable approach to personhood, i.e. not fixed on humanity (Section 3.5.4.1), then there is also the possibility that the use of mortuary structures was implicated in maintenance of

relations between living humans and other types of person (the dead, spirit guardians of animals etc.).

While few Peak District mortuary structures have been excavated to modern standards, there is compelling evidence that many of these locales saw persistent and changing use, both prior and subsequent to their initial construction. It seems that, for some people at least, they were familiar places, where relationships to the land were cemented through acts of memory. In this regard it is worth mentioning a recent report on Whitwell long cairn (Cresswell Heritage Trust 1999), situated 20 kilometres east of the Peak in an area of dense activity typologically dated to the seventh to fifth millennia (Hart 1981: 26-9). Radiocarbon dates from mortuary contexts in the cairn (OXA 4176, OXA 4326 and OXA 4177) appear to cluster around the end of the fifth and the beginning of the fourth millennium BC, precociously early and contemporary with microlith use elsewhere in the region (Spikins 1998). Molar dental wear patterns (Chamberlain 2000) suggest diets based on coarse fibrous plant material 'typical' of hunter-gatherers. This suggests there is no fixed relationship between other productive practices and the building and use of mortuary structures: the archaeological division between fourth millennium lifestyles and those that preceded it is further eroded. Therefore in Chapter 7 the mortuary structures discussed in this section will be re-interpreted in terms of broader landscape inhabitation and enduring attachments to place.

4.2.2 Caves and rock shelters

Inspired by Boyd Dawkins' explorations in the caves of Cresswell Dale, archaeologists such as Micah Salt began to look for prehistoric remains in the limestone caves of the Peak. The contribution of Fox (1909; 1910; 1929) and Armstrong (1923) was to collect even the smallest of faunal remains enhancing our picture of the prehistory of the area. The vast majority of Peak District Neolithic faunal remains come from caves (Figure 4.6) and these considerably enrich our appreciation of the landscape in the study period. Red deer is known from most of the cave sites, while roe deer is represented at Rains Cave. Wild horse is represented as Rain's Cave and Wigber Low. Wolf is reported from Rain's Cave, as well as hare, which is also known from Green Low. The Early Holocene levels at Dowel cave suggest that a wide variety of grassland, woodland and waterfowl were hunted. It is notable that while cave and fissure burials of human remains are known from almost every other period, seventh to fourth millennium

inhumations in cave contexts are virtually unknown in England and Wales (Chamberlain *pers. comm.*). One deposition at Cheshire Wood Cave (Emery 1962) may be an exception to this trend.

Artefactual evidence is more encouraging. At Fox Hole Cave the long sequence of deposits in the main passage, including geometric microliths and numerous animal remains, suggests use during the seventh to fourth millennia. Similar microliths were found at Darfur Ridge Cave at Seven ways in the Manifold Valley (Bramwell 1976: 267). At Demons Dale, another unpublished rock shelter site was partially excavated by Major T. Harris in the 1940s (discussed in Chapter 6). Round-based pottery, typical of the fourth millennium has been found at Harborough (Fox 1909), Rain's (Ward 1889), and Cheshire Wood Caves (Emery 1962). Leaf-shaped arrowheads were also found at Rain's Cave and Darfur Ridge.

4.2.3 Surface collection

Flint artefacts and stone axes have been collected from disturbances since before the nineteenth century, when Bateman was regularly paying for flints (Garton 1991: 3). Neither the method of collection nor the recording of these finds (of which there are many thousands) was systematic, leaving us not only with a wealth of information which is difficult to adapt to today's standards, but also considerable biases for fresh work to overcome. Only retouched artefacts tended to be collected; thus for many sites, the ratio of retouched artefacts to waste is distorted, which can affect site interpretation. Many of these artefacts were dispersed to other museums by auction in 1893. Those retained by Sheffield Museum were published (Howarth 1899) with a similar disregard for spatial provenance and technological detail.

The collection of stone tools from surface disturbances continued effectively until the middle of the twentieth century when a new set of collectors began to walk the both the White Peak and neighbouring gritstone moors. Early lone collectors like Armstrong, Henderson and Cooper would be succeeded, or joined, in the 1960's by many more, encouraged by the moorland fires that swept the Southern Pennines and East Moors. Jeffrey Radley and his associates were responsible for the retrieval of vast quantities of retouched artefacts and waste with six-figure grid references ascribed and notes of associated material. These searches drew together current knowledge about the extent of Mesolithic (Radley and Marshall 1963; Radley 1968a) and Neolithic (Radley 1966) activity on the gritstone moors away from the few excavated sites.

Radley's work was not limited to mere collection. Important work on Late Mesolithic assemblage variability remained uncompleted when he died but the outline was published posthumously (Radley *et al.* 1974). Essentially, many of these sites are single clusters, but there are also sites with closely spaced concentrations of material. For instance, the sites at Mickleden are within 6m of each other (Radley and Marshall 1964: 395), Dunford Bridge A and B are 20m apart (Radley *et al.*, 1974: 7). Caution is urged, as, at many sites, excavation is limited to the immediate area around high densities of material (c.f. Stonehouse 1976: 16). He also postulated three traditions of microlith style-groups on the gritstone uplands: those dominated by rods, by triangular microliths, and by trapezoidal microliths (Radley *et al.* 1974: 1). Radley also suggested that the Later Mesolithic use of locally available cherts does not appear to continue into the Earlier Neolithic (1968a: 32-33), a proposition followed by Garton (in prep) and by Hart on some occasions (1981), but not on others (Hart 1985: see below, Section 4.4).

Radley was a pioneer of landscape survey and may have radically rewritten the prehistory of the Peak had he not died tragically in 1970. In collaboration with Leslie Cooper he produced what is probably the earliest published British fieldwork that examined Neolithic 'settlement' through the surface distribution of artefacts at Elton Common. Radley and Cooper recorded the density and distribution of different artefact categories to suggest a settlement focus and associated area of cultivation, noting, in certain areas, multi-phase occupation. Overall, however there was a marked lack of early Neolithic material (Radley and Cooper 1968: 45). There are problems with the methodology – for instance, fields were walked a number of different times which could affect artefact densities – but nevertheless the project set high standards for future work.

4.2.4 Bramwell's synthesis

Bramwell's *Archaeology in the Peak District* (1973) does not provide a comprehensive guide to the prehistory of the region, being intended instead for the tourist or interested amateur. It is based on the published work of Thomas Bateman, and excavations, by "serious-minded amateurs", into caves, camps and barrows. "Prehistoric archaeology", Bramwell writes, "deals with the ages of stone, bronze and iron, all from days before there was any written record". He continues:

"one individual's idea . . . of a suitable urn . . . would differ slightly from every other urn made in that period, but at the same time there would be an underlying similarity of shape, size and decoration which would place them all into the same

cultural period. One of the difficulties of archaeology is knowing where to draw a line between what constitutes one culture and a succeeding or preceding one.

“The arrangement of topics and illustrations in this book hopes to illustrate the succession as it might occur in an ideal Peakland cave, with the oldest items at the bottom and the most recent at the top.” (1973: 7-8)

It is then a classic culture-historical synthesis, which develops sequences rather than discussing prehistoric remains either in terms of social processes or meaningful action. Bramwell is uncritical in his use of analogy: “the Mesolithic hunters, for some 4,000 years, led a kind of Red Indian existence in the upland woods” (1973: 22). Predictably, migration theory is strongly in evidence: “About 2,300 BC . . . people of a new racial stock made their appearance on the Peakland Landscape” (1973: 23). Perhaps surprisingly, craniology even makes an appearance (1973: 24-5). For all this the book is endearing, written with a steady tone, but ultimately of little use in current research.

4.3 Environment

4.3.1 *Hawke-Smith*

Hawke-Smith offers ‘a study in human ecology’ based in the tradition of the Cambridge School of ‘Palaeoeconomy’. Hawke-Smith is explicit in his assumptions about how prehistoric ‘economies’ may be characterised:

“A human economy must . . . be regarded as a scheduling mechanism by which a combination of food-resources which can be satisfactorily integrated. Nevertheless, it is reasonable to select one component of the economy as constituting the staple amongst the primary food-resources, and on the basis of its climatic and edaphic tolerances to predict where the focal areas and fringe-zones of settlement are likely to fall. While this crop remains the staple, the focal area of settlement is unlikely to change except as a result of changes in one of the key factors, i.e. climate, soil, technology or power-source. Changes in the fringe-zone of settlement may be responsive to minor changes in these variables and also changes in the scheduling system. It is in the fringe-zone of settlement that land-use is likely to be most sensitive to environmental and economic disturbance.” (Hawke-Smith 1979: 24-25)

Hawke-Smith’s thesis is based on a reconstruction of the changing character of soils, in relation to contemporary climate, artefact distributions and the pollen record (complemented by radiocarbon dates). Around these elements he defined a series of

'land facets' based on the likely patterns of soil development, and used these units to make his interpretations. Hawke-Smith believed the density and distribution of archaeological sites differed with respect to the pedological and geological conditions at the site.

Hawke-Smith characterised the White Peak as predominantly wooded in the earlier Neolithic and envisaged its initial 'colonisation' from the Trent Valley, perhaps on a seasonal basis. He suggests that at first areas on the limestone plateau were used as woodland grazing, with an arable base on the Trent gravels to the south. On the basis of similarity of stone tool and pottery styles he suggests that "communities, concentrated on the alluvial-gravels [i.e. the Trent Valley] and their margins were making seasonal use of specialised resources outside [i.e. the White Peak] their main area of settlement" (Hawke-Smith 1979: 122).

While Hawke-Smith's thesis may not be subject to the key criticisms of palaeoeconomy, making too little allowance for environmental change, and projecting back modern patterns of land use in an inflexible manner (Bradley and Hart 1983: 179), it is nevertheless problematic, for four main reasons. First, evidence for the character of the prehistoric environment in the area was, and remains, extremely limited. Hawke-Smith records only three buried soils on the Millstone Grit, of which only one has been published (1979: 65). On the carboniferous limestone, only one report exists (of dubious quality q.v. Fisher 1985: 37). Second, Hawke-Smith's suggested model of pedogenetic change on both the gritstone and the limestone is rather simplistic. He suggests change from initial brown earths to later podzols, following clearance and cultivation, with only a single occurrence of reversion to brown earth due to recent ploughing. The assumption of a brown earth under native woodland on both bedrocks is common in the archaeological literature but has not been based on any firm evidence (Fisher 1985). Furthermore, in neither area is there any evidence to show how many times the apparent podzolisation trend in pedogenesis may have been changed by agricultural reclamation (Fisher 1985). Third, Hawke-Smith assumes that loess was totally eroded from the gritstone landscape prior to the Neolithic. While the present distribution of loess is confined to the limestone outcrop, it is likely that loess was originally deposited on the Millstone Grit as well (Fisher 1985). Pigott for instance, notes its presence at Abney and Big Moor (1962: 154). The gritstone soils, then, may have been equally attractive to early farmers, which would call into question Hawke-Smith's model.

These are all technical points. The fourth, and key, problem with Hawke-Smith's model is of course that availability of arable land is made the determining factor in characterising 'man-land relations' (see Section 3.2.2 on site catchment analysis). The emphasis he placed upon the feasibility of arable cultivation in different landscape settings downplayed the importance of other land-use strategies. The apparent emphasis upon livestock in the early stages of 'colonisation' of the limestone confirmed its marginality relative to the imagined importance of the Trent Valley as a centre of cultivation. The underlying and problematic assumption (Section 2.4.1) is that, from the early fourth millennium BC, local subsistence revolved around a staple, and that this staple was one of a variety of available domesticated crops. This aside, even after the discovery of early domesticates at Lismore Fields (see below Section 4.6.3), it is far from self-evident that mixed arable farming was a crucial element of Early Neolithic subsistence practices in the region. Instead, food-production evidence from other regions has been interpreted as supplementing a diet, which includes wild plant foods, as well as wild and domesticated fauna. In addition, the model envisages Early Neolithic populations as colonising a virgin landscape – "initial selective interference with the woodland canopy" (Hawke-Smith 1979: 122) – which we now know to have been inhabited and worked upon by earlier communities. Simply put, to categorise land facets as useful or marginal on the basis of arable potential is likely to misrepresent their importance to communities for whom agriculture was not necessarily a great concern.

While an admirable attempt to come to grips with the geographical diversity, Hawke-Smith's model simply does not do justice to the micro-topographical variety of the Peak District, or account for long term re-use of locales since before the fourth millennium. Furthermore it is founded on highly problematic, but taken-for-granted, ideas about the character of fourth and third millennia subsistence practices. It is unfortunate then that it continues to have resonance for more recent students of Peak District prehistory as discussed in the sections that follow.

4.3.2 Pollen analyses from the upland peats

Aside from Hawke-Smith's work, a plethora of pollen studies since the middle of the century have given us localised windows on the prehistoric environment (Figure 4.7). Early pollen analyses at Ringinglow Bog (Conway 1947, 1954), on Kinder (Tallis 1964a, 1964b), Totley Moss and Hipper Sick (Hicks 1971, 1972) suggest that, around

the early fifth millennium BC, the natural vegetation on the gritstone hills was close woodland up to altitudes of at least 400m. Detailed studies have been made of the altitudinal zoning of tree species in mid-Holocene environments of the Southern Pennines (Tallis and Switsur 1983, 1990). The relative altitudinal limits of different tree types proposed by Tallis and Switsur (1983, 1990) were calculated as follows.

Species	Altitudinal limit
Birch, hazel, and willow	Up to the treeline
Pine	Up to 150 m. below the treeline
Oak and Elm	Up to 200 m. below the treeline
Lime	Up to 300 m. below the treeline

This period from late seventh to the early fourth millennium BC was characterised by the spread of slow moving tree types – lime and ash – and the subsequent development of a relatively stable woodland composition. Oak was gradually replaced by lime from the end of the seventh millennium BC, once more changing the character of the lowland forest. Ash also spread onto calcareous soils (replacing hazel) a little later (over the sixth millennium BC). By the end of the sixth millennium the woodland composition was relatively stable, with the maximum northwards extension of lime occurring in the early fifth millennium. This stable period from the late sixth millennium is characterised by a broad area of lowlands (especially in the south) dominated by dense lime forest and a stable altitudinal zonation in the uplands. The only further changes are brought about by the spread of blanket peat associated with controlled burning and repeated grazing, starting from the late sixth millennium, off flat or gently sloping high altitude plateaux, such as the Kinder massif (Tallis and Switsur 1983).

In the uplands, altitudinal zoning is present from the beginning of the period. The altitudinal limits of birch rise, and pine and oak join birch in the uplands (with pine dominant at a narrow band of elevations). Oak spreads to dominate the ‘mid-uplands’, though unable to compete with birch and pine at higher altitudes. Peat formation was encouraged by the removal of vegetation, which changed the run-off patterns acting to increase waterlogging. Peat areas support only a limited range of plant resources and peat formation may have placed a constraint on upland exploitation. Peat formation

was particularly widespread and early in date in the Southern Pennines where the densest concentration of Mesolithic sites has been found (Tallis 1991), fuelling speculation on woodland management (Mellars 1976a; Tallis and Switsur 1983). Broadly speaking, peat formation started at the higher elevations (550m and above) in the late sixth millennium BC and reached a lowest elevation of 400m OD in the early fourth millennium BC. The exact date and nature of peat formation would have depended on local conditions.

Almost all upland moorlands have suffered the effects of over-grazing and consequent peat erosion. The initiation and continuation of flint collection activities – the recovery of artefacts, made visible through erosion – although linked to the antiquarian tradition, is closely related to this environmental damage. Massive upland peat erosion was initiated in the late nineteenth century through a combination of a rise in atmospheric pollutants and increasing intensity of sheep grazing (Phillips *et al.* 1981). Most upland sites occur within a restricted band of elevations and are rare above 450m. While peat erosion has undoubtedly been a factor in the recovery of many upland sites, their distribution does not appear to relate to this most obvious of biases, as erosion tends to be most severe at higher elevations (Jacobi *et al.* 1976: 308). Phillips *et al.* (1981) also mapped out the most severe peat erosion in the southern Pennines and known Mesolithic sites and it clearly contrasts with the bands of known Mesolithic sites. Similarly, survey on Tintwhistle Moor demonstrated that the recovery of Mesolithic artefacts was related to the present pattern of erosion rather than necessarily to the past distribution of Mesolithic activities (Garton 1987: 11). The erosion types where flint was recovered were restricted to the edges of the plateau and to breaks of slope, which occurred most commonly between 390m and 480m. Jacobi demonstrated the relative abundance of sites between 360m and 480m but stated that “there is no simple relationship between the extent of peat erosion and the discovery of Mesolithic sites” (1978a: 308).

The site-based evidence for large-scale patterns of mid-Holocene subsistence and settlement in northern England is often assumed to be well-understood and interpretable in terms of top down models (see Section 2.4.1). Barnes for instance believed that find-spot occurrences showed that populations selected locales, on south-facing slopes, at valley heads, and close to springs, as “light exploitation camps” in a “migratory” settlement pattern (1982: 25, 34-38). Spikins (1998) demonstrates that the perceived prevalence of south-facing slope sites is a product of sheep preference for grazing in

sunny areas, thus concentrating erosion. She suggests that this erosion at higher altitudes leaves us a highly distorted picture of land-use, with many sites already lost at high altitudes and the patterning a product of visibility biases or the actions of collectors (1995c). In other words, it is likely that the 'classic' Mesolithic type-sites and their distribution are representative of only a limited range of activities and locales in the annual round.

As elsewhere in Northern England, pollen sequences suggest the creation and maintenance of clearings may have encouraged the presence of edible plants and a wider range of animals (Mellars 1976a). While the pollen record is biased towards the upland zone there does appear to be a particularly high number of clearances recorded there, especially clustering over the late sixth and fifth millennia BC (Simmons 1996; Zvelebil 1994). Simmons' (1996) work on the North York Moors suggests often regular, repetitive, almost cyclical small-scale clearance events, that people were returning again and again, following deliberate planning, to the same areas. If people may on occasion have ranged over considerable distances, this must be set in the context of a strong sense of place and tenurial responsibilities, materialising through hard work which went into maintaining resources (Young 1998; Zvelebil 1994: 40).

Barnatt's (1996: 55-56) generalised account of the Neolithic environment suggests heavily wooded shale valleys and lower shelves, with more open uplands. The gritstone moorlands also contained wooded areas in localities with clay soils, with clearance emerging on the lighter brown earths. The high Northern and Western gritstone moorlands, he suggests were probably moorland by this point. This, like Hawke-Smith's account, is extrapolated from Sheila Hicks' work which identifies the appearance of ribwort plantain (*Plantago lanceolata*) at the turn of the fourth millennium BC at Toley Moss and Hipper Sick (Hicks 1971, 1972).

Localised pollen sequences from riverine peat near Lismore Fields appear to complement those from cave sites in Dove Dale to the south. They suggest that conditions before the fourth millennium were at their most wooded, though still "relatively open when compared with sites from the nearby uplands", including both the East Moors and the Dark Peak (Wiltshire and Edwards 1993: 167). The pollen record begins at the end of the seventh millennium BC with indications of a relatively open landscape with grassland as well as heath, suggested by plantains, docks, grasses and heather. However, the woodland regenerated in the sixth millennium BC, although there

is ample evidence of regular, localised clearance. Charcoal is abundant in the peat throughout the sixth millennium, which also saw the increase of bracken and docks with ash appearing for the first time. The continuous cereal pollen record probably started at some point early in the fifth millennium BC¹ as woodland appears to be regenerating but the second part of the millennium saw the start of “prolonged, extensive and unselective clearance of the woodland”, with heliophytes taking advantage of the open spaces. The woodland appears to have regenerated again by the fourth millennium BC although there may have been frequent localised clearance episodes (coincident with Buildings I and II: Section 4.6.3), and cereal pollen is better represented than ever. Unfortunately, the nature of the pollen catchment area made it impossible to assess whether cultivation at this time was conducted as a prolonged phase of forest farming or rather in more intensive permanent clearings established at more distant sites on the limestone. However, the likelihood of soil impoverishment under the latter may indicate “the cumulative effects of many small, spatially and temporally discrete events” (Wiltshire and Edwards 1993: 168). Over the third millennium BC pastoral indicators such as plantain and silverweed increased as a relatively open landscape emerged with the coppicing of hazel and willow, as well as the growing and processing of cereal.

Pollen studies offer highly localised perspectives. Given the presumed wooded environment at Lismore Fields during the seventh to fourth millennia the pollen rain would not be expected to record activity from any distance (Hicks 1971: 662; Garton 1991: 17) and is unlikely to register activities in the White Peak (*contra* Hawke-Smith 1979: 121-2). However, environmental data from other areas of the plateau indicate that clearance into a wooded environment was taking place from the late fifth millennium BC onwards. Ostracod data from Lathkill Dale indicates a temporary phase of forest clearance at about 3650 BC and widespread disturbance at 3240±60 BC (Taylor *et al.* 1994). Therefore it is possible that throughout the region a similar pattern of small scale, temporary clearance and, subsequently, regular and long-term clearance took place to create browse for animals and, much later, for arable purposes.

This environmental synthesis suggests that the region’s fourth millennium woodland cannot be understood in isolation from a deep and complex history of clearance and attachment to place. Together with the evidence from Whitwell Cairn (Section 4.2.1.4),

¹ A date broadly contemporary with cereal cultivation at Soyland Moor in the Central Pennines (4782-4546 BC [Q-2394]; Williams 1985).

the precocious emergence of plant domesticates at Lismore Fields, a locale with a long tradition of environmental modification, suggests that there can be no simple division between 'Mesolithic' and 'Neolithic' woodland management. As pollen records are few and far between it is particularly important that close attention is paid to their context in terms of practices other than clearance: it is necessary to locate these physical changes in paths and network of social space. In this regard Brown (1997) suggests that more fragmentary narratives should replace the overarching accounts of fire-manipulating land use management and pioneering agricultural progress. Instead he emphasises the role of environmental opportunism (such as the use of wind-throws and forest edge ecotones) by prehistoric actors with varying social identities in changing social conditions. Especially he believes attention should be given to the association of local pollen sequences to artefact assemblages, and the imposition of the systemic metaphors of environment and societal manipulation should be avoided.

4.4 Bradley and Hart

Richard Bradley and Clive Hart's synthesis of Neolithic and Bronze Age settlement in the Peak District (1983) has become the industry standard word on the area. Richard Bradley has been a well-known figure in British Neolithic studies, since the lavish social and spatial models (similar to those critiqued in Section 3.2.3) expounded in *The Social Foundations of Britain* (1984). But before reviewing their co-authored paper it is worth examining its basis, Clive Hart's own research.

Hart (1981) brought existing prehistoric material in public and private collections together with data from his own field survey from the Peak (1981, 1985 in detail) and other areas of North Derbyshire. This field survey aimed to "identify the actual settlement sites and possibly their fields by detailed recording of flint-scatters in plough soils" (1981: 34). By plotting tool types within general scatters of flintwork (e.g. Hart 1981: 43) he showed large concentrations of material upwards of 60m across with fairly blank areas around, and thus began to approach the kind of resolution already achieved on Dark Peak scatter sites. *The North Derbyshire Archaeological Survey* (1981) categorised material by period and then geological zone (here we are concerned with East Moors, White Peak and Dark Peak). Based mainly on previous surface collection, Hart characterises Mesolithic use of White Peak as "sparse" with populations favouring the East Moors and Dark Peak. The last two areas are essentially characterised in terms of work covered in previous sections. In the White Peak, Hart details original

ploughzone surveys from Aleck Low and Upper House Farm (Hartington Nether Quarter), as well as Middle Hill (Wormhill).

Large quantities of Late Neolithic and Bronze Age material had been recognised on ploughed fields at Middle Hill by Jeffrey Radley and Michael Plant. Beneath the main scatter, a small, unpublished excavation revealed a ring ditch of unknown date. The scatters in this area of Wormhill parish are vast and certainly represent many phases of use. Among the remains are numerous end scrapers made on long blades, microliths, blade cores and frequent chert-working, indicating Late Mesolithic and Early Neolithic use of the area. It is worth noting that up to five Early Neolithic monuments lie within a 4 km radius of Middle Hill, the nearest (The Tong) less than 200m away.

The artefact densities identified by Hart (1985) at Aleck Low and Upper House Farm are, again, mainly Later Neolithic, but many have a considerable earlier component. The artefacts at Aleck Low site 1 are mainly later, but a geometric microlith and waste from chert working suggest an earlier presence. Aleck Low site 2 clearly contains Late Mesolithic or early Neolithic activity, testified by the presence of black chert cores, narrow blades and rod microliths. Hart distinguishes it as an “activity area rather than a preferred settlement focus” because of its setting in a damp hollow. Aleck Low 3 may also have an earlier component, as it contains saws, core rejuvenation flakes, ends scrapers, burins and notched blades, which Hart suggests are for leather working. Upperhouse Farm Site 2 also produced microliths, as many as 14 end scrapers, careful chert working and rejuvenation flakes, which suggest an early date. Also represented are burins and notched blades. Hart interprets the group of scatters as evidence of Late Neolithic people settling more permanently on sites first frequented during the Late Mesolithic. Hart also comments on the raw material usage:

“there appears to have been increased use by Neolithic settlers of good quality local cherts, from sources within 6 km of Arbor Low henge monument. Nodular flint predominates, but most surface scatters contain both types of raw material. It is significant however that sites with a high proportion of finely finished artefacts contain few finds of chert. This may imply that some communities had more extensive outside contacts that [*sic*] others.” (1985: 62)

Hart writes that “Early Neolithic settlement has not yet been recognised in the White Peak”, glossing over earlier components in the many palimpsest assemblages. Furthermore the use of these sites over the fourth millennium BC may have been considerable but waste could have been deposited in pits, as seems to have been

common (Healy 1987). A note in Hart (1981: 45) relates structural evidence of “four sunken sub-rectangular house floors”, some with grooved-ware pottery at Aleck Low, but in the absence of proper publication, this evidence cannot be properly assessed.

Hart’s (1986) study of Early Neolithic long cairns in the Peak District addresses the situation of ten long cairns, only five of which Barnatt’s more reliable survey recognise as possibilities. He suggests that the preferred sitings for these structures are on the edge of valleys and on false crests between 925 and 1,230 feet (275-370 m.), with the majority on the 1,150 ft (350 m) contour (Hart 1986: 129). His consideration of the excavated artefacts leads him to conclude that “they resemble artefacts from the earlier phase of the British Neolithic (Kinnes 1979). The finds include large leaf shaped arrowheads, bone pins, calcined flint and charcoals.” From this he suggests that the cairns were built and used by “small communities, widely scattered in the primary Neolithic settlement areas of the Peak” (1986: 134), although the cairns themselves are not that far apart.

Together, Bradley and Hart (1983) investigated the distribution of artefacts and monuments across time in the White Peak, Derwent valley and East Moors, and in relation to land models put forward by Hawke-Smith. To Hawke-Smith’s environmental and archaeological sequences they added data from the North Derbyshire Archaeological Survey (Hart 1981), and from the Derbyshire Sites and Monuments Record. Lithic scatters are based on the evidence of successive forms of projectile point, and palimpsests are accounted for. Their evidence for Early Neolithic activity was based on the presence of leaf-shaped arrowheads, while acknowledging Green’s (1980: 67) thesis that the use of these artefacts extends into the second millennium BC. About a third of lithic scatters containing leaf shaped arrowheads fall outside Hawke-Smith’s two postulated grazing areas. These are identified as falling in woodland which Hart (1981: fig 3.1) had previously noted Mesolithic activity. On this basis they suggest that “early farmers were making use of land on which the natural vegetation had already been modified by human activity . . . [or] continued use of the woodland margin for hunting [after Spratt 1982: 125-126]” (Bradley and Hart 1983: 180). They relate the long cairns more closely to potential grazing land (1983: 180) and describe them as “peripheral to the main distribution of early lithic scatters”. They posited that the area between the Dove, Wye and Derwent Rivers formed a “core area” for prehistoric settlement.

Bradley and Hart's model is subject to criticism on at least four points. First, while it is common to find lithic scatters across the White Peak where ploughing occurs, the distribution of this material has known but unreconstructable biases, and there are therefore fundamental problems with the assessment of this material. Many people collected their data, and to varying standards. Some fields will have been walked a number of times, not all of which may have been recorded. Second, the process of dating lithic scatters on the basis of diagnostic arrowheads is specious, as arrowheads are subject to loss away from task areas. Worse, they may 'contaminate' working areas from other periods. Hart (1981: 37) had identified most of the material within the large flint scatters as Later Neolithic in character, but using the same data, Bradley and Hart (1983: 180-3) used the presence of leaf-shaped arrowheads to represent Earlier Neolithic activity. Artefact scatters then should be subjected to more rigorous technological analyses before positing a date. Third, their use of stone axe distribution along with Hawke-Smith's land-use model has three problems. Axes are subject to the same biases in recovery as other artefacts, but more importantly Hawke-Smith's analysis was indelicate because of the scale at which he was operating. As Barnatt (1996:48) put it, "Because of the oversimplifications made by Hawke-Smith, together with inexactitudes on his maps, the final result has little bearing on the real topography, and thus land facets within [Bradley and Hart's] study area".

Fourth and most importantly Bradley and Hart maintain the idea of marginality central to Hawke-Smith's argument (Section 4.3.1). "Monuments" are seen as "peripheral to the distribution of early lithic scatters, suggesting that monuments were built around the edge of the more favourable soils" (Bradley and Hart 1983: 182). The conclusion drawn is that they developed in "a period when resources are coming under pressure" which along with their regular spacing suggests that "they cannot be treated as *centres* of different territories" (1983: 182). Clearly there are a number of different models at work here, all of which have already received some attention: site catchment analysis (Section 3.2.2), locational analysis (3.3.3) a core-periphery model (1.4.3) and a population pressure model (2.5.2). The object of study is, of course, society – the assumed local social unit of production relative to a larger system, stable except for the external pressure exerted by assumed population pressure. There is no attempt to situate the actor in the landscape, which, other than as soil facets or undifferentiated woodland, may as well not exist. The assumption is that the affordances offered by the landscape and the technical practices of the prehistoric agent are known. But, as I have argued,

there is no simplistic relationship between the way people organise themselves and the techniques they employ.

4.5 Andrew Myers

Andrew Myers researched lithic procurement and use for the Mesolithic of Northern England in a Ph.D. thesis and two ancillary papers. The aim of Myers' thesis was to examine and illustrate the potentials for lithic analysis undertaken within a strongly processualist theoretical framework. Technological strategies were discussed in terms of "the selective advantages for limiting subsistence costs and risks" (1986). His approach drew explicitly on generalising theory that integrated hunter-gatherer subsistence, settlement and economy (e.g. Binford 1973) "to address important behavioural issues through the archaeological record of hunter-gatherers" (A. Myers 1986: 4). The ecological approach embodied by these demands has been discussed in Section 3.2.1 and needs no further comment in the abstract. Myers' work is peripheral to the present study as it is largely based on sites from outside the area and is primarily concerned with the Early Mesolithic. However, it has had a great influence on the prehistory of Northern England especially in terms of archaeological understandings of raw material procurement, as well as settlement and subsistence, and is therefore worth reviewing here.

Myers took environmental changes to be strong motivations for changing adaptations and for movements of populations over the Mesolithic. The first main phase of Holocene woodland composition, when woodland types were dominated by lowland birch, he tied to the Early Mesolithic occupation. These were replaced by a new set of ecological conditions and Late Mesolithic industries from the seventh millennium BC (Myers 1989). He documented increases in the numbers of sites typologically assigned to the Late Mesolithic of Northern England and affirmed Jacobi's (1979) suggestion that the appearance of regional social territories after 6000 BC in England on the basis of more regionalised artefact distributions with smaller style zones (A. Myers 1986). While not suggesting absolute population numbers he drew on Jacobi's (1976) idea of gradual population increase, which he characterised as adaptations to changes in woodland type (from boreal to temperate woodlands) and warming climate (A. Myers 1986, 1989).

4.5.1 Raw material use

Myers (1986; 1989) also noted that the character of upland sites also appeared to be different after the transition. While common site 'preferences' linked the Early and Late Mesolithic (A. Myers 1986), in the Pennines, Late Mesolithic sites appeared to be smaller and more widely distributed across the landscape than Early Mesolithic sites (although these distinctions were not quantified). Myers linked these shifts to changing strategies used to hunt red deer in the uplands, proposing a change across the Early to Late Mesolithic transition from an 'intercept' hunting of migrating herds of deer to an 'encounter' hunting of individual animals (see below).

Myers characterised the transition between Early and Late Mesolithic in northern England by distinct and rapid changes in raw material use, tool types and reduction strategies occurring simultaneously (1986; 1987). He noted that there was a reduction in the distance over which raw materials are transported from Early to the Late Mesolithic, particularly in the Pennines. In fact, flint raw materials used on Pennine sites in the Early Mesolithic are derived from the Lincolnshire and Yorkshire Wolds (with Early Mesolithic assemblages largely containing over 90% white 'Wolds flint' and in many cases 99% of this material – A. Myers 1986: 311: table 9). By the Late Mesolithic however, raw materials came almost exclusively from local sources.

Myers criticised Mellars' site typology which recognised lowland winter base camps and upland summer hunting camps based on differences in assemblage constituents (the microlith:scraper ratio) and the relative size of sites (Mellars 1976). Myers (1987) noted that microliths appear to have been used somewhat differently from the Early to the Late Mesolithic: there are more microliths in each haft in the latter period and thus a higher proportion of microliths expected to be discarded and preserved in the archaeological record. The relative percentage of microliths is then a poor index of site function given that their use, and relative contributions to assemblages, changes through the period. Instead, Myers divided Mesolithic assemblages into more complex categories with a series of different assemblage types crossing upland-lowland boundaries. Other tool types may better describe the variation in activities at different sites, or by ways in which artefacts are produced and discarded. Myers (1986, 1987) illustrated that there are a number of different types of upland sites, defined by the proportions of other tools as well as by microliths and scrapers.

Differences in the use and form of the main diagnostic element of Mesolithic assemblages - microliths - may markedly affect how sites of either period are recognised. Myers (1986, 1989) noted for example that there is a higher ratio of microliths to other artefact types recovered on Late rather than Early Mesolithic sites (A. Myers 1986: 235: table 5). Thus the chance of recovering a diagnostic artefact (a microlith) is better in a Late Mesolithic assemblage, and smaller quantities of microliths on Early Mesolithic sites act against their identification. Other things being equal, as most recorded 'sites' are collections of just a few non-diagnostic artefacts, we should expect that more Late than Early Mesolithic sites be identified.

4.5.2 Settlement and subsistence

Myers (1986) used raw material sources and common assemblage characteristics to suggest that the wintering camps for Early Mesolithic hunting groups in the Pennines would have been on the Lincolnshire Wolds. He suggested that the exploitation of upland game would have occurred in autumn, prior to wintertimes of scarcity. Since raw materials are predominantly derived from local sources in the Late Mesolithic, he suggested that the settlement pattern would have been more localised than in the Early Mesolithic (with territory sizes shrinking as population densities increased).

He expanded on Clark's subsistence model, once more assuming a dominant role for red deer (1986, 1989). Although he still saw potential summer base camps as less permanent than winter base camps, he characterised some lowland sites serving as 'summer base camps' - the lowland 'bases' for upland hunting parties (Myers 1986). He developed Jacobi's model of upland-lowland contrasts between the Lincolnshire Edge and Pennines, but, in contrast to Jacobi, considered that the upland exploitation of red deer would have occurred in autumn. He also questions the mobility of red deer in his model, suggesting that at least in the Late Mesolithic red deer would have only been present as small dispersed family groups rather than as migratory herds.

Myers (1986, 1989) argued for a change through time, within the uplands, from large and more typologically diverse Early Mesolithic sites to smaller Late Mesolithic sites with apparently less evidence for repeated occupation (although this is not demonstrated). He interpreted these distinctions in terms of upland hunting techniques, specifically a change from Early Mesolithic intercept hunting of migrating herds (and a planned 'collector' type strategy) to Late Mesolithic encounter hunting of dispersed animal populations (and a 'forager' strategy).

4.5.3 Problems with site typology

Myers' rare discussion of the nature of long-term settlement changes is thought-provoking, and takes account of many biases, but problems remain. He was influenced by the small spatial extent of upland 'sites' in his interpretations (1986, 1987), but there are a variety of reasons why upland sites seem relatively small by comparison with their lowland counterparts. Upland excavations tend to be 'incomplete' (Stonehouse 1990: 62), in the sense that artefact distributions continue beyond the area excavated (Spikins 1994). Since no regional analysis of recently excavated assemblages has been carried out, Myers' interpretations are heavily dependent on museum assemblages that contain a variety of biases. Francis Buckley, for instance, tended to select the 'best pieces' from any assemblage to send to different museums, leaving the remainder as the main record of the sites in local museums. Also, given the intensity of surface collection seen by many of these sites, it is reasonable to suppose that biases on the visibility of sites are a factor that has influenced recorded site distributions.

Myers' model calls into question models based on migration patterns of red deer, (Section 2.4.1); however, his static concept of settlement is still clearly influential and his model is still firmly framed within the upland hunting camp model, rather than incorporating any consideration for more fundamental changes in settlement. His suggestion (Myers 1986; 1989: 89) that the spread of deciduous woodland (or oak in particular with previous 'birch-pine' woodland seen as coniferous) would have been associated with an increase in the diversity of understorey vegetation has drawn criticism from Spikins who suggests the reverse is likely.

"First, the spread of understorey species is much faster than that of slowly maturing tree species, and diverse understorey vegetation thus likely to have characterized the early stages of woodland development. Secondly, the reduction in abundance of undergrowth species as woodland density increased would have been likely to have been associated with a reduction in diversity. As Margalef (1958: 45) notes, in general ecological terms 'The general pattern of species diversity through succession in temperate deciduous forest is one of an increase in the early stages with a decline in the late successional stages'." (Spikins 1998)

Spikins argues that the use of the uplands may have been more diverse (and more long term) than the 'hunting site' interpretation suggests: microliths, for instance, are not necessarily a reflection of hunting activities, and are known for their use in other activities (Section 5.4.1.1).

4.6 The mid-late eighties: survey and excavation

The mid-late eighties saw survey and excavation in the Peak District on a greater scale than hitherto seen (Figure 4.8). The key players in this effort were John Barnatt² and Andrew Myers³ for Derbyshire County Council, Robin Torrence and Mark Edmonds for Sheffield University, and Daryl Garton for Trent and Peak Archaeological Trust⁴.

4.6.1 The Derbyshire County Council Archaeological Scheme

Bradley and Hart's distribution maps had highlighted recent fieldwork to be concentrated on the plateau to the south of Arbor Low. In 1984 and 1985, Barnatt and Myers directed an MSCCP⁵ scheme which surveyed fields across a transect to the north, to redress the balance. Their aim was "to use lithics to test aspects of the models of Neolithic and Bronze Age land-use put forward by Hawke Smith [sic] (1979) and Bradley and Hart (1983)" (Barnatt *et al.* In prep: 33). They aimed to test the density and type of artefact scatters across different geomorphological zones. They chose a northeast-southwest transect running from the eastern edge of the East Moors to Arbor Low, crossing the Derwent Valley at Baslow, the Wye Valley at Ashford, in which thirty fields were walked. The methodology and material from the DCC survey are reviewed more comprehensively in chapters 5 and 6 respectively, but it is worth introducing here the broad advance in understanding prehistoric land-use it represents.

Aside from the advances in methodology, the DCC transect represented something of a breakthrough in knowledge of the study periods. First, it showed Mesolithic flintwork on the limestone plateau to be more widespread than formerly thought. It also expanded our understanding of the Neolithic beyond the limestone, which had traditionally been the only location investigated by ploughzone collection. The density of Neolithic flint scatters was demonstrated to be equally rich in the dales and valleys and such remains, previously rare on the gritstone uplands, were identified on the lower podzolised soils of the East Moors. Many of these assemblages are technologically attributable to the Early Neolithic.

² Later of the Peak District National Park Authority.

³ Later Derbyshire Sites and Monuments Officer.

⁴ Now Trent and Peak Archaeological Unit.

⁵ Manpower Services Commission Community Programme.

Additionally Barnatt, Myers and Garton demonstrated not only that many flint scatter were likely to be palimpsests, but that the previous 'absence' of Late Mesolithic and Early Neolithic remains on the plateau may have been the result of 'masking' by larger, Later Neolithic assemblages. Later Mesolithic and Earlier Neolithic assemblages found together, and in the Derwent Valley fields were smaller and less dense suggesting that, unlike those on the limestone, they had not been disguised by the Later Neolithic material.

4.6.2 Sheffield University

Field-walking survey had previously been performed by Sheffield University to the south of the DCC transect. Fields on Elton Common (previously discussed by Radley and Cooper 1968), Gratton Moor and near to Minninglow were walked in 1981-2 by a group of students producing large amounts of Later Neolithic and Bronze Age material with occasional Mesolithic finds (Gerrish 1982).

Another type of survey was also introduced to the Peak in this period, the American method of systematic test pitting at 10 metre intervals to investigate pasture landscapes. Through this method the Roystone Grange Project aimed to "reconstruct changes in the pattern of human exploitation from the hunter-gatherers of the Mesolithic through to the market oriented . . . strategy of the current inhabitants" by field survey and excavation (Torrence and Edmonds 1988). A sample of archaeological material was collected from areas previously under long-term pasture, which balanced sites in the valley regularly walked by amateur collectors. Trenches and test pit grids indicated that Late Mesolithic and Earlier Neolithic activities focused on the hills surrounding the Grange (Myers 1992). Some of the material, not examined at the time has been analysed for this thesis (see Chapter 6).

The Roystone Grange Project was important, as it was the first systematic attempt to show that the density of the flint scatters might be equally rich in the dales and valleys. The test-pitting methodology will be discussed in chapter 5, and the material from Roystone Grange has been re-analysed for this thesis in Chapter 6. Another team from Sheffield University investigated a pasture field at One Ash Farm using the same test-pitting technique. A small excavation of an earthwork there, which has since been interpreted as a long mound (Barnatt and Collis 1996: 86), produced flintwork, pottery and burnt bone fragments.

Sheffield University teams excavated one Peak District site with evidence for Early Neolithic activity during this period. At Wigber Low, near Ashbourne, a Bronze Age burial cairn sealed an old ground surface on which were found flint fabricators, long side-scrapers and chips (Phillips 1983), pottery fragments, animal bones as well as fragments of axes from sources VI, VII and XX⁶. Grimston and Abingdon styles of pottery are suggestive of an early date for this assemblage (Manby 1983), although there may have been several phases of use. The large mammal faunal assemblage from the old ground surface consists of cattle (41%), pig (39%), sheep/goat (15%) with horse, dog and red deer represented to a lesser extent (Maltby 1983).

4.6.3 Trent and Peak Archaeological Trust

Daryl Garton has combined the two types of field survey on fields on the White Peak. Alerted by local collectors, she investigated two fields, at Mount Pleasant Farm, south of Kenslow Knoll, in 1982 (Garton and Beswick 1983), revealing a number of distinct clusters of Mesolithic and Neolithic artefacts, some of the latter associated with Grimston ware pottery and perhaps pits or scoops (1983: 11). Like fields later walked on the transect survey, these scatters were close to, or admixed with, predominantly later material and it was only systematic collection and individual plotting of material, that small clusters of Mesolithic and Earlier Neolithic knapping debris was identified (1983: 9-12). Little primary knapping was represented in the excavated assemblage. Instead the scatters comprised either medium densities of unretouched and retouched flakes or small scatters from repair/working of blanks into tools (Garton and Beswick 1983: 10-14). Neolithic cores and knapping debris are found, but usually not in positions which suggest an *in situ* primary knapping location. Knapping was working of blanks for tools, or secondary working of tools, i.e. not knapping the blanks themselves (Garton and Beswick 1983: 14, 30, 36). Garton later stated that this pattern was similar at Wigber Low, Roystone Grange and Lismore Fields (Garton in prep).

Garton's major contribution to the prehistory of the Peak has been the excavations at Lismore Fields, Buxton. A trial trench in 1984 had revealed a scatter of Late Mesolithic flintwork which had not been disturbed by ploughing. Over three seasons (1985-1987) an area of the meadow threatened by construction was excavated to characterise the occupation and try to determine its extent (Garton 1991: 13). As well as clusters of Late

⁶ Great Langdale, Cumbria, Graig Lwyd, Gwynedd, and Charnwood Forest, Leicestershire, respectively.

Mesolithic and Early Neolithic flintwork, two post-built rectangular buildings and pits of Neolithic date, as well as other post structures were recovered. Radiocarbon dates from Building I give dates of 3990-3375 BC, the Building II date was 3700-3105 BC.⁷ Another structure on site was dated even earlier, to 4450-3780 BC, indicating that the site was certainly re-used across, what we know as the Neolithic–Mesolithic transition.

Lismore Fields provides a link between the gritstone and limestone areas of the Peak with both Mesolithic and Neolithic activities documented in pollen, flintwork and features. Although a relative ‘lowland’ situation it is comparable with Dark Peak sites in the northern uplands. Here, flint scatters have similar signatures in that the complete range of activities from knapping to tool use are confined to small discrete areas which may be duplicated close by (for instance Dunford Bridge, see Radley *et al.* 1974, 7). These areas also show considerable manipulation of the environment (e.g. Radley 1974). Garton contrasts the assemblage from Lismore Fields with those commonly found in fieldwalking on the White Peak where Later Neolithic flintwork predominates, suggesting that, had the site been ploughed and fieldwalked the artefact scatter may have been interpreted as predominantly Mesolithic material with some Neolithic types. The traditional focus for Neolithic sites in the peak is the Limestone plateau with its free-draining loessic soils (c.f. Hawke-Smith 1979: 178) but as established above, this is a function of the previous limits of excavation. Lismore Fields alerts us to the problems with Hawke-Smith’s (1979: 178) statement that the focus for Neolithic sites should be the free-draining loessic soils of the Limestone plateau. It is sited instead in the Valley bowl of the River Wye, with drainage impeded by the head. Soil properties and pollen from the buried soil beneath the linear earthwork suggests that the soil would have been thinner, wetter and more acidic in the past. Yet the almost continual use of Lismore Fields from the Later Mesolithic (documented by flintwork and pollen) suggested to Garton that this area was in some respects a favoured site for repeated ‘settlement’.

Another major advance surrounding the Lismore Fields excavations was the application of microfossil analysis to characterise flint (Brooks 1989). The method is destructive and expensive, the results, whilst more satisfactory than sourcing by eye, are ultimately inconclusive. Brooks sampled all of the primary and secondary flint sources in Northern Britain for microscopic comparison with the different types of flint found at Lismore Fields. Brooks’ work showed that the Mesolithic exploitation of flint was concentrated

⁷ Calibrated dates given to 95% probability; see Garton 1991: 19.

on the flint resources of the Irish Sea till, with the Neolithic exploitation being wider, with both Irish Sea till and eastern tills and river gravel sources used. The real value of Brooks' study for the present work is the key role he attributes to secondary sources. Chalk flint plays only a small part in the Mesolithic and Neolithic of the Peak District and it Brooks' survey of till sources is valuable in establishing exactly to what lengths people had to go to get quality flint. The continued use of flint resources from west of the Pennines in the Mesolithic and early Neolithic demonstrates a continuation of patterns of resource procurement throughout the fifth and fourth millennia BC with changes only appearing in the Later Neolithic both at Lismore Fields and elsewhere within the Peak. Garton suggests that, if flint resources were procured as part of an embedded strategy (i.e. flint was collected in the course of movements dictated by other economic and social activities with little additional cost in time or labour), its movements may reflect those of the herders of Hawke-Smith's model.

The interpretation of the Lismore Fields buildings in Garton's account is difficult to identify. She writes, "The suite of evidence from Lismore Fields suggests a domestic earlier neolithic settlement" (1991: 14) and "provides some of the most easily interpreted evidence for earlier neolithic settlement in Britain" (*ibid.* 15). However, no interpretation is offered except just that. Apparently the facts, and the notion of settlement, speak for themselves. We can only presume that we are supposed to recognise a relatively sedentary lifestyle and that the buildings are domiciles. Furthermore, the radiocarbon dates might easily lead to an interpretation of the structures as contemporaneous or that 'occupation' of the site is continuous.

This is not written, but using the term 'settlement' without further explanation is nevertheless unsatisfactory. As Thomas writes, "the cluster of presuppositions which lies behind the received wisdom on Neolithic domesticity is not innocent and needs to be resisted" (1996b: 3). Comments such as Garton's only serve to perpetuate sedentism as a marker on an evolutionary scale from 'simple' to 'complex,' the household as a unit with cross-cultural currency – and potentially, ideas of public and private, the family and divisions of labour along gender lines, as universal. All these ideas are of course products of historical discourse and even when 'equivalents' can be identified outside 'the West' articulation is contextually variable (Deetz 1977; Moore 1986: 30; Strathern 1988: 74). On the other hand, if a gradual transition to stock-rearing and small-scale horticulture can be demonstrated, then we might be able to understand these

practices as productive of different kinds of attachment to land and changing senses of time, an idea that will be developed in Chapter 7.

4.7 Moving beyond the monuments: John Barnatt

John Barnatt's work for the Peak Park Joint Planning Board centred from 1982 on a comprehensive re-assessment of the barrows of the Peak District. The Derbyshire Archaeological Advisory Committee had advised a five-year programme of research into the area to realise its research potential. The results of this survey were published in a volume that drew together the current state of knowledge (Barnatt and Collis 1996). For our purposes Barnatt established between six and eleven long barrows and between eight and sixteen chambered cairns, of which four to five contain simple 'passage graves', the remainder being termed 'closed chambers' (Barnatt and Collis 1996: see above Section 4.2.1). Barnatt suggests that the majority of these types may well have been first built in the fourth millennium BC. He urges caution regarding Hart's (1986) statement that unchambered long barrows in the Peak District should be viewed as a discrete entity of early date. In most cases there is a possibility that chambers may have existed, prior to enclosure when many sites were robbed for stone.

While some long barrows of eastern England are indeed early, in a western chambered cairn context they can be seen to be a phenomenon developed relatively late in the Earlier Neolithic, after a period when simple chambers in round mounds were the norm. (Barnatt and Collis 1996: 25)

The palimpsest site at Minninglow, where a small, circular barrow was later converted to a long barrow, supports this idea. The 'closed chambers' at Ringham Low and Long Low with their complex mound structures, suggest to Barnatt a late date in the sequence. Nevertheless, he is tempted "to conjecture that the region's 'closed chamber' tradition began before that of the local 'passage graves', the latter being a development influenced by the former (Barnatt and Collis 1996: 25). Long Low bank barrow and the great barrows at Tideslow, Pea Low, Stoney Low and Minninglow are, by analogy with sites in southern England, taken to date from the late fourth or early third millennia BC (1996: 26). Barnatt and Collis also relate that fourth millennium activity is represented beneath two later barrows. Beneath Liffs Low, a series of pits and stakeholes yielded dates of 3947-3701 BC and 3774-3529 BC, but no finds apart from a coarseware sherd were present. At Hognaston Mildenhall Ware sherds and a scatter of flints including

scrapers were present in a pit where charcoal was dated to 3937-3345 BC (Barnatt and Collis 1996: 121, 141).

Barnatt develops his ideas on the Neolithic of the Peak District in a paper entitled *Moving Beyond the Monuments* (1996). This paper attacks Hawke-Smith's and Bradley and Hart's syntheses on two bases: first, for their assumption that arable cultivation and sedentary settlement were central to Neolithic life, and second, for assuming that, because the region's monuments all occur on the limestone plateau, settlement would have concentrated here too. Still, Barnatt argues that "the region as a whole offers a significant variety of topographies each of which had a different range of viable hunting and gathering and agricultural options that could be sensibly exploited" (1996: 46). However he seeks to change the way that inhabitation is understood, by moving down from the sorts of geographic scales at which Hawke-Smith and Myers found it acceptable to work, to those meaningful to human agency.

Having reviewed the artefactual and monumental evidence for the region, Barnatt draws on a variety of approaches, particularly Tilley's *Phenomenology* (1994; see Section 3.4) to characterise monumental construction and use. On this basis he divides the region into four zones (Barnatt 1996: 55-57) which contained complementary characteristics and resources, simplified here:

1. Shale Valleys and Lower Limestone shelves: low-lying and heavily wooded; ideally suited for 'home-bases' used for overwintering. The lower limestone shelves would have been ideal for cereal cultivation in woodland clearings, which may also have provided winter grazing. "Settlement" at the edge of the limestone outcrop had the advantage of a good water supply. The main valley bottoms (heavy soils) were best suited for woodland pannage and hunting. Barnatt imagines these as familiar areas of paths, which passed in and out of the area.
2. The higher Limestone Plateau: Thin soils, which after clearance would have been good pasture. Common lack of surface water meant that cattle would have had to be frequently moved between small meres and springs, found more commonly on the shelves below. Barnatt imagines these areas where chance and arranged meetings of different groups took place and relationships with each other and the land were established.
3. The Eastern and South-Western Gritstone Uplands: light acid brown earths in prehistory, suitable for arable cultivation or pasture. Between these areas heavy

clay soils on shale or head deposits were wooded and could have been used for hunting. Barnatt characterises this area as natural divided in a linear fashion, which enabled group identification and the establishment of tenure.

4. The High Northern and Western Gritstone Uplands: High flat expanses, probably transformed to poorly-drained moorland by the end of the Late Mesolithic. Steep-sided valleys were probably heavily wooded and suitable for hunting. Barnatt characterises this area as the “the last remaining ‘wildscape’”, the preserve of hunting or ‘other’ places for activity outside the normal, as with rites of passage.

Barnatt sets up a model of Early Neolithic life as essentially mobile for some people and less-so for others, acknowledging that, for some, settlements such as Lismore Fields may have been “permanent settlements” (1996: 57). However he stresses that this is not central to the model, underlining instead the limestone plateau as “the central area where people most commonly met . . . the theatre for manipulating social change” (1996: 57). Barnatt’s synthesis has great strengths in that it takes the landscape inhabitation and the prehistoric actor as its objects, rather than nebulous concepts of culture and society. Additionally he problematises the provenance of mortuary structures, demonstrating that the majority have been reworked, thus placing their emergence in experiential rather than abstract time. If Barnatt’s model is the most satisfying, it still works at a level of generality which begs further development, which I take as a point of departure in Chapter 6 in which I work through my own data. Particularly, in the conclusion of Chapter 7 I will return once more to the production of prehistoric time and Barnatt’s treatment of monuments which inherits certain problems from Tilley’s model.

4.8 Conclusions: the state of the evidence for the Late Mesolithic and Early Neolithic in the Peak area

By comparison with many other regions, the Peak District is fortunate to have had a tradition of strongly empirical data collection. However, a poor and partial publication record and weak interpretative bases have counteracted the value therein. All too frequently concepts such as settlement and economy have been taken as unproblematic, expressed through top down models, and understood as generally applicable within the boundaries of traditional chronological periods. ‘Mesolithic’ stone tools and pollen sequences, until recently confined to the Dark Peak, have been characterised in terms of

the simplistic economic and ecological models. 'Neolithic' ceremonial structures and 'fancy artefacts' had previously been interpreted by linking the organisation of abstract, disembodied space to societal superstructure, floating above an under-theorised economic base. Barnatt's synthesis begins to address the materiality of social life, time, and landscape inhabitation as mutually constitutive, and does so effectively in what is, after all, a short article. By a greater attention to the materiality of social life and an understanding of the prehistoric landscape as productive of experiential time I will attempt to further develop his approach in Chapter 7.

The data presented for this dissertation, introduced in Chapter 6, consist principally of stone tools and their by-products collected from the study area. Certain technical questions have already arisen from the evidence outlined in this chapter, which should be addressed. First, Radley (1968a, 1974) made assertions about changes in raw material use, sometimes supported by Hart (1981) and developed by Brooks (1989) and Garton (in prep). Whilst flint characterisation is beyond the scope of this thesis, a distinction can generally be made by eye between flint and chert. Therefore we can ask whether the changing importance of these raw materials, as posited by Radley, Hart, Brooks and Garton, is really as simple as they believe on the basis of a handful excavated sites.

Secondly, most archaeologists who write at a level beyond mere catalogue have interpreted the date of flint scatters, and the activities they represent, on the basis of retouched artefacts. If the manufacturing of certain forms of leaf-shaped arrowheads is in evidence then it is relatively safe, on the basis of comparative typology, to suggest an Early Neolithic date for the scatter. However, arrowheads in particular are prone to chance loss through use, and finished forms should therefore not be used to date scatters. Conversely polished stone axes (Figure 4.9), are often taken as evidence for on-site clearance, but given the received perception of axes as valuable objects, and given that their use is less likely to entail chance loss, we should not necessarily make this equation. On excavated sites axes are commonly found in structured depositions such as pits, and their deposition within causewayed enclosures has long been a subject of interest. Other objects such as knives, scrapers, awls and burins, may more likely represent on-site use and casual discard, in which case, we can tentatively ask what activities may have taken place on-site, at least in terms of working modes (Section 3.5.2.2). In other words, we need to consider the socially conditioned deposition of tools as part of the network of technical paths, rather than as unproblematic discard or loss.

Third, Myers, and Garton have done much to further our understanding of how flint and chert were worked over the 'Late Mesolithic' and 'Early Neolithic'. Particularly they draw attention to the manner of core reduction at 'Early Neolithic' sites. Both have commented that the knapping usually represents working of blanks for tools, or secondary working of tools, that is to say, not knapping the blanks themselves (Phillips 1983: 66; Myers 1992; Garton and Beswick 1983: 14, 30, 36; Garton in prep). Garton has commented that this may contrast with the 'Late Mesolithic' reduction of pebble flint at Lismore Fields where all stages of the reduction sequence are represented (Garton in prep: clusters T and N only). However, these operations are also parts of wider chains and networks extending across the landscape. The 'Mesolithic-Neolithic transition', as traditionally understood, is practically invisible on the evidence of stone tools. Blade-working traditions appear to continue much the same from the fifth to fourth millennium. Microlith manufacture appears to continue relatively late in the Pennine Chain (Spikins 1998; see Section 5.2), contemporary with the use of post buildings (Garton 1991) and long cairns (Creswell Heritage Trust 1999). According to traditional typology, artefacts such as pottery, polished stone axes and leaf shaped arrowheads were not adopted until some time later. Cereal cultivation seems to have been initiated in the early fifth millennium BC (Wiltshire and Edwards 1993), although molar dental wear patterns from mortuary deposits a thousand and more years later (Chamberlain 2000; Emery 1962) suggest diets based on coarse fibrous plant material 'typical' of 'hunter-gatherers'.

Therefore it seems fatuous in the extreme to posit a sudden, wholesale transformation in prehistoric ideas, lifestyles and materials when chronological resolution is generally so poor and, where it is more fine, contradicts normative expectations. On the other hand, researchers from Radley onwards have recognised the re-use of certain locales over the seventh to fourth millennia. Through time, certain areas became less frequently or intensively used, and others more so. This has long been apparent with respect to the apparent shift of focus between the Dark and White Peaks across the Mesolithic-Neolithic transition, an understanding shown to be simplistic in this chapter. But aside from this more crude division between high moors, plateau and valleys, there are more intimate histories of landscape inhabitation to be identified, on a smaller scale, in localities, such as, dales or shelves within individual drainage basins. Inquiry should be made into how the manner of their everyday occupation persists or shifts from the early-mid Holocene through to the time when mortuary structures were in use. Interpreting

assemblages in terms of the potentials and constraints of distinctive landscape settings may help us to understand continuity in the way people worked at particular places in terms of their carrying forward forms of inhabitation. As identified in Chapter 3, any methodology for data collection and recording must be grounded in the materiality of the artefacts and inhabited landscapes. That is to say, it must enable their interpretation in terms of how their position in physical and social spaces and sequences provided potentialities and prescriptions for social life. To this end, a critical methodology is required, which can record the archaeological material and landscape contexts in a manner commensurable with other surveyed regions. It must also address material collected and recorded under previous paradigms, without neglecting the constitution of social life. It is to the formulation of such a methodology that the next chapter turns.

Chapter 5

Analysis and collection methodologies

5.1 Introduction

Throughout this dissertation, I have stressed that it is through materiality that we approach an understanding of prehistoric social life. For reasons outlined in Chapter 3, I believe the most effective metaphors by which we can apprehend the observable traces of prehistoric practice are those which stress its relationality: the operation, the chain and the network. But, as I have repeatedly stated, there is no unmediated access to the projects of actors, which constituted that existence, only interpretative acts by archaeologists that recursively draw on explanatory frameworks. These frameworks only *represent* reality, and are developing processes of our engagement with the material residues to be explained. They seek to make the unfamiliar comprehensible in terms of what we believe we already know, by analogy.

As discussed in the preceding chapter a failure to situate the practices of prehistoric actors in the historical conditions that enabled and constrained them has resulted in the imposition of unsuitable models from ethnological and other archaeological contexts on to accounts of the Peak District. Particularly a series of questions have arisen concerning the structuring character of raw material conditions, and the degree of continuity and change we can identify in technological traditions over the fifth and fourth millennia. It is the purpose of this chapter to set up an analytical framework in which these problems may be addressed and in which the uniqueness of this area in prehistory can be brought out. Two inter-related traditions of archaeological practice will be foregrounded: the analysis of lithic material from the study period, and the process of its retrieval and characterisation at a landscape scale. The first part of the chapter (Sections 5.2, 5.3 and 5.4) looks at the traditional associations of the various type-fossils of the study-period, and moves on to examine how recent trends in lithic analysis have enhanced our understanding of the development of technical traditions. The second part of the chapter (Sections 5.5 and 5.6) reviews current trends in survey techniques and ends with a brief discussion of the methodology used in Chapter 6 to generate data for the present work.

5.2 Stone tool typo-chronology

Taxonomic approaches of early prehistorians remain important to the way archaeologists categorise stone tools in terms of chronology. Recent literature on lithic analysis (Healy 1994; Schofield 1994; Brown 1995) is salutary with respect to the interpretative shortcomings of lithic taxonomy. These warnings are heeded here and are reviewed in Section 5.4. Nevertheless, where radiocarbon dates are unavailable, typological sequences, produced by culture-historians between thirty and one hundred years ago, still serve to situate material temporally. This is now our starting point, rather than an end in itself.

Clark's (1934) typology remains influential in the analysis of Mesolithic stone tools, although various authors have considerably updated it over the last few decades. Sites dated by typology in Britain are now assigned to one of two phases, the 'Early' Mesolithic or the 'Late' Mesolithic. Assemblages dating from the Late Mesolithic are distinctive in containing much smaller microliths than those of the Early Mesolithic. Other distinctions in raw material use and in other characteristic types of artefacts between the two phases, such as scrapers or blades, often vary regionally, and are discussed in detail by both Roger Jacobi (1976) and Andrew Myers (1986). Additional artefacts, which are typical of Late Mesolithic sites, include microburins and burins, although the latter are not diagnostic.

Switsur and Jacobi (1979) developed and radiocarbon-dated the components of Clark's microlithic typology. This exercise enabled them to divide the Mesolithic into two periods. Broad blade (formerly 'Magelmosian') forms were dated to the Early Mesolithic (8500-6700 BC/pollen zones IV to VIa). Narrow blade (formerly 'Sauveterrian') forms were dated to the Late Mesolithic (6800-3500 BC/pollen zones VIa to VIIa). The earliest Mesolithic sites characterised by microliths is now Star Carr (at 9600-8629 BC; Day and Mellars 1994) and the latest (March Hill Trench B, at 4217-3943 BC; Spikins 1998). The latter date is broadly contemporary with radiocarbon dates from midlands 'Neolithic' sites such as Lismore Fields and Whitwell long cairn, Derbyshire (Garton 1991; Cresswell Heritage Trust 1999) as well as Briar Hill causewayed enclosure, Northamptonshire (Bamford 1985).

In the North of England, the most obvious signifier of Early Neolithic activity, in the absence of radiocarbon dates, is the presence of Grimston Ware, the plain pottery named after Hanging Grimston barrow, North Yorkshire. "Grimston Ware was used by

Piggott (1954: 75, 114) to define one of the regional ceramic groups of “Windmill Hill Culture. In the North of England, Grimston Ware sites are known as early as 4035-3644 BC (Seamer Moor: Manby 1967; Herne 1988) and is considered to have “degenerated” into other types by the opening of the Late Neolithic (about 2500 BC). Therefore there is some overlap with Middle Neolithic Peterborough forms, which appear around 3100 BC, although Herne (1988) suggests that shouldered types, rather than the early carinated types, dominate from this time.

In terms of lithic ‘type fossils’, Grimston Ware has a number of associations. Leaf-shaped arrowheads of the round-based variety have been directly associated with Grimston Ware at a many sites, but are also known on Peterborough Ware sites in the Peak District (Harborough and Ravenscliffe Caves). Green suggests at least three contexts in the Peak area which suggest the “survival of leaf-shaped arrowheads into the Bronze Age” (1980: 94). While these examples could be passed off as the products of residual deposition or prehistoric “curation”, they also demand wariness towards the simplistic use of leaf arrowheads as chronological indicators. Other artefacts associated with Grimston Ware contexts offer, similarly, little support. Laurel-leaf points and curved flint sickles are also associated with Early Neolithic activity, but both are extremely rare in the study area. Other artefacts typical of Early Neolithic sites include serrated flakes, end scrapers, knives (but neither polished nor with invasive flaking) microdenticulates and polished axes, but all are known from other chronological contexts.

Therefore the presence of diagnostic artefacts makes seventh to fifth millennium activity relatively easy to identify. However, in the absence of pottery, fourth millennium activity is virtually impossible to identify by finished artefacts alone. Recent perspectives have, however, identified trends in the by-products of flint working which may help to distinguish Early from Late Neolithic craft.

5.3 Traditions of working

5.3.1 Core Reduction and Waste typology

Waste products, and their metrical analysis, also provide a chronologically sensitive indicator of the inhabitation or use of particular areas ‘across’ time (Ford 1987a). The use of length/breadth ratios of intact unretouched flakes shows a trend towards broader flakes through time, from the fine blade technology of the Mesolithic to the relatively

crude, squat flakes of the Bronze Age (Pitts and Jacobi 1979). Cores are the by-products of flake manufacture; therefore the shapes of their flake scars reflect the shapes of the flakes produced. Received wisdom is that an assemblage with high numbers of blades should produce high numbers of blade cores. Clark *et al.*'s (1960) core typology suggests that low numbers of platforms on cores are more representative of earlier periods, although this is far from clear on many well-excavated sites (Ford 1987a: 70). The number of platforms recorded inevitably reflects the final state of the core and ignores deliberate rejuvenation and accidental removal of platforms. Analysis of a fourth millennium BC surface assemblage from Honey Hill, Cambridgeshire, illustrated that most of the cores had been worked until further flaking was impossible. Additionally the blades found on-site were significantly longer than the cores, suggesting that many were used and/or deposited elsewhere (Hind 1995). In a reductive technology such as flint knapping the last stages of working do not always reflect what went before.

Mesolithic cores were typically prepared for the removal of bladelets, with either a single or opposed double platform. Removals are dominated by bladelets, often detached with a soft hammer, with small, frequently abraded butts. Other debitage typically includes core rejuvenation flakes and crested bladelets, both of which indicate careful preparation and maintenance of the core. Narrow flakes are much more likely, than robust, broad flakes, to have been broken during use or post-depositional disturbance. However in the Late Mesolithic they were also deliberately broken to provide segments for composite tools. The micro-burin technique was a method of truncating blades to make geometric microliths. The technique required first weakening the blade by marginal notching and then breaking it at the notch. The by-products were the distinctive micro-burin and an obliquely snapped blade. Many Mesolithic sites have relatively few cortical pieces which suggests that the material is transported to the sites in a roughed-out form or that they are achieving more flakes per nodule than in later periods. Mesolithic sites have very high values of blade cores (exceeding 67%) which always exhibit more than 15% blade scars (Ford 1987).

Early Neolithic cores were prepared for blade or flake removal (or both), narrow flakes being common but not exclusive, and may have been struck with hard or soft hammers. Again, butts are frequently abraded and crested blades/flakes as well as core rejuvenation flakes continue to occur (Bradley and Holgate 1984). Crested flakes, which are not blades, often show evidence of blade production technology. Early Neolithic

sites have almost exclusively more blade cores than later sites. Early Neolithic 'domestic sites' are distinct from contemporary quarry sites as well as later sites in terms of the number of blade scars found on cores (Ford 1987).

In general Ford (*ibid.*) noticed a trend away from 'bladedness' for intact flakes, even from the Mesolithic to the Early Neolithic (although this is less marked at quarry sites). There is a slight trend towards thicker flakes through time (Ford *et al.* 1984) and also at quarry sites (quality of stone being equal). There are less broken blades on Late Neolithic/Early Bronze Age sites than on Mesolithic/Early Neolithic sites. However there is considerable overlap in this factor between Mesolithic and Early Neolithic assemblages. When broken and intact flakes are combined Mesolithic sites remain distinct, having more than 36% bladed pieces. There seems to be a rough division at between Early Neolithic and later periods the former having more than 10% bladed pieces.

Edmonds (1987) suggested that scarcity and the variable quality of raw materials tended to result in maintenance or recycling strategies and influence the character of cores. In general, procurement, production and distribution were rarely uniform over time and space, and analytical dichotomies such as curation and expediency, or simple and specialised should not be seen as mutually exclusive. He identified broad links between raw material use and changing subsistence/settlement practices, discussing them in terms of how communities offset energy/information costs against benefits, and how they cope with subsistence-associated risk. He suggests that a narrow range of tools and the careful use of cores in both periods indicates a technology fitted to a mobile lifestyle rather than one involving stable settlement foci. During the Late Mesolithic, portability, flexibility and efficiency were at a premium. Assemblages appear standardised and there is a high level of investment in production, suggesting stress upon efficiency in the context of use. During the Early Neolithic, however he suggests that the degree of risk has been reduced or the character of the risk has changed. This time sees an increase in the scale of lithic resource exploitation and less standardised assemblages (which generally exhibit less control or care in the efficiency of raw material use). Reduction in the level of investment in many aspects of lithic technology suggests to him that many tools no longer directly contributed to risk reduction through the prevention of loss.

However, he acknowledges that many facets of Early Neolithic flint working¹ suggest portability and flexibility in the use and that access to raw materials is still an important factor.

In summary, assemblages throughout the seventh to fourth millennia were generally characterised by the careful preparation of cores, which were often rejuvenated so as to make maximum use of the stone. Blades were carefully removed, and often retouched or serrated for use as tools and assemblages could be put to a variety of uses as tools are frequently non-specific and flexible. While Ford and Edmonds note some qualitative trends towards less standardised assemblages and more expedient use of stone there is no major change in basic craft techniques until somewhat later. These arguments provide a valuable service in alerting us to continuity as well as change in the fifth and fourth millennia, and the two traditions can now be seen as a series of gradual developments around a number of basic techniques. While some aspects of their accounts seem rather deterministic today, they nevertheless allow successive technical operations to be understood in terms of their places in networks of physical and social transformations (see Section 3.5.2.1).

However, Ford's analyses are based on assemblages from South Oxfordshire and East Berkshire, which are relatively flint-rich areas. Section 3.5.4.2 discussed the practice of procurement itself as socially informed, with availability constrained through social control over access and production. Without proposing any simple economic or environmental determinism, it could be suggested that people living in an area several days walk from the nearest flint sources might have had a different attitude towards raw material and technology more generally. With this in mind, the next section examines the availability, range and quality of raw materials in the study area, with a view to modifying our expectations of traditional core and waste typologies.

5.3.2 Raw Material Conditions

The 1960's saw a growing interest in how prehistoric groups exploited raw materials differentially in a variety of ways, (Clark *et al.* 1960; Smith 1965). The variety of raw materials at a site was seen to have potential in terms of subsistence and exchange studies. Radley was the first archaeologist in the North of England to approach the

¹ The incidence of narrow flakes/blades, careful core preparation, rejuvenation techniques and a high frequency of retouched/utilised flakes.

human use of chert in prehistory (1968a). Through a subjective classification system² based on archaeological samples he distinguishes five types of chert found on archaeological sites.

1. Black. At its best, almost as good as flint. From the Wye and Manifold valleys.
2. Shiny grey. Translucent enough to be called "flinty-chert" but inferior to flint. Source not known but perhaps from Upper Wharfedale.
3. White. Very inferior. Found in most limestone areas. Mottled chalchedonic varieties in the Bakewell-Lathkill Dale area.
4. Brown vesicular. Characterised by numerous holes and looks like a poor quality toffee. Source unknown. Does not appear to be native to the Peaks, and presumably comes from the Central Pennines.
5. Banded brown chert. This occurs in the Yorkshire Dales as a very dense brown chert with darker bands. Sources in Nidderdale, and perhaps the Peak District; there is at least one form of brown chert on Crich Hill in a 6' bed.

Despite its subjectivity, this work remains significant. Radley looked at 29 (mostly later) Mesolithic sites in the South and Central Pennines of which chert was the primary material (over 75%) of almost half the assemblages. One point overlooked by Radley is that while extraction from primary sources (rock faces) may well have played an important part in the procurement strategies of communities, extraction from derived sources (glacial till and riverine deposits) may also have been practised (see Brooks 1989, and below).

Myers suggested, through evidence from Radley and others, a strategy of accumulation and transport of unmodified chert tablets in the Late Mesolithic. Sites such as Badger Slacks 2 (91% black chert: 43 km from Radley's proposed source on the Wye) demonstrate reduction from a whole block of chert with no previous working. His model linked this to a shift to non-migratory strategies of resource procurement to suit the exploitation of dispersed animal populations (A. Myers 1986: 374: see this volume, Section 4.5.1 and Hind 1998a for critique). The move to backed bladelet technology at this time could have been an adjustment to the variability of raw materials encountered

² "To define types from a derived sample population without defining the range of variation and occurrence present in the parent population is to risk an oversimplified classification and uncertainty as to sourcing. Thus Radley's results should be regarded as a preliminary model only until the necessary geological work has been done." Henson 1982: 92.

during the course of these frequent residential moves (*ibid*). The last point is crucial to understanding the potentials for stone working and needs development.

The chert comes in tabular and nodular forms as well as more a 'patchy' form, where the boundary of the chert body is indistinct. Occasional examples of the first two categories have conchoidal fracture properties almost identical to flint, when their silica content is high. More often chert exhibits a 'hackly' fracture (Henson 1982), which can make normal flaking difficult. On the other hand even fine-quality tablets of black chert (see plates in Hind 1998a) are suitable for only a limited range of knapping activities due to their breadth which rarely exceeds ten centimetres. One response to the geomorphological properties of chert, evident in the Radley and Henderson collections (Sheffield City Museum), is the 'handle core'. Typically the weathered surface of the chert tablet (which had interfaced with the limestone) was used as a flaking platform in the manufacture of blades and bladelets. These removals, detached primarily from the front section of the core, do not extend onto the 'handle' section of the artefact (c.f. Vang Petersen 1984, 12).

This type of core reduction results in a large proportion of apparently 'tertiary' flakes in chert-working assemblages: only the butt of the flake will show 'cortication' (or traces of the weathered surface). This effectively negates the value of the Ford's *chaîne opératoire* approach, in the functional interpretation of chert assemblages. In the main, we should often expect only primary or tertiary flakes and, for this reason, the reduction sequences of assemblages detailed in Chapter 6 only take flint waste into consideration.

Other forms of knapping may have proved less efficacious upon chert. While a number of small bifacial arrowheads of third millennium BC provenance are known (Radley 1966), and a single polished chert axe (Mount Pleasant, Derbyshire: SMR 10192), bifacial flaking of chert tablets or nodules is usually prohibited either by size or quality of material. Every category of retouched artefact with the exception of scrapers and awls is considerably more common in flint than in chert (see figure 6.8), and this is especially so where 'fancy' artefacts such as knives and arrowheads are concerned.

It is likely then that a series of technological choices surrounded raw material selection, which were qualitatively different to flint-rich regions elsewhere in the UK. The first fact of stone working in the Peak District is that flint could not be extracted anywhere within thirty kilometres of the edge of the limestone plateau. Exactly where it was extracted throughout the Holocene is less certain.

A Ph.D. thesis by Ian Brooks (1989) investigated the viability of flint characterisation through microfossil analysis (see this volume, Section 4.6.3). As reported above, the method is problematic, being, as it is, destructive, expensive, and ultimately inconclusive. This said, the case study does provide a best-fit study for one of the area's most important sites, Lismore Fields. Brooks' sample of the primary and secondary flint sources in Northern Britain, and his microscopic comparison with the different types of flint found at Lismore Fields, yielded interesting results. In the Late Mesolithic, the flint at Lismore Fields is likely to have come from Irish Sea sources on the Cheshire Plain and the Upper Trent Valley. In the Early Neolithic, these sources continue in use but Wolds flint is also used.

For the purposes of the present work, the key role Brooks attributes to secondary sources is of utmost importance. First, it suggests that chalk flint played only a small part in Late Mesolithic and Neolithic stone working practices in the Peak District. Secondly the survey of till sources suggests that people were prepared to go to great lengths to obtain quality flint. The kind of characterisation Brooks was able to perform is not yet widely available, and statements on the source of raw materials are principally limited to visual assessment. Nevertheless, such examination is important as a basis (albeit shaky) for assessing the scale of prehistoric movement and social interaction.

5.3.3 Raw material procurement

The physical realities for prehistoric stone-workers on the White Peak was that flint sources in the glacial till were a number of days walk away, while chert was readily available. Traces of prehistoric activity, 'manuports,' indicate that chert went out of the area, while flint came in. Where it is commented upon in detail (and this is rarely) raw material acquisition is generally interpreted in terms of direct or embedded procurement (e.g. A. Myers 1986). However this would mean, the distance over which raw material travels would be an index of the scale of the annual subsistence round. As I have argued elsewhere, the scale of raw material dissemination in Northern England is considerably larger than even the largest ranges covered by the most mobile hunter-gatherers known to ethnography (Hind 1998a). While direct procurement is certainly an important structuring principle in recent theories of forager systems, by itself it does not necessarily account for raw material distributions. Edmonds (1987) for instance suggested that the incorporation of certain materials or objects (especially polished axes) into new or expanding spheres of use might have had more to do with the

relationships between people than between people and subsistence tasks. Interestingly, while the exchange of artefacts over long-distances is taken for granted (Bradley and Edmonds 1993), there has been little discussion of the exchange of unmodified material resources, although it is well documented in ethnography (e.g. Spielmann 1986).

This dissemination of materials may have taken place through a variety or combination of different processes indistinguishable from spatial patterning (see for example, Elliot et al. 1978; Ericson and Earle 1982). We should not expect to be able to distinguish 'down-the-line' exchange from single episodes of exchange during long journeys, and instances of both are possible within the same communities (N. Thomas 1991, Helms 1988). For people who generally inhabited the Peak District, the procurement of flint may have involved days or weeks away from their range and maybe some of their kin, as has been suggested for the use of axe factories later in prehistory (Edmonds 1995: 59-61). On the other hand chert could, in the main, be acquired on the move, within the other suites of procurement making up the 'seasonal round'. The exploitation of similar resources, then, can have greatly different social settings, which are culturally specific in their interpretation but still affect our archaeological narratives.

What may be crucial in understanding the patterns of movement of stone blocks and tools is the 'biographies' (Kopytoff 1986) they acquired through exchanges. Outside the community, exchange networks are likely to have linked neighbouring and distant groups and provided goods unavailable within one's own range. The materials exchanged and the value ascribed to them may have varied from one range to the next: materials that are mundane in one context may acquire powerful connotations in another (Section 3.5.4.2). However, exchanges of material things are not always driven by demand for those things, and exchanges will still take place when there is no simple economic need (Paton 1994: 184-5). All exchange is symbolic, but, the goal of trying to identify a particular exchange mechanism may not be a particularly useful one, as there is a multitude of different agendas that can be worked through a transaction. Therefore alongside the practices of procurement exchange fulfilled a need for workable stone where it was absent as well as binding distant communities together. When used in remote territories 'exotic' stone would have been evocative of other places and special relationships through which it was acquired.

5.4 Site typology

In addition to the characterisation of artefacts, there have been some attempts to characterise excavated sites in terms of their date and function. Both usually rest on the relative quantities of particular retouched tools, although in recent years there have been some attempts to broaden this approach to include waste analysis and recognition of landscape situation. However, by and large, Mesolithic sites are still typically sorted into simplistic functional categories based on finished artefacts (Sections 2.4.1 and 4.5.3), while the division between ceremonial and settlement sites persists for Neolithic sites (4.6.3). The distinct approaches to the two units of Mundane Time is key to the two models of man they have come to represent in Typological time, as prosaically captured by Bradley's famous dictum concerning ecological relationships with hazelnuts (1984: 11).

5.4.1 Chronological overview

5.4.1.1 'Late Mesolithic' sites

Aside from questions pertaining to style and social boundaries (Section 2.5.1), Mesolithic stone tool analysis has generally focused on the distinctions between upland and lowland sites through comparisons of selected artefact assemblages (Section 2.4.1). Mellars (1976b) identified a prominent division between large lowland sites either with 'balanced' assemblages (type B sites) or assemblages dominated by scrapers (type C sites), and small upland sites dominated by microliths (typically seen as hunting implements) (type A assemblages). As microliths are usually interpreted as the 'barbs' for arrows used in hunting, and scrapers as used in 'domestic' activity, he interpreted the former as base camps and the latter as hunting camps following Clark's (1972) model. The stress on the 'small' size of recorded upland sites (Mellars 1976b; A. Myers 1986; 1987) is problematic as upland excavations tend to be 'incomplete', in the sense that artefact distributions continue beyond the area excavated (Stonehouse 1990: 62; Spikins 1994). Excavations from many Pennine sites may also be less than representative because prior to excavation they have been extensively 'scoured' by collectors. The analysis of surface collections is often skewed as some collectors only pick up certain artefacts, making site typology problematic. Nevertheless the idea of a functional contrast between upland and lowland sites has remained an important

element in Mesolithic archaeology since Mellars' article. Simmons summarises the interpretation of the retouched tool component on sites:

“ . . . where only microliths are found, most workers have assumed that they are examining a 'hunting camp'... by contrast, where the microlith: scraper ratio is more nearly equal then a longer period of settlement with other economic and purely social activities is postulated” (1979: 112-113).

The lowland/winter settlement vs. upland/summer hunting camp model sets up a number of interesting ideas, which should not be dismissed out of hand. Nevertheless it has considerable problems. Firstly, while it is clearly derived from ethnographic studies of twentieth century hunter-gatherer organisation (Price 1973; Binford 1978), its binary simplicity bears little resemblance to the diversity of site types emphasised by those models (q.v. Spikins 1998). Secondly it is predicated on an idea of the uplands as marginal to the rest of the landscape. This is a likely proposition at any time for the very high gritstone plateaux of Kinder and Bleaklow, but the shoulders of the Pennines are likely to still have been forested to some extent at least to the end of the fifth millennium BC (Section 4.3.2). The East Moors of the Peak District also saw considerable quantities of microlith manufacture, but this area too was still largely forested (Hicks 1971, 1972). Therefore many upland areas may have offered qualitatively similar resources to those in the lowlands, but this is difficult to establish given the quantity of lowland sites which have been excavated in the north of England.

This prefigures the final point: the role that hunting had for seventh to fifth millennium communities. On the one hand, the idea that hunting should be an activity that takes place on 'the margins' could be characterised as typical of people who get their living through agricultural practice. On the other hand, the association of red-deer hunting with microliths may have been rather overstated. D.L. Clarke suggested that microliths might have performed other functions as plant processing equipment (1976: 453-456). Healy *et al.* (1992: 58) too suggest that although the assemblage at Thatcham is dominated by microliths, use wear evidence suggests that activities may have concentrated on the exploitation of vegetable resources. Detailed excavation of a series of Late Mesolithic sites in the Central Pennines (Spikins 1994; 1995b; 1996a) link microlith-dominated assemblages to a variety of different activities through differences in hearth construction.

In other words functional interpretations of sites on the basis of assemblage composition fail because, except in cases of exceptional preservation or where use-wear analysis is

performed, there are a range of working modes in which microliths may be employed. Even when these can be established the *function* of the artefact (*sensu strictu*) may only be hypothesised through an interpretation of the artefactual context by analogy with other instances of that working mode in similar physical and social spaces see (Section 3.5.2.2).

5.4.1.2 'Early Neolithic' sites

The Northern British evidence for the Early Neolithic is less strong due to the dearth of excavated sites and it is customary to draw parallels with the South of England. There, scatters of material which are attributable to the period 4000-3100 BC tend to be discrete and generally located on light upland soils (Gardiner 1984; Richards 1984; 1990; Holgate 1988a). Edmonds suggests such patterns arose from a pattern in which particular locations were of significance within a regular and repetitive cycle of movement. "Some of these locations may have been horticultural plots, or year-round settlements where some members of a community awaited the return of others. But they might equally have been seasonal campsites, or the meeting-places of dispersed populations" (1987, 169). In this sense, the scattered concentrations of earlier Neolithic chipped stone artefacts are complementary to the dispersed ceremonial monuments of the period (Barrett 1994, 136).

Given what has been said on the diversity of structuring (but not determining) raw material conditions (Section 5.3), and more generally about supra-regional, totalising approaches to 'grand periods' (Chapter 2), there is no reason why any of these ideas should necessarily be applicable to contemporaneous Peak District communities. Clearly, there are some similarities in the artefactual repertoire (Section 5.2) although, as stated earlier (Sections 4.1, 4.8), not in terms of the chronological coherence posited for other areas. While traditions of stone working appear to be widespread and synchronically coherent, it is as important to remember that skills are socially reproduced in varying specific contexts of local communities who tend to organise their work broadly along the same lines as their predecessors (Section 3.5.3).

With this in mind, we should be suspicious of any account positing a sudden emergence of 'ceremonial' life in the fourth millennium. In the Peak District, as we shall see a number of mortuary structures are on or near the sites of substantial pre-fourth millennium artefactual records (Section 6.1.4), as are other similar sites in the North of England (Manby 1976; Vyner 1984). The activities that constitute a place may change

radically over time, but this in itself is not reason enough to deny pre-fourth millennium communities the kind of historical and political attachment to land we assume informs the use of mortuary structures. Heeding the warnings given in Section 3.5.4 and 4.6.3, we should eschew any division between the sacred and profane, the domestic and ceremonial, and understand the meanings of inhabited spaces as materialising through people's occupancy and practical experience of those places (Barrett 1988b: 31).

5.4.2 Site Functions

Various authors warn against regarding the dots on lithic distribution maps as settlement 'sites'. Lithic scatters result from the reduction of cores and the use and discard of stone tools, rather than necessarily from the continuous occupation of a location (Edmonds 1995, 35). As with artefacts (Section 3.5.2), we can describe the workings which took place on a site, but the interpretation of site functions is achieved only by interpretative intervention through reference to context and analogy, which situates activities within socio-physical space.

Here we begin to see the shortcomings in Ford's (1987a) study, described above. Ford examined well-dated (principally excavated) contexts to characterise assemblage composition as a coarse measure of function and date. He distinguished quarry sites, special function sites and ordinary domestic sites on the basis of debitage attributes. He assigned unmodified flakes to functional classes as certain pieces lend themselves to certain tasks. On the basis of microwear and flake morphology studies he suggested they might fall into the categories of manufacturing debitage, cutting flakes, awls/borers, or an 'unknown' category. Ford was mainly successful in distinguishing quarry sites from sites with other functions. For example, quarry sites of any period have fewer blades than domestic sites. Early Neolithic quarries, as might be expected, have more cortical flakes than domestic sites and, in general, more waste than domestic sites.

Ford, like many others, presumes that categories such as 'domestic' are self-explanatory in terms of function, and that there is a stable association between certain artefact types and certain forms of inhabitation. As we have seen, the artefactual repertoire, at least until the third millennium was flexible and a limited range of forms may have been implicated in a wide variety of tasks. Specific activities are not necessarily coincidental with other tasks and it is likely that different elements of a community may have been engaged in different tasks or pursuits in different locations at different times of the year

(Edmonds 1999a). Equally, there is no reason why the area where one sleeps or cooks should be the area where one manufactures or uses tools. In Ingold's (1993) terms, the procurement, working, use and subsequent discard of stone represents the taskscape's only 'rhythm' now visible to us. It is important that the variable survival of material traces does not cause us to forget that these activities were performed *with respect to* other activities, which must be brought to light to avoid presenting the working and use of stone in isolation and as representative of settlement. Lithic distribution patterns therefore should not represent the fixed locations of communities, their resources, or even their movements as bounded entities, and need to be interpreted against other categories of evidence when addressing prehistoric landscape inhabitation. What they represent first and foremost, and what we can observe, is the persistence of technical practices.

Another problem with site typology is the identification of re-use over time. Frequently, dense flint scatters are assumed to be aggregation sites. That the size of any scatter can relate to the re-use of a locale rather than the size of a stable settlement, is rarely recognised apart from when type-fossils from two different epochs are identified (e.g. Garton and Beswick 1983). However, given that the smallest of these units of Mundane Time are a thousand or more years in length, there is often the possibility that an assemblage represents more than one episode of working. If dense concentrations of struck lithics may relate to the repeated, episodic use of a place, their presence in a given area of the landscape is not 'evidence' that it was 'settled', but that it formed part of a group's range for a variety of tasks.

By way of conclusion, it is worth stopping to reflect upon what scatters represent in terms of the labour of people. I will take as an example the prolific assemblage at Hurst Fen (Clark *et al.* 1960), where 14500 unmodified flakes were retrieved from an area of about 325 m². Let us imagine for a moment that a flint knapper produces a mean five flakes per minute between stopping to consider the progress of core reduction and to chat to her five companions who are also knapping. At a rate of 1800 flakes per hour the six knappers could account for one-eighth of the entire waste assemblage in just one hour-long knapping episode. Obviously such calculations are absurd, although it is sobering to recall that a single hunter-gatherer band of some 25 individuals might discard as many as 163 000 artefacts within their annual territory over twelve months (Foley 1981b). With this in mind, many of the discrete sites, which we imagine to have been long-lived suddenly appear somewhat more modest: perhaps the result of a

relatively small quantity of people returning to a favoured locale for a few weeks every year over the course of a generation. At any rate there may be no need to fall back on interpretations predicated on permanent village settlement as soon as we are confronted with elevated densities of debitage.

If this is conceivable for an assemblage on the scale of Hurst Fen, then it suggests something about the scale and dispersed character of the social conditions under which lithic assemblages were produced in other areas, with less favourable raw material conditions. If we were to compare Hurst Fen with the 2000 unmodified waste pieces from Area 1, Lismore Fields (494 m²: Garton *in prep*: Table 7), the Peak District's largest seventh to fourth millennium lithic assemblage begins to look meagre by comparison. Here, too there is firm evidence that this debitage accumulated over hundreds, if not thousands of years. With this in mind, the next section examines the discursive process by which flint assemblages are transformed into 'settlement' in the minds of archaeologists.

5.4.3 Discussion: lithics in practice

In some ways lithic analysis is a conservative enterprise which has changed little over the last forty years. Andy Brown has been the most vigorous critic of the prescription that derives from Clarke's Hurst Fen report (Clarke *et al.* 1960): description of raw materials; morpho-taxonomic breakdowns of retouched pieces and cores; assessment of 'affinities' whereby dating assertions are supported by selected associations from other sites. "This format emerges from a culture-historical archaeology underpinned by the normative assumption that a particular culture shares a concept of appropriate form for and artefact type" (Brown 1995). He sees the template as constraining for four reasons:

1. the separation of lithic artefacts from other classes from the same contexts;
2. the primacy of raw materials as evidence of economic strategies of acquisition;
3. the acceptance of tool types rather than the investigation of retouch variability and
4. the unquestioning faith in the synchronism of tool forms across vast areas and the assumed validity of comparing one set of excavated lithic material with another.

Brown writes that the key to the interpretation of lithic assemblages "is their integration into *every* other aspect of evidence available from appropriate contexts" (Brown 1995, 31). He suggests using the context of deposition as the analytical unit (rather than the class of artefact) and integrating the analysis of struck stone artefacts with other

evidence in an iterative analytical process. This may seem an acceptable proposition where excavated assemblages are concerned, but can it be of relevance where the integration of surface material (upon which Brown passes no comment) is the object of analysis? Surely in the absence of secure radiocarbon dates, typochronology remains a necessary evil in the interpretation of lithics, without which they are without context? This may be true, but, as discussed above, typochronology is actually of little use for identifying fourth millennium activity episodes. Therefore Brown's demands may be prescient for the current work, but at a different scale, in terms of space and time.

Complementary in this respect may be to use what remains are available to follow Joshua Pollard (1999) in exploring the idea of 'settlement' as practice, varying widely in terms of mobility and scale. Settlement, he believes, operated within different arenas of value according to time and place, and within fluid and contingent systems of social relations and 'place relations' (*ibid.* 78). Using the evidence from excavated assemblages he explores the possibilities for a range of spatial and tenorial relationships implied by mobility: seasonal transhumance; sedentism with periodic shift of locale; and full sedentism (c.f. Whittle 1997).

Pollard argues that the repeated return to particular locales on a seasonal/episodic basis over long periods of time, not simply decades but sometimes centuries or even millennia, is a particular feature of Mesolithic occupation. By contrast tightly-defined flint scatters attributable to the Earlier Neolithic are not nearly so common. Therefore, Pollard argues that "there is little sense of such rigid long-term commitment to place *through settlement* during the Earlier Neolithic". The lithic, ceramic and faunal assemblages at Early Neolithic type-sites Pollard believes express occupation of a few years at most, or of short-term aggregation (1999: 82). Also, unlike hunter-gatherers, such communities did not repeatedly retrace their steps year-in-year-out over generations. Rather landscape occupation may have more typically involved piecemeal clearance, settlement (seasonal movement accepted), periodic shift after a few years and resettlement, described as a non-cyclical swidden process. Lismore Fields, he believes, "is indicative of more sustained commitment to a locale *through settlement*" (*ibid.*: 83) as opposed to more event-like occupation at other sites.

Pollard believes that, while there are many instances in which the basic social unit of the British Neolithic may have been the household, several excavations suggest larger aggregations for at least a period of time (1999: 85). As discussed in the last section,

this is not altogether unproblematic, but what is important, for our purposes, is the idea of the shifting composition of the technical group in relation to shifting or nested identities (Section 3.5.3). Equally important is his argument that abandonment of a settlement did not necessarily terminate a group's relationship to a place which, he suggests, was maintained through special activities such as acts of formal deposition and the construction of monuments over former occupation sites (*ibid*: 89). Once more, this is not entirely unproblematic: the notion of a 'monument' presupposes a particular form of temporality that needs to be made explicit through context and analogy, a theme to which I shall return at the end of Chapter 7. Even when such a structure is built, *inhabitation* of a locale does not cease. Rather it may be that the character of the practices which constituted the place, and the meanings evoked there by actors were shifting along with the peculiarities of social relations. Alternatively, it is possible that only a new *medium* for communal memory work emerged and that many of the tasks performed at a locale remained coherent with previous episodes.

Wary of over-generalisation, Pollard's approach offers a flexible strategy for the interpretation of remains which effectively takes us away from the settlement as unproblematic 'domestic' space, and allows for a wide variety of practice to be co-present within a regional synthesis. Although his argument rests on the interpretation of excavated assemblages, it articulates the relationship of prehistoric stone-workers to their wider surroundings and the rhythms of their interaction with each other, the landscape and their past. It also problematises the correlation of an "archaeological site" with prehistoric settlement, a theme which is important through the remainder of this chapter.

5.5 Introduction to survey methods

We have reached a position where it is no longer adequate to identify lithic scatters and assume we have some unmediated evidence for 'settlement'. On the other hand, we can identify artefacts as the product of the reworking of technical traditions, which materialise through social life. Through their situation in archaeological context and through the mediation of analogy we can suggest the potential such remains had to occupy various positions in physical and social networks of operational procedures. To actually achieve this in a region where excavated sites are rare, requires engagement with another critical tradition, that of survey.

The New Archaeology brought a methodological rigour to sampling and collection strategies employed by fieldworkers (Cherry *et al.* 1978; Shennan 1985; Haselgrove 1985). It also resulted in closer attention being paid to post-depositional effects on lithic deposits, both geomorphologic and anthropogenic, and their consequences for our interpretations (Allen 1991; Clark and Schofield 1991). Over the last thirty years a battery of field survey techniques has developed, initially to locate 'sites', but also to understand land-use as a whole. These techniques have varying applicability depending on the nature of modern land-use: each has methodological and interpretative restrictions.

A key problem is the way we conceptualise the evidence at a landscape scale of analysis. While some researchers believe the word 'site' is a useful concept (Binford 1982; Cherry 1984; Haselgrove 1985; Ford 1987b), others emphasise appreciation of a continuous but variable archaeological landscape rather than a series of individual sites (Foley 1981a; Butzer 1982; Gaffney *et al.* 1985 *Planning Policy Guidance Note 15*). In the latter view, taken in this thesis, lithics amass in the landscape over many phases of use and their compression (through accumulative and taphonomic processes) into two-dimensional distributions necessarily creates biases. Artefact densities need to be recognised as accretionary phenomena, as parts of dynamic landscapes.

5.5.1 Surface collection

Ploughing, destroys the top 30-60 cm of archaeological sites turning up and exposing artefacts and features, making identification of prehistoric activity areas possible (Haselgrove *et al.* 1985b; Mills 1985). Archaeological 'sites' have been identified by dense surface-scatters of artefacts since the last century, but their collection was not undertaken systematically for the purpose of complementing the archaeological record until the 1970s (Woodward 1978). In recent years, 'fieldwalking' has become a valuable strategy, not only for research, but also for archaeological assessment in land management. Archaeological deposits in Britain may now be protected from the plough by scheduling under the *Ancient Monuments and Archaeological Areas Act 1979* as well as by the creation of *Environmentally Sensitive Areas under Section 18 of the Agriculture Act 1986*. Agreements concerning the preservation of archaeologically sensitive areas (under the rubric of the *Agriculture Act*) may be made by MAFF through Countryside Stewardship and Arable Stewardship schemes. These measures have been applied unequally to different categories of archaeological remains, but even when

enforced have had only limited effect in halting destruction of archaeological sites. Agriculture causes 30% of piecemeal loss to archaeological monuments (Darvill and Fulton 1998).

Attempts to survey 'archaeological landscapes' (Shennan 1985; Holgate 1985; Gaffney *et al.* 1985) have raised questions concerning the preservation of archaeological remains. Various studies evaluate the effect of modern agricultural practice on archaeological deposits, including problems of artefact movement (Hinchcliffe and Schadla-Hall 1980; Haselgrove *et al.* 1985; Darvill 1987; Allen 1991; Humble 1995). Some focus on damage caused to artefacts and structures (Reynolds 1978; McAvoy 1996; McAvoy n.d.). Others focus on quantitative and methodological approaches to the above (Shennan 1985; Schofield (ed.) 1991). Such approaches have driven forward our understanding of prehistoric landscapes, but there remain problems.

5.5.1.1 Methodological problems with surface collection

There has been a growing interest in the erosional and depositional regimes in the landscape and their influence on archaeological visibility. Allen's (1991) study of the chalk downlands of southern England demonstrates the importance of establishing the pedogenetic and geomorphological history of a region. He suggests the downlands are "an anthropogenic landscape" where ongoing processes of colluviation and alluviation have obscured "one-fifth of the downland landscape previously available for occupation" (*ibid.* 51). There have been no wide-ranging published accounts of pedogenetic processes in the Peak District and so there is no way of knowing the relevance of Allen's work to the current study. As most of the sample units addressed in Chapter 6 were flat or had only gentle or moderate slopes (Table 6.1), techniques such as auguring were not employed to recognise such biases, to time and financial constraints. Slope calculations made in *Arcview* GIS for a group eight fields with dense sample populations to query whether the artefact distributions may have been affected by soil movement (Figure 6.10).

Ploughing brings up a disproportionately high percentage of large objects to the surface, because its purpose is to disintegrate large clods of earth and remove large rocks. Various experimental studies (Lewarch and O'Brien 1981; McAvoy 1996, n.d.) conclude that artefacts on the surface tend to be larger and do not well represent artefacts in the ploughzone. Artefacts already on the surface tend to move farther horizontally than in the ploughzone soil matrix. Larger artefacts will tend to be brought

to the surface, and therefore move farther than smaller ones. By the same token, high densities have no necessary relationship to *in situ* subsurface deposits, which may have been ploughed out altogether (Spikins 1995). Estimates of the percentage of artefacts represented on the surface ranges from 0.3% (Clark and Schofield 1991) to about 15% (Frink 1984). More frequently estimates fall between about 2% and 10%. However most people recognise that the recovery of hundreds of artefacts in surface survey, indicates the presence of thousands in the ploughzone (Clark and Schofield 1991: 95).

The human element makes it difficult to accurately represent what is on the surface because the skill, and eye of the collector is always variable (Clarke 1979; *cf.* Shennan 1985: 43). Clusters and brightly-coloured artefacts are more susceptible to collection. By the same token, interpretation of the locations of 'sites' would change from surface distributions will change with each season of field walking due to variations in the location of lithics collected. A representative pattern is only likely to emerge over successive years. In the Peak District some authors have referred to scatters turning on and off 'like traffic lights' with successive seasons of walking. In certain cases integrated approaches to the ploughzone have been adopted incorporating geophysical and geochemical techniques to aid the interpretation of surface scatters (Bradley 1987). Once more, time and financial constraints did not allow for such action within the current study.

5.5.1.2 Interpretative problems

There has been considerable interest in the theoretical and methodological status attached to the interpretation of lithic assemblages recovered by surface survey (Haselgrove *et al.* (eds), 1985; Brown and Edmonds (eds), 1987; Schofield (ed.) 1991, 1995). The directors of surveys were continually frustrated with the apparent interpretative limits of field survey. Without ancillary excavation, surveys cannot offer well-stratified lithic sequences for full comparative assessment and fine chronological resolution (Woodward 1991: 19; Gardiner and Shennan 1985: 68). It seems that were it methodologically possible to uncover the real '*lithic landscape*' of the type modelled by Foley (1981a, 1981b), there would still remain serious interpretative problems.

For instance Shennan (1985) suggested that "the locations with abnormally large retouch proportions were most likely to represent places where maintenance activities were carried out and tools ultimately discarded: . . . settlement in other words". On the other hand, ethnographic work suggests that cultural practice in lithic discard patterns

can vary enormously (Schofield 1991a: 4), indeed “refuse location [is sometimes] a reliable indicator of where activities were *not* carried out” (Schofield 1991b: 117; original emphasis). Foley (1981b) noted an inverse relationship between tool function and discard location.” Therefore we have only limited interpretative control over the processes by which lithics reach the analyst, as artefacts enter the soil through deliberate deposition, accidental loss or refuse disposal (Haselgrove 1985). The latter might include ‘on-site’ primary disposal (e.g. middening) or ‘off-site’ secondary disposal (e.g. manuring). Only a limited proportion of this material enters the ploughzone depending upon the nature of its initial deposition as well as post-depositional factors (the amount of soil build-up since deposition, the depth of ploughing, and the durability of the material).

Therefore survey can give a misguided impression of what is in the ploughzone (Richards 1985). Excavation work on flint scatter sites (e.g. Garton and Beswick 1983) has suggested that subsurface features are not common, or are absent in certain periods relative to others. Frances Healy (1987) demonstrates the significance of initial deposition in her discussion of Earlier Neolithic material buried in pits below the ploughzone. Such repeated cultural practice has rendered Early Neolithic material absent from surface collections but dominant in terms of sub-surface features limiting our ability to identify such activity by fieldwalking. This is not to dismiss the importance of fieldwalking.

One might conclude that excavation could establish a connection between surface scatters and underlying subsurface features, but excavation is not a universal panacea. Even “when earth bound features date to the same general period as artefacts in the ploughsoil, many of the latter may derive from accumulations on top of, or in old ground surfaces, and not from the primary subsoil contexts at all” (Haselgrove 1985: 16). Much of our data is already in the topsoil (Garton 1991: 9) meaning that surface scatters represent partially destroyed contexts, where excavation would be less valuable than usual. This establishes the importance of fieldwalking projects, but it demands “an inferential methodology specifically tailored to the nature of [the] material and its peculiar problems (Haselgrove 1985: 14).

Thus Millett (1985) suggests a need to ‘calibrate’ local fieldwalking assemblages by assessing our expectations in various circumstances. To this end, Clark and Schofield (1991: 104) advocate the implementation of regionally specific ploughzone experiments

designed to gauge the effects of post-depositional factors upon artefact patterning in local soils. Against a comparison of fieldwalking and excavated assemblages from the specific region such work could establish local chronological trends relative to diagnostic tools, waste and the character of particular types of scatter. They also observe that “. . . variations in surface density are considered more representative of *scale* than of the *type* of activity, a more reliable measure being the composition of flint collections” (*ibid.* 93; original emphasis). There is a tendency to conceive of high-density scatters (representing specific activities) in contrast to ‘background noise’ across the wider landscape of the distribution map. However what constitutes a ‘site’ or ‘background noise’, as well as the identification of distinct archaeologically relevant scatters is methodologically problematic, and likely to be specific to the regional context as well as the character of the individual locale.

In flint-rich areas struck flint is widely distributed throughout the landscape and dense clusters (equated with sites) were not easy to define, high densities occurring over 10 hectares (or more). For instance, fieldwalking by Stonehenge Environs Project at Well House (Richards 1990: 22, Table 7) produced densities of more than ten thousand worked flints per hectare. Excluding exceptional circumstances we now usually understand such scatters as palimpsests, and the product of special types of inhabitation involving the gathering of vast numbers of people to a locale over millennia. Raw material availability could not have *determined* the working modes of stone modification or our typologies would become meaningless between regions. However there is no doubt that flint-rich contexts generally provided conditions where a profligate working could be practised without the risk of scarcity, if these were valid concerns. Gaffney and Tingle (1989: 41, Table 5.7) recorded an average of about 25 finds per hectare in the chalk and clay-with-flints areas they surveyed on the Berkshire Downs. By contrast in flint poor-areas, densities are so low that a ‘site’ can be represented by as little as four or five pieces per hectare, a situation which could be easily confused with random variation in density or collection variability (Ford 1987b: 101). For example Shennan’s calculations for the East Hampshire Survey (1985: 50, Table 5.1) indicated an average density for the study area of about eight finds per hectare. Many of Shennan’s ‘sites’ would be considered background noise in other regions. If the densities of stone typical of chalk areas are not present in flint-free areas, this cannot be linked in any simple sense to less complex social conditions or smaller populations as strategies can develop for accessing such resources (Section 3.5.4). On

the other hand we will alerted that such strategies were necessary for stone working populations and a structuring principle of their social life.

Analysts such as Ford suggest that the confidence we can attach to the interpretation of lithic assemblages is proportional to the quantity of time and the degree of sophistication we can bring to their analysis. While 99% of all prehistoric artefacts recovered are struck flints, implements constitute about 3% of a lithic scatter and diagnostic artefacts less than 1% (Ford 1987b, 102). Therefore Ford implemented a four-stage methodology for analysis of surface scatter material. Firstly he developed a chronological scheme using stratified, dated assemblages (Ford 1987a). Secondly he developed and applied methods of spatial analysis. Thirdly an approach to settlement studies was used which considered the individual artefacts and not the site as the basic unit of study, a viewpoint developed in the late 1970's. From here, a general view of land-use and settlement was obtained by considering the distribution of diagnostic artefacts alone. A higher level of analysis groups individual finds into clusters, on which a 'site'-based interpretation could be made.

As I have suggested, 'settlement' is not an observable phenomenon, rather it is a label with certain metaphoric associations concerning (the lack of) mobility, and certain domestic tasks. While the chronological aspects of Ford's studies are of great, if heuristic value, the functional labels he works with are informed by numerous common-sense assumptions of the kind Sigaut warns us about (see Section 3.5.2). 'Background noise' is not to be filtered out, as some would suggest, rather it informs us of more fluid patterns of landscape use over time. As the social world changed, so too did the way work was organised, and the character of background noise is unlikely to have been constant, but subject to change in accordance with other aspects of social life. Therefore stone working at any scale should be of interest to us, although the kinds of statements it is possible to make will differ with the intensity of the episode.

The status of surface scatters will always be insecure in the minds of some theorists. Artefacts in the ploughzone are often held to be incomparable or inferior data to that from excavated sites. Worse, because of varying methodologies, the results of different surveys are often deemed incomparable amongst themselves. Because of this, Schofield (1995b) suggests a range of recording methods, which allow reliable comparison of regional assemblages. Many of these have been implemented in the data presented in

the next chapter, for which the collection and recording methodologies are detailed below (Section 5.6).

5.5.2 Test-pitting

Test-pitting was developed as a means of detecting sites over large areas where difficult landscape conditions prevent surface survey (Lightfoot 1988). Such techniques have been used in the Peak District since the early 1980's when Robin Torrence modified techniques used in America to explore the landscape around Roystone Grange. Since then a number of commercially driven test-pit surveys have been used as a method of evaluating areas under pasture with known prehistoric sites (Garton and Kennett 1994; Guilbert et al. 1997, Guilbert and Challis 1998). The approach of these projects is to systematically place metre-square pits at ten metre intervals within defined grids, generally within small areas. By contrast, research-based surveys, for instance at Gardom's Edge, Baslow (Barnatt, Bevan and Edmonds 1997) have been implemented at a larger scale, in order to assess general patterning within and between later prehistoric field systems. Additionally, profiles from the test pits are used to assess the character of the soils and the effects that geomorphological and anthropological processes have had on the area.

British test-pitting surveys, whether research or commercially driven suffer from a lack of explicit methodology concerning the interpretation of the lithic assemblages they uncover. They serve to locate clusters of worked stone over tracts of pastoral landscape, but there are problems with their interpretation. As in fieldwalking, test pit data is subject to the same problems of regional 'calibration'. The main problem however concerns our expectations of the method itself and the resulting ways in which results tend to be read.

Plots of results are easy to misread, often giving the illusion of a continuous distribution pattern across the grid. Thus they are capable of providing inflated estimates of large 'sites' and under-representing smaller ones (Nance 1979). There is no way of knowing what is buried in the areas between the excavated sample points, or how the material from the pits relates to what is present or absent from the area. It is possible that test pits at this scale may be placed in blank areas within a large cluster; Lightfoot (1988) suggests that up to forty percent of test 'units' placed over known sites may not produce any artefactual material. Conversely, a density of material from a single test pit could be the result of chance loss or discard, and not part of a wider pattern.

The wealth of American statistical literature (e.g. Krakker *et al*; 1983, Kintigh 1988) on the subject of test pitting can be broadly summarised thus: the larger the proportions of the test pit, and the closer the spacing between pits, the more 'sites' of different sizes would be located. More useful is Shott's observation:

"The chief problem with shovel testing in regional survey is not the method's inadequacy in any methodological sense, but the lack of congruence between what it is used for and what it can do. It is a perfectly valid technique for the estimation of parameters, such as the density of cultural material across a region, but it is poorly suited to the 'discovery' of sites" (Shott 1985: 466)

Shott highlights an issue already touched on in this section, the unthinking conversion of densities into sites. Test pitting was developed in America as a 'site detection method', so when a concentration is ascertained to depart from 'background' levels, it is open to interpretative abuse. This returns us to the point at which this section started: the problems of the landscape scale of analysis.

5.5.3 Summary

The concept of off-site archaeology was a challenge to the assumed equivalence between flint scatters and settlement sites. Foley argued for a conception of the archaeological record as "spatially continuous" such that "its structure may be described in terms of variable artefact density across a landscape" (1981a: 2). He further suggests that that the persistent repetition of events across a landscape results in the continual reiteration of the "regional archaeological structure . . . leaving a richer but less resolved pattern" (*ibid*: 8). This surely finds resonance in Ingold's statement that "landscape must be understood as a taskscape in its embodied form: a pattern of activities collapsed in an array of features" (Ingold 1993). We should view the landscape as a social expression, by ensuring that material evidence is made to speak to social questions (Head 1993, 492). With respect to Schofield's concerns, regarding the integration of survey data with the excavated corpus of a region, Foley is once more instructive:

"If . . . most archaeological data relate not to short term specific events but to the accumulated residue of long periods of time, then that too must be the scale of analysis. . . . accurate and highly resolved data can only be obtained through intensive sampling of a few points in space . . . what is happening is that the chronological information is being 'bought' at the expense of spatial information. The alternative proposition here is that it is equally valid to obtain superior spatial

information about prehistoric adaptation at the cost of lessened chronological resolution . . . long term trends may be of greater significance to the prehistorian than the understanding of a few short events” (Foley 1981a: 9).

In other words, survey data can never offer what excavated assemblages offer us and *vice versa*, this is the reality of working at different scales of analysis. Once we recognise that it is the residue of practice that we observe and that understanding the articulation of those practices is achieved through theoretical intervention, then we are in a position to make statements about the materiality of social life and the inhabitation of prehistoric landscapes. To conclude this chapter, it remains to introduce the methodologies by which the data sets presented in Chapter 6 will be assessed.

5.6 Methodologies employed in the current work

The current work involves the analysis of material from three contexts. The first is the data from two transect surveys, the Derbyshire County Council transect mentioned in Section 4.6.1 (hereafter “the DCC transect”; field numbers prefixed by DCC) and the Arteamus Peak Transect (hereafter “the Arteamus Transect”; field numbers prefixed with APT³). The second category of evidence is the lithic assemblages from Sheffield University test-pits and excavations at Roystone Grange (Section 4.6.2). The third is museum collections of which there are two, both from Sheffield City Museum (hereafter “SCM”). From the Harris Collection, the finds from Major Thomas Harris’ excavations at Shacklow and Dimin Dale were analysed. From the Henderson Collection, all the pieces from the Peak District area were analysed, with particular attention to the Upper Derwent Valley, for reasons that will become apparent.

5.6.1 Collection and analysis of surface assemblages

The current research coincided with the inception of a new Peak District fieldwalking project with which the author was fortunate to be associated. Arteamus are a group of amateur archaeologists from the Division of Adult Continuing Education at the University of Sheffield. Arteamus have walked fifty-five fields over their first five seasons, in conjunction with Willy Kitchen (University of Sheffield) and myself, who have recorded find spots by EDM, and analysed the lithic assemblages together. The

³ See Table 6.1 for the key to field locations and character.

study area and methodologies (for both collection and analysis) were inherited from the DCC transect (Barnatt *et al.* in prep.).

5.6.1.1 The study area

Barnatt and Myers set out to address significant biases in existing patterns of artefact recovery across the region by delineating a transect that ran across the limestone plateau from its western edge above Hartington to its eastern edge above Bakewell. The transect then turned across the Derwent Valley and ran across the portion of the East Moors which had seen most enclosure (and therefore ploughed fields) in historic times. The DCC transect, originally four kilometres wide, was broadened to six and a half kilometres for the Arteamus Peak Transect. Both are twenty-two kilometres in length.

The delineation of this study area allowed Barnatt and Myers to sample three topographic zones: the White Peak, the Wye/Derwent Valleys and the East Moors. More subtle topographic distinctions in relief and location are acknowledged within and between zones. The limestone of the White Peak is best conceived of as a series of higher plateau or ridge locales with lower shelves (Barnatt 1996: 55). Individual field locations must be understood in terms of their proximity to dramatic fissuring in the landscape in and around the Wye Valley and Lathkill Dale. The Wye/Derwent zone consists not only of the deeply incised shale valleys, but also of fragmentary gritstone, mudstone and limestone geologies around Bakewell. This makes for dramatic differences in relief. While the Derwent River falls to about 110 metres OD in this area, fields in the centre of this zone rise to 225 OD (Table 6.1). The East Moors zone can be divided into two areas separated by the watershed. The western half, in the Derwent catchment area, has extensive tracts of flat or gently sloping land on its various moors. The eastern half of the area sits on closely interleaved sandstone and shale benches as well as the western fringes of the coal measures. It is deeply incised by a series of eastward flowing streams, which drain into the River Rother.

There are distinctive methodological and interpretative biases inherent in sampling a largely pastoral landscape. The delineation of a transect and the time-limitations experienced by amateur field-workers, have so-far resulted in uneven coverage of different micro-landscapes. Additionally, the demands of modern agriculture and the contingent histories of enclosure dictate the units of analysis at different locations. As the National Park's conservation policy does not encourage the removal of field walls, the opportunity to walk fields in "traditional agricultural zones" (Barnatt 1996) has been

limited for both transect surveys. Some fields (APT 8, 11, 13) had not been ploughed since the 1940s.

Such uneven availability, contrasts with the situations where complex sampling and collection methodologies have developed (Cherry *et al.* 1978; Shennan 1985), and makes many of the ideas therein redundant. Thus when walkers were available total recovery was attempted, subject to field and weather conditions. This involved walking with individual team members spaced two and a half metres apart. Find spots, whenever possible, were surveyed in by Electronic Distance Measurer and individual find spots converted to National Grid References, for the reference of future workers.

5.6.1.2 Collection strategies

The DCC project walked a total of thirty-six ploughed fields over two seasons. The methodology for the majority of the fields⁴ comprised of walking lanes, with fieldwalkers spaced at 2.5 metre intervals (Barnatt *et al.* in prep: 4). This methodology was retained by the Arteamus transect, where individual find spots were, when possible, recorded by EDM and converted to national grid references⁵. In addition to the finds and their co-ordinates, the hectarage of the field, the altitude, aspect, slope, underlying geology, state of the field surface and weather conditions were recorded.

Every piece of flint was recorded (whether worked or not) as a likely manuport, the sole exception being a heavily rolled and patinated piece recovered from above Crowhole Reservoir on the East Moors (APT 55). This is one of a handful of potentially erratic flint found in the study area which may have reached its find spot by entirely geomorphological processes. By contrast all chert pieces classified as lumps and chips have been excluded from analyses, regardless of topographic zone, for two reasons. Firstly they may have been fractured in head or boulder clay deposits and transported by geomorphological processes (note that this does not apply to the material analysed from the Upper Derwent Valley). Secondly current liming practices in the area include the importation of considerable quantities of erratic chert and other burnt materials from the limestone. Such effects were particularly apparent on Eaglestone Flat (East Moors). Although it may be difficult to identify worked pieces, given the “hackly” fracture

⁴ Fields DCC 1-7 were walked by division into 10m squares with total artefact recovery attempted by two people within that space.

⁵ The DCC project had recorded finds by tape, accurate to 10cm.

properties of chert, walkers were encouraged to operate on an “if in doubt, pick it up” policy. Therefore no significant quantities of worked chert should have been missed.

5.6.1.3 Recording methodology

Detailed description of the lithic analysis parameters is offered in the Appendix⁶, but as closely as possible we have adhered to the methodology used by Myers and Garton (Barnatt *et al.* in prep). This involved classification of raw material, typology and the presence of breakage or burning for all pieces. Whole flakes were then classified by reduction sequence, length and breadth. The presence of flake or blade scars, the number of platforms and the number of scars were recorded for cores.

In addition to the methodologies set out by Barnatt, Garton and Myers, Geographical Information Systems played a role in data-handling. On a landscape scale we wanted to know what the relationship was between lithic scatters and slope, aspect, view, distance from water sources, and the relationship to geology. The role of GIS then, was to assist integration of the different categories of evidence and to help understand the spatial development of sample units both internally and within their wider landscape setting. Within *Arcview*, coverages were defined for several classes of data, including:

- data collected from five seasons of field walking;
- data from museum collections;
- data from South Yorkshire, Derbyshire and Staffordshire SMRs;
- monument distributions.

5.6.2 Analysis of test pit data from Roystone Grange

As this thesis is also concerned with differing scales of analysis in archaeological practice the opportunity was taken to look at test pit data from grids offering coverage of a small valley system. Test-pitting at Roystone Grange (Section 4.6.2), took place over five seasons (1982-1986), and was directed by a number of different people over this time. Sheffield University students excavated exactly eleven hundred pits from five areas defined by grids taking in specific zones across the Roystone landscape. The primary archive is patchy in character and survival, and the data has never been drawn together and interpreted until 1998 when an MA student, Helen Evans, and myself

⁶ Introduction to the recording system.

analysed it together as a training exercise. The retrieval methodology is outlined in Chapter 6, and the collection was interpreted in line with methods used by Myers and Garton (Barnatt *et al.* in prep.) so the information would be compatible with other surveys from the region.

5.6.3 Analysis of museum collections

A key feature of prehistoric technology as yet inadequately understood in the Peak District, is that of raw material use, specifically of the quarrying and transport of local cherts. Radley (1968a) and Myers (1986) have both written in detail of the transport of Derbyshire black chert into the Southern and Central Pennines. Yet little is known of its procurement and use at and near its sources, or of the transport routes which took it up to the Pennines. Therefore as part of this thesis it was decided to analyse two collections which might fill this gap. The Harris Collection (SCM) includes material from excavations at Dimin Dale in the Wye Valley close to outcrops of Derbyshire black chert. The Upper Derwent sites represented in the Henderson Collection (SCM) also include large quantities of worked chert. These two collections were analysed to assess the potential for identifying chains of operations at a landscape scale involving a raw material indigenous to the study area.

Whereas museum collections are frequently seen, like survey data, as inferior to material recovered under modern excavation conditions, Gardiner (1987) has recently laid down guidelines for their integration into synthesis. These address two areas: the problems of provenancing and bias assessment, and comparison with more recent collections. There are three aspects to the first guideline. In terms of provenancing, the recording of six-figure national grid references for chance finds is a relatively recent phenomenon, without which artefacts are essentially without context. Sometimes artefacts can be reliably tied down to specific locations by accompanying descriptions, but this is rare. Overall this will affect localised study but not greatly hinder the regional scale of analysis. Secondly, Gardiner suggests that by talking about them with living people we should assess the collectors themselves, about their skill and knowledge, as well as their preferred routes and locations. Finally she suggests that the collection itself should be assessed for biases. What categories of objects did the collector favour, and which were likely to have been ignored? The severity of bias depends on how much we expect to derive from the study of museum collections and how we intend to use that information. We cannot know exactly what activity was taking place within a given area

and we should not expect to find intra-site activity patterns or write detailed histories of a particular block of land.

With these things in mind, it is possible to analyse old collections in such a way that they can be partially integrated with our knowledge of recent work. As our aim is a description of changing patterns of landscape inhabitation, a chronological perspective is required. Gardiner suggests that a detailed approach to classification is not appropriate but that “the value of surface material, in particular of museum collections, is that they can provide a good general overview of the distribution and extent of settlement, and other activity, over a wide geographical area” (1987: 57). Ideally, artefact types could be seen as belonging to a wider group of implements forming one important element in the composition of a whole series of scatters, which are associated with a particular environmental location and, apparently with a particular range of activities. With the modification that we identify artefacts not with ‘settlement’ but with diverse practices, Gardiner’s methodology is suitable for the work in hand.

5.6.4 Summary

The next chapter will detail the four data sets (see Figure 6.1) which are used to characterise seventh to fifth millennium inhabitation of the study area in Chapter 7. Therefore the aim of this chapter is to identify what types of activities were being undertaken during the two periods in various locations. Special attention is paid to raw material use as its movement alerts us to either the movement of people or exchange between people. The Arteamus Peak Transect Survey is discussed first (Section 6.1; Appendix 1), followed by data from the Roystone Grange test pit survey (Section 6.2; Appendix 2), both of which are concerned with the characterisation of land-use in the study period. Two museum case studies are then presented. One, the Harris collection from Shacklow and Dimin Dale, is a study of a prehistoric chert procurement site in the heart of the White Peak (Section 6.3; Appendix 3). The other, the Henderson collection, with special reference to lowland sites in the Upper Derwent Valley, aims to track the movement of chert from the study area (Section 6.4; Appendices 4, 5 and 6). Chapter 7 draws together the findings from the data sets, with work reviewed in Chapter 4, to suggest a context for the emergence of ceremonial monuments in the area.

Chapter 6

The data sets

6.1 The Arteamus Peak Transect

6.1.1 Introduction

The Arteamus Peak Transect and the DCC transect extend across the same three topographic zones (Section 5.6.1). Arteamus have walked 55 fields at this time and the DCC group covered 37 fields during the 1980s. On Figure 6.1 the borders of the Arteamus transect are shown in bold lines, the DCC survey is outlined in fine lines. Figure 6.2 shows the APT sample unit locations, and Table 6.1 characterises the location and condition of each field. The first part of this section compares the three zones by artefact density, various types of technological composition, raw material use and chronological association. The more important assemblages from each zone are subsequently drawn out for further attention.

6.1.2 Differences by zone

6.1.2.1 Artefact densities

In Arteamus work on the White Peak more than half the fields walked had finds densities in excess of twenty per hectare (Figures 6.3, 6.4) and a third of fields had densities in excess of thirty per hectare. In the Wye/Derwent zone only one in seven fields exceeded a density of ten finds per hectare, whilst on the East Moors all fields had densities of less than ten finds per hectare (Tables 6.2, 6.3). DCC work had previously shown higher average densities for both the Wye/Derwent and East Moors zones, the latter having a higher average density than the former. The densities for the White Peak zone were consistent with Arteamus results. The disparities in the figures for the East Moors are principally due to a particularly dense scatter across DCC 8, 9 and 10, discussed further below.

6.1.2.2 The proportion of retouched pieces within assemblages

In Arteamus work on the White Peak the average retouched component of assemblages is 15% (Table 6.4). In the Wye/Derwent zone the component was 21%, whilst on the East Moors it was 19%. DCC work had previously shown figures of 17% for the White Peak, 26% for the Wye/Derwent zone, and 20% for the East Moors.

Both surveys show that areas of higher find density, generally those proximate to mortuary structures and earthworks, seem to have proportionately lower retouched components, a phenomenon for which two explanations were offered by Barnatt *et al.* (in prep. 7). Firstly it might result from a broad spatial separation between knapping of blanks and tool use. Secondly it might indicate that 'tool-selective' collection in areas near to ceremonial centres (principally the White Peak) since the nineteenth century has denuded assemblages of certain categories of retouched tools.

As for the remainder of the collection combined categories of waste account for 76% in the White Peak, 66% in the Wye/Derwent and 66% on the East Moors. Cores account for 9% in the White Peak, 13 % in the Wye/Derwent and 15 % in the East Moors. These latter calculations suggest that if tools are generally being created on the White Peak for use elsewhere, then cores are not necessarily being discarded at production sites, but also being taken away for further reduction. Whether or not this is to the same extent through time is unclear.

6.1.2.3 Raw materials

While raw material categorisations established by Barnatt *et al.* (in prep.) have been used in this report¹ their usefulness is considered dubious because of the subjectivity of macroscopic characterisation (q.v. Section 5.3.2). In a controlled experiment by Myers and Garton, both analysed the 72 pieces retrieved from DCC 8 over 8% were characterised differently by each analyst (Barnatt *et al.* in prep: Table 14). In this discussion a simple division is made between the use of locally available chert and imported flint (Figure 6.5; Tables 6.5, 6.6, 6.7, 6.8, 6.9). However in the discussion of individual fields below, note is made where elevated levels of translucent flint are found, as Garton believes this material to be favoured in the Early Neolithic. Arteamus work suggests that chert was used less in the White Peak (8% of all pieces), a little more

¹ See appendix: Introduction to the recording system.

on the East Moors (12%) and most regularly in the Wye Derwent Zone (31%). In general these proportions are supported by DCC work, chert only being found in large quantities on the White Peak in fields very close to the gorges where it outcrops (specifically DCC 32 and 35, Barnatt *et al.* in prep: Table 4). In general chert is used most prolifically when a ready source is close at hand (Figure 6.5). The high proportions of black chert, found by both surveys in the Wye/Derwent zone, may indicate the regular use of secondary sources, specifically the procurement of black chert from the glacial drift deposits in the Bakewell-Baslow area. On the White Peak, the division between frequency of black chert and other colours is not so stark (Table 6.9).

6.1.2.4 Stages of reduction

Overall composition of sample unit (i.e. field) assemblages by stage analysis² was only assessed for flint where more than 10 complete flakes and/or blades were present (Table 6.10). Only ten fields could be assessed by these criteria all of which were on the White Peak. These assemblages showed considerable variation in their composition the percentage of primary pieces ranging from 0-19%, secondary pieces 19-38% and tertiary pieces 49-73%. This might reflect the state of the raw material available as well as variation in technological activities. The figures cited here should not be directly compared with those for the DCC transect since Barnatt *et al.* (*in prep.*) calculated their figures on the basis of complete *and* broken waste.

6.1.2.5 Flake Blade Dimensions

Arteamus data confirms trends discovered by the DCC survey showing flakes/blades in the White Peak collections are on average larger than elsewhere although the difference is not as marked as previously, and applies more to length than breadth (Figure 6.6; Table 6.11). Another way of summarising flake/blade dimensions is by length : breadth ratios. Across the whole transect the modal ratio is for chert pieces is 0.4-0.6, for flint pieces 0.6-0.8. Figures for the White Peak and the Wye/Derwent Zone confirm both the modal average and the normal distribution. However the figures for the East Moors are rather skewed. This may be due to a combination of two factors. Firstly the East Moors sample is significantly smaller than those from the other zones, and may not be large

² See appendix: Introduction to the recording system.

enough to be representative. However it may also reflect the relatively large amount of blade working associated with a more visible Mesolithic presence traditionally associated with the East Moors.

6.1.2.6 Typological composition of assemblages

The main cutting implement in evidence was the knife, found throughout the transect, in the greatest relative quantities on the East Moors (Figure 6.7, Tables 6.12). Arteamus only found flint knives although they are not uncommon in chert on both the White and Dark Peaks (e.g. in the Henderson Collection). Other cutting implements include saws and serrated pieces. Saws have only been found in the fields neighbouring Gib Hill (there are three from APT 6 and one from APT 47), although a retouched flake from Handley Bottom (APT 28) and a retouched blade from Bubnell Cliff Farm (APT 29) could be classed as such. These pieces are characteristic of Later Neolithic and Early Bronze assemblages (Clark 1933, 272 Fig 4.57, 61; Smith 1965, 108, Fig 49, 150, 239). Serrated pieces are only found at Gib Hill (APT 6), where there are four examples, one of which is a blade.

Scrapers were found in roughly equal quantities in flint and chert (Figure 6.8), and after simple retouched pieces, were the most common type of retouched artefact (Figure 6.7, Tables 6.12). The relative proportions of scrapers by assemblage stand out at certain sites in the Wye/Derwent zone and East Moors zones, but given that low densities are frequent and larger tools are more likely to be brought to the surface by ploughing this may not be particularly surprising. The quantities of scrapers retrieved from all three zones, in both surveys (DCC figures in brackets), are recorded in Table 6.14. A variation, the denticulate scraper, has only been found on the Gib Hill fields where there are five examples from APT 6 and two from APT 7. Notched implements are also more common on the White Peak, although one was found in the Wye/Derwent zone.

Piercing implements (apart from projectiles) are surprisingly rare in the transect collections, surprisingly, that is by comparison with the other collections discussed in this chapter where awls, after scrapers, dominate. Awls are, chronologically, fairly ubiquitous, often simple implements and therefore not easily dated. Likewise burins are found in association with assemblages from the Upper Palaeolithic onwards. These implements are not particularly common in general and, thus, it is not surprising that there are only four from the entire transect. Possible working modes attached to these implements are discussed below in Section 6.3.5.

Microliths (see Section 5.4.1.1 for working modes) have only been found on the White Peak during the course of this survey as have evidence for their creation in the form of micro-burins. This may be a factor of their small size, which makes them much less likely to be seen by an inexperienced walker. Truncated flakes and blades, which are also sometimes by-products of microlith creation, are found in all zones.

Leaf shaped arrowheads are subject to chance loss during use and may therefore appear amongst scatters to which they are unrelated in date and task (Garton, 1991: 16; Barnatt, 1996: 48). There are only six of these artefacts on the White Peak (0.35% of the zonal assemblage), and two from the Wye/Derwent zone (0.5% of the zonal assemblage). No arrowheads of any type were found on the East Moors, although considerable quantities of all types have been collected previously in the wake of moorland fires (see Chapter 4; Radley 1966).

6.1.2.7 Chronological patterning

Arteamus results confirm the findings of the DCC transect in that patterns of occupation across time appear remarkably consistent. The problem for the present work, as an investigation of earlier traditions is to then separate earlier from later working in palimpsest scatters. This problem is demonstrated in sharp relief by previous work at Mount Pleasant Farm where surface collection was augmented by trial excavation. Apparently discrete, contemporary occupation foci associated with Peterborough Ware pottery, proved upon excavation to represent different episodes of occupation, some of which were associated either with Grimston or with Grooved Wares (Garton and Beswick, 1983: 37). Therefore, despite its importance to this thesis, the attribution of dates (Table 6.15) to scatters remains provisional. To assert otherwise would be inappropriate and go against the grain of the argument developed throughout this dissertation.

Whereas scatters are often attributable to the Later Mesolithic on the basis of a series of retouched artefacts (geometric microliths and backed blades) and waste (microburins, truncated flakes and blades), the Early Neolithic repertoire has much in common with both earlier and later traditions of stone working (Section 5.3). Thus end scrapers made on blades, are likely to be early in date (i.e. 'Late Mesolithic' or 'Early Neolithic'; Edmonds 1995). Denticulates and serrated blades are common in the Early Neolithic but appear both before (Jacobi and Tebbut 1981) and after (Pryor 1978) this time. Similarly leaf shaped arrowheads appear in contexts subsequent to the fourth millennium (Section

5.2). With respect to ubiquitous artefacts such as knives and irregular scrapers, abrupt or fine (non-invasive) retouching is likely to be 'earlier', while scalar or invasive retouch is often 'later'. Carefully worked (i.e. rejuvenated and bi-polar) blade cores are likely to be Early Neolithic or earlier (Edmonds 1987). On the basis of micro-palaeontological work Garton persistently associates translucent and non-mottled semi-translucent flint with use in the Late Mesolithic and, particularly the Early Neolithic (Barnatt *et al.* in prep; Garton, in prep). Although the macroscopic identification of this material is highly subjective, and its association with the Early Neolithic is merely by Garton's assertion, I comment upon its presence in combination with technological indicators of early traditions in the text below.

At the end of the day, along with Garton, I question the assumption that Later Mesolithic assemblages can be distinguished from Earlier Neolithic ones in the Peak District. The "scale and intensity of later mesolithic flintwork [is] mirroring/masking that of the earlier Neolithic" (Garton, 1991: 15). Therefore transect fields have only been classified as "earlier" or "later" on the basis of retouched artefacts and waste (Table 6.15) in a broad brush approach. It is far more profitable to discuss the provenance of fields individually. In the remainder of this section some suggestions are made as to which fields may demonstrate Late Mesolithic and Early Neolithic activity on the basis of more fine-grained technological and raw material analysis. This table is supplemented by another (Table 6.16) detailing the nature of core working on each field.

6.1.3 The White Peak

A single period date can be tentatively assigned to just four individual field assemblages in the White Peak (Table 6.15). Three of these assemblages are very small and cannot be regarded as statistically valid samples (APT 4 [n=5]; APT 44 [n=6]; APT 45 [n=16]). Neither are the date indicators are not strong, and in the case of the Cotesfield Farm fields the removal of a single boundary would result in the creation of a single small assemblage of apparently mixed date (APT 44 [n=6] and 45 [n=16]). Only one field near Arbor Low (APT 11) can therefore be confidently assigned a (later) single period date. This, however must in any event be understood in relation to a series of dense scatters of varied date in adjoining fields, and by reference to its specific proximity to the henge monument and barrows at Arbor Low and Gib Hill. As the most significant locale in the area, it is to these fields that we turn first.

6.1.4 Arbor Low and Gib Hill

At Arbor Low (APT 9, 10, 11, 12 and 13) and Gib Hill (APT 6, 7 and 47), the opportunity arose to examine two series of contiguous fields with scatters spread across a larger tract of land than anywhere else in the transect (Figure 6.10). In the Gib Hill 'block' of fields, APT 7 had previously been walked as DCC 29 (down-slope to the south-west) and DCC 25 (up-slope to the north-east). The field adjacent to the south-east had previously been walked as three sample units, DCC 26, 27 and 28, of which only the area of DCC 26 was re-surveyed as APT 47, due to time limitations.

The Arteamus blocks of fields fall on the north-east and south-west sides, respectively of the region's most well-known, and enduring monument complex. Firstly, at Gib Hill a long or oval cairn has been raised and a possible circular ditch or "proto-henge", up to 50m. in diameter, cut into the limestone bedrock a few metres to the north-west of this cairn (Radley, 1968b). Poorly documented nineteenth century excavations at Gib Hill found deposits, suggestive of an fourth millennium date, on the old ground surface beneath the mound (Sections 4.2.1.1, 7.4.2). The neighbouring henge monument, Arbor Low, encloses a circular area roughly 80m. in diameter. Its bank may have originally stood 3 metres high, has opposed entrances, and an internal ditch approximately 9 metres wide and 2.5 metres deep. On the central area is a roughly circular ring of large recumbent stones. Large barrows, with cists, food vessels and burnt human bones, were superimposed on both the western end of Gib Hill and the bank of Arbor Low at its south-eastern entrance demonstrating time-depth in the use of this locale. A number of other small barrows are also known in the immediate area (Barnatt, 1996: 65).

6.1.4.1 Lithic densities

Finds densities across the field blocks are significantly higher than for the rest of the transect fields (Table 6.2). They are however broadly comparable with densities found at Mount Pleasant (Garton and Beswick 1983), Aleck Low (Hart 1985) and three DCC fields in the area (DCC 31, 32 and 35³). At Mount Pleasant similar densities are

³ DCC 31 (see Section 7.4.1) [115 finds/Ha.], DCC 32 [71.6 finds/Ha.] and 35 [84 finds/Ha.] (see Section 7.4.2) are all in similar landscape situations to Gib Hill (just shy of the watershed) and all appear to be palimpsest scatters with both 'Late Mesolithic' and later stone working represented (Barnatt *et al.* in prep.). Mount Pleasant 9S produced 103.6 finds/Ha. and three other fields walked there produced densities over 90 finds/Ha. (*ibid*).

achieved despite clustering the of artefacts there, which is not in evidence to the same extent at the Gib Hill fields.

This said, there does appear to be some on-site spatial patterning in the Gib Hill block. Far fewer finds were found in the south-western portions of APT 7 (22.4 finds/Ha. [n=101]) and 47 (61.7 finds/Ha. [n=185]), results mirrored by the work of the DCC transect survey: much lower densities were observed in DCC 27-29 than in DCC 25 and 26 (Barnatt *et al.* in prep: 42, Table 42). The working of clay and silica pits or colluvial processes could be masking more extensive patterns in this area. The latter may also offer an explanation for the way the APT 6 distribution plot falls into two halves along the line of a linear hollow (see Figure 6.11).

There may also be biases at play in the Arbor Low block. All five fields here had been re-seeded for grass, had not been regularly ploughed in the recent past, and APT 11 had not been ploughed at all in the preceding fifty years. Therefore the depth of ploughing in this block may not have brought a representative artefact sample to the surface. Colluvial processes may again be at play in APT 9 and 10, where knapping appears to have concentrated below a break of slope in the northern third of these fields. It is on the much flatter ground, to the south-east of the henge monument in field APT 13, that the most dense assemblage in the transect was found. It is possible that this density of debitage continues to the south and south-west of this field on the levelled top of the ridge spur.

6.1.4.2 Chronological distinctions

The enduring prehistoric presence, evident in the 'monumental record', is extended by the artefactual record. As well as the expected, yet still impressive array of Neolithic and Early Bronze Age artefacts, Late Mesolithic stone working is frequently in evidence. The distributions of diagnostic artefacts however contrasts markedly with those identified at Mount Pleasant Farm and Aleck Low, where chronologically discrete scatters were clearly present (Garton and Beswick 1983; Hart 1985). At Arbor Low and Gib Hill, relatively dense (but extensive) quantities chronologically mixed artefacts make it difficult to reliably identify specific working areas and a palimpsest of many phases is assumed across most of the area.

Broadly speaking, Late Neolithic and Early Bronze Age material is concentrated in the north-easterly portions of the Gib Hill block supporting complementing previous

discoveries from DCC 25 and particularly 26 (two plano-convex knives, a bifacially flaked knife and two transverse arrowheads: Barnatt *et al.*, *in prep.*). The debitage (Blade to flake ration 1 : 7.8) from APT 47 also suggests a later date for much of the assemblage.

The assemblages in APT 6 and 7 on the other hand contain a significant earlier component, which concerns us here. About two thirds of the complete cores identified in these fields are blade cores which together with the blade to flake ratios (1 : 3.6 and 1 : 2.8 respectively) reflects a tradition of blade working (Table 6.16). In the same fields ten core rejuvenation flakes also reveal a parsimonious attitude to raw material, typical of earlier periods. A late Mesolithic presence is likely on the presence of two microliths, a micro-burin, a backed blade as well as forty-four truncated flakes and blades. Six end scrapers mostly on blades, also suggest a Late Mesolithic or Early Neolithic presence while four leaf-shaped arrowheads, one of which was abandoned during manufacture could well indicate an Early Neolithic presence. The association of this unfinished specimen, together with other hallmarks of the Early Neolithic 'tool-kit' (denticulates, serrated blades and end scrapers), is about as reliable an indicator as one is likely to get from a field walking assemblage in this area without the good fortune of finding Grimston Ware.

A dense concentration of finds at the south-western end of APT 6 is the most spatially and chronologically discrete scatter from the transect (Figure 6.11). Two leaf-shaped arrowheads, at least half of the denticulates, most of the microlithic technology, a notable concentration of black chert and the vast majority of the blade cores were all recovered in the south-western half of this field. There is certainly there is a strong Mesolithic presence here on the basis of a number of diagnostic artefacts and the frequent use of black chert.

Late Neolithic and Early Bronze Age forms occur occasionally across fields 9-11 and with much greater frequency in fields 12 and 13. There are strong indications of an early presence in diffuse concentrations across the northern third of APT 9 and 10, including a leaf-shaped arrowhead, five end scrapers (again mostly on blades), four core rejuvenation flakes and a small blade core. Much of the blade work in this field is made from the same material as the leaf shaped arrowhead, again raising the possibility that it was made on site, and that we could be looking at an Early Neolithic presence. APT 11 was largely devoid of material likely to be Late Mesolithic or Early Neolithic, but in APT 12 and 13 such material did occur at the furthest points downslope from the henge.

In APT 13 a microlith, backed blade, end scraper and two core rejuvenation flakes, are relatively distinct from another scatter in the western corner of field. That particularly dense scatter of small trimming flakes and chips, which relate to the maintenance, use or further reduction of bifacially flaked artefacts and blanks of later date.

6.1.4.3 Assemblage composition

The sample population from Gib Hill fields are well balanced and corresponding with the average assemblage composition across the transect. By contrast, cores account for only 0.9-2.9 % of the Arbor Low block assemblages (Table 6.4) and primary flakes from APT 9, 10, and 11 (Table 6.10). Willy Kitchen (*pers. comm.*) has suggested that chronologically later work near the henge (APT 13) may be limited to the maintenance or finishing of bifacially flaked artefacts, rather than primary production and that close clusters of retouched artefacts may represent special deposition.

The most curious find from the Arbor Low block was a diffuse cluster of large, thick, squat flakes, all of opaque white, occasionally grey-banded, material in the eastern corner of APT 11 and western corner of APT 12. These flakes were so large by comparison with anything else found in the survey (up to 8 x 8cm), that they were at first dismissed as erratic cherts, which are often found to have tumbled from field walls. Luckily, samples were taken and later identified by Mark Edmonds as flake blanks of flint deriving from Primary deposits in the Yorkshire or Lincolnshire Wolds. Such profligate use of stone would be unusual in any period in an area of England so far from a flint source, and may represent an act conspicuous of destruction. Support from this comes from Gray (1904: 52), who noted that six freshly knapped large flint flakes up to 15cm in length were deposited on a ledge in a ditch terminal of the nearby henge monument.

Another curious feature of the Arbor Low/Gib Hill fields is the prolific number of arrowheads littering the area. Three quarters of the arrowheads found on the Arteamus Peak Transect are from this locale and half of those found on the DCC transect. While this is unusual in the context of these surveys comparable quantities of arrowheads have also been recovered at Mount Pleasant Farm (Garton, 1991: 15). There, roughly twice as many leaf shaped arrowheads as later forms were recorded. There have been suggestions that leaf arrowheads may be more numerous on the White Peak, later forms predominate on the surrounding gritstone uplands (Radley 1966a: 112).

6.1.5 Clemonseats Plantation

The next highest density recorded on the White Peak was the multi-period scatter at Clemonseats Plantation (APT 43) at 40.3 finds per hectare. Attempts to identify chronologically and spatially discrete scatters in this field were not as successful as at Gib Hill/Arbor Low. An area of high density in the centre of the field consists principally of earlier forms, but blade cores are found elsewhere. An early presence is certainly likely as the blade to flake ratio is very high at about 1 to 3, this from a reliable sample of 82 waste pieces. About 10% of the artefacts are in translucent flint, including retouched and edge-worn blades, suggesting an Early Neolithic presence to be possible.

The proportion of retouched pieces is less than half the average for the White Peak. By contrast, the proportion of the assemblage constituted by cores is about three times the zonal average. One interpretation is that Clemonseats was a locale where stone was frequently worked but not used and discarded in tool form, however there is no record of how regularly this field has been previously ploughed and it may have been subject to selective collection.

The proportion of primary waste from this field (19%) is about double that from any other APT field where a sufficient sample of debitage is available for analysis (Table 6.10), whilst the proportion of tertiary waste (49%) is lower than elsewhere. Although there are problems with comparison of reduction sequences, Clemonseats also appears to deviate from the norm in terms of DCC assemblages (Barnatt *et al.*, *in prep.*, Old Table 7). As this field also has a low proportion of blade-only cores by contrast with the transect as a whole, and many of the cores are particularly inefficiently worked, it is likely that much of this working is a later phenomenon (Ford *et al.* 1984).

6.1.6 Moneystones

Moneystones (APT 8) is another multi-period, high-density (31.7 pieces per hectare) scatter. By contrast with Clemonseats the proportion of retouched pieces recorded at Moneystones was more than twice the zonal average, suggesting that Moneystones was a site where tools were used and discarded. There are large quantities of blades (a blade to flake ratio of 1 to 4), many retouched and edge-worn. A single core rejuvenation flake is retouched and blade working is evident on over half the cores. A backed bladelet and a tiny re-sharpened "thumbnail" scraper offer confirmation of a Late Mesolithic presence, but much of the waste would not be out of place in the Early

Neolithic. About 9% of the assemblage is in translucent flint including an end scraper, but also a transverse arrowhead. Late Neolithic arrowhead forms may be chance losses but much of the flake waste is broad and squat, including a piece with a faceted butt associated with the working of bifacials.

6.1.7 Other intimations of an early presence on the White Peak

The edge of a 'thumbnail scraper' found at Pilsbury Lodge (APT 1) is worked very steeply and is more likely to be Late Mesolithic than Late Neolithic/Early Bronze Age. A blade core fragment as well as a few narrow flakes may signal earlier activity, but the blade to flake ratio is low at 1 to 30. Over 20% of this assemblage is made from translucent yellow-brown flint associated by Garton and Myers (Barnatt et al. in prep.) with Early Neolithic use. Cotesfield Farm (APT 2) already mentioned seems to have a Late Mesolithic component on the evidence of a truncated blade and backed bladelet (as well as a rejuvenated blade core fragment with scars upon it). A translucent flint flake knife which is non-invasively flaked may be Early Neolithic. The sample is too small to be meaningful but the blade to flake ratio of 1 to 3 is of course very high. There are proportionately more cores on these two sites than on the Arbor Low Fields, and Cotesfield Farm has proportionately more than the Gib Hill fields. Both sites have proportionately more tertiary waste than the Arbor Low fields and Gib Hill.

At Moscar Farm (APT 3) two backed bladelets suggest a Late Mesolithic presence, while a polished axe fragment signals use of the locale in the Neolithic. At Dyke Head Farm (APT 4) a large plunging flake from a blade core may have been an attempt to rejuvenate an early core. Again, the blade to flake ratio (1 to 4) is high, but the sample is too small to be significant. No cores are known from these two fields, and they are dominated by secondary waste.

6.1.8 The Wye/Derwent zone

It is in the Wye/Derwent zone (see Figure 6.12) that the most reliable evidence for numerous earlier (especially Late Mesolithic) sites was found by both the Arteamus and DCC transects. Occasional fields (APT 24 and 48) are characterised by later material, and in particular relatively large thumbnail scrapers were found by both surveys, however the norm in this zone is low densities, blade working and extensive use of black chert. According to Garton and Hart, the use of black chert is most common in the Late Mesolithic and Early Bronze Age.

Only four fields were walked along the banks of the Wye, a block of three fields at Coombs Road, Bakewell (APT 19, 22, 23) and a single field on the opposite bank of the Wye near Fawnsdale Plantation (APT 49). All these shale valley sites are partially covered by alluvium, each with a slightly raised river terrace. Finds densities in all four fields were very low, and the only potentially diagnostic find was a small keeled blade core found near the edge of the terrace at Coombs Road (APT 19). Non-diagnostic waste from either bank concentrates on the terraces, although at Fawnsdale Plantation some of this material may have eroded off the much steeper escarpment slopes behind the field. These sites are comparable in location and density to the site at Beeley Horse Pastures on a low spur overlooking a bend in the Derwent where, a small assemblage of lithics, Grimston Ware pottery were found (Barnatt and Robinson, 1998). Further anecdotal evidence for early occupation by the Derwent comes from Derbyshire SMR, in the form of records left by associates of Clive Hart, the Edensor Field Group. This group of local enthusiasts, working in the late 1970s and early 1980s found a blade core (SMR 5133) as well as flint and chert utilised blades in Chatsworth Park (Figure 6.12).

Only three fields in this zone have a density of more than 10 finds per hectare and at one (APT 24) the predominance of multi-platform flake cores and flakes suggests a later date supported by the presence of food vessel (EBA). A blade core in black chert may be the only early artefact found by Arteamus on this elevated gritstone outlier, which sits between the two rivers. However, the Edensor Field Group found a number of possible earlier artefacts on Carlton Pastures, including a utilised blade (SMR 5128), burins (SMR 5123 and 5129) and a laurel leaf (5129). Further down slope below New Piece Wood, numerous flint concentrations including utilised and truncated blades, end scrapers and leaf shaped arrowheads (SMR 5118). Ashford Hall (APT 14), sited on a flat shale shelf with boulder clays, overlooks a dry valley a few hundred metres from the River Wye. The finds density is double that of any other Arteamus field in the zone (27.6 per ha.), but once again there is probably a later element to the assemblage (although the barbed and tanged arrowhead may be a chance loss). The earlier material may again be more tightly clustered, including 20% of the pieces are made from black chert, including one of the two blade cores, a side scraper, as well as retouched and edge-worn flakes. The blade to flake ratio is roughly 1 to 8. At Handley Bottom (APT 28) all the cores are indicative of Earlier traditions and with about 10% of the assemblage made from translucent flint including a retouched blade and an edge-worn and edge-glossed flake, the field is one of the most likely in the area to be Early

Neolithic. The blade to flake ratio at this site is about 1 to 6. There are no diagnostic retouched artefacts although some material, such as the possible thumbnail scraper may be later. This field is in a similar position to Ashford Hall on the shoulder of a raised valley, cut into a gritstone escarpment. At nearby Handley Lane (APT 30) a chert burin and two opposed platform blade cores also suggested early activity in a lower density sample.

A further three fields have densities of between 5 and 10 pieces per hectare. Home Farm, Hassop (APT 17), on a shale self over looking Coombs Dale, shows elevated levels of core working (14.3% of all pieces), all of which are blade cores. At Birchills Farm (APT 25) which overlooks Handley Bottom, a fragment of a small leaf-shaped arrowhead, a core rejuvenation flake as well as a utilised blade in translucent flint may hint at Early Neolithic activity. One of the 'thumbnail' scrapers on this site would sit more comfortably in a Late Mesolithic assemblage. A low-density adjacent field (APT 20) yielded another tiny scraper with steep retouch as well as further carefully worked blade cores. At Bubnell Cliff (APT 50), on the shale slopes above the Derwent near Baslow, a black chert opposed platform blade core as well as a translucent flint end scraper suggest earlier activity. Neighbouring low-density fields (APT 27 and 29) yielded exhausted opposed-platform and conical blade cores a preponderance of blades and narrow flakes, end scrapers and a core rejuvenation flake. APT 27 (13 finds) had previously been walked as DCC 23 when 16 finds were found over the same 3.9 hectares. The three high-density fields, APT 17, 25 and 50 all have blade to flake ratios of around 1 to 10.

The sites at the edge of the limestone are considerably smaller and difficult to characterise. At Hassop Common (APT 18) on the edge of the Monsal Dale limestone a tiny end and side scraper along with worn and broken blades in black chert (which accounts for over half the assemblage) may signal an early presence. At Rowland (APT 15) and Flatts Farm (APT 16) on the Longstone mudstones the presence of an end scrapers with steep retouch may suggest a Late Mesolithic or Early Neolithic date, the latter site also having truncated blades.

6.1.9 East Moors

The positions of fields walked on the East Moors are shown in Figure 6.13. Finds densities upon the East Moors were the lowest for any of the three topographic zones (Table 6.3), a statistic that sits uncomfortably with the figures from the DCC transect

and constitutes the largest statistical divergence between the surveys. No field walked by Arteamus had a density of 10 or more finds per hectare, the average density being just three finds per hectare, whereas the DCC survey recorded an average of over fourteen finds per hectare. Evidently there were biases at play, for instance on Stonelow Flat where the construction of a pipeline across APT 36 and 37 had an unquantifiable effect on recovery rates.

6.1.10 Eaglestone Flat

It is a dense Mesolithic scatter on Eaglestone Flat (DCC 8) that probably accounts for the discrepancy between the surveys, demonstrating that trends in modern land-use, and successive availability of ploughed fields can skew statistics from decade to decade. In 1996 DCC 8 was left unploughed, whilst the 4.1 Ha which had been fields 9 and 10 in 1985 rose to 6.6 Ha (as field APT 33), with their consolidation along with an area which had previously been heather moorland. Hart's (1985) survey of artefacts at Upperhouse Farm indicates that artefacts are less visible on initial reclamation, as the plough merely turns the sod, rather than thoroughly breaking down the soil. Additionally, APT 33 was walked in rain and mist, with the surface partially frozen; some of the team were new to fieldwalking, and all of these factors could be expected to reduce recovery rates. Finally it is likely that recovery rates were affected by prior fieldwork. It is notable that the Arteamus distribution largely avoids those areas where artefact densities were high in 1985, with the exception of two blade cores and two blades found in the eastern part of APT 33 (DCC 10). Differing densities in another field on the East Moors (DCC 14; APT 51) may not be directly comparable as only three-quarters of the area walked in 1985 was ploughed in 1999.

In both surveys, the majority of diagnostic retouched artefacts on the East Moors indicate a Later Neolithic or Earlier Bronze Age date (Table 6-15), although blade cores again dominate the zonal assemblage, and early material was previously recorded in at least three fields (DCC 8, 9 and 12).

6.1.11 Meek Fields

Meek Fields is on the Edge of the East Moors and the three adjacent fields were walked there. APT 39 and 40, in a sunken fen area shy of the scarp edge, produced no clusters of flint working or discarded tools. However, a flake knife with fine, non-invasive retouch and a flake with edge-gloss, both made of the same translucent yellow flint,

were found across the wall from each other in fields 39 and 40 respectively. The material and the working on these two pieces suggest an early and potentially fourth millennium date. The edge-gloss on the latter might be caused by the processing of vegetable matter, or by the wear of hafting. Other implements in these fields would not contradict the suggested date, and are also suggestive of working modes such as scraping and piercing.

APT 39 and 40 are typical of East Moors assemblages in that they are rather diffuse, but the assemblage from APT 41 produced two discrete clusters in a hollow overlooking the Rother Valley. At the top (south-west) end, a knife, an end scraper and evidence for the production of blades, suggest a seventh to fourth millennium date. Another more concentrated cluster at the bottom of the field again produced evidence for blade working, the cores (by-products) from the area being strongly indicative of a seventh to fifth millennium date.

6.2 Roystone Grange

6.2.1 Previous Work

The area around Roystone Grange (Figure 6.1), although generally under rough pasture, had in some places been ploughed during the twentieth century. Such fields had been subject to surface collection by local enthusiasts and the Derbyshire Sites and Monuments Record records numerous finds attributable to the Late Mesolithic and Early Neolithic (Figure 6.14).

Mesolithic flint working is concentrated on the High ground above 300 metres OD (SMR 927, 993, 2401, 3473). Down in Roystone valley the Late Mesolithic presence is more ephemeral, a trapezoid microlith (SMR 952) being the only diagnostic artefact. A possible fourth millennium presence is suggested by leaf shaped arrowheads (SMR 947, 956) from the Roystone Valley and Roystone Meadow. The waste from these areas, as well as a serrated blade (SMR 948) could be from either period.

Several Sheffield University excavations at Roystone Grange confirm early use of this area. A Later Mesolithic presence was visible in three trenches and in a test pit grid at Minninglow car park to the north (Section 7.2.6, Figure 7.1). The latter includes microliths, a burin spall, blades and evidence for the careful preparation and maintenance of cores. A microlith was found in a residual context at the Romano-

British site near the dairy. Myers (1992, 68-69) also reports a small but concentrated lithic assemblage from Trenches XXIV and XXX (Figure 6.14).

Early Neolithic activity is evident from Trenches II⁴ (a leaf shaped arrowhead) and XXI/XXII (a series of end scrapers). At trenches XXV/XXV(L) leaf arrowhead was found along with a polished stone axe flake, quantities of carefully prepared blades, blade cores and rejuvenation material (Myers 1992: 20). Material from Trench XXVII(c) was provided the most concrete evidence for Early Neolithic presence, with a leaf arrowhead found in the midst of long end scrapers, simple but well-made knives, numerous blades and core rejuvenation flakes. Later Mesolithic types are notably absent from this site. A broken blade in brown translucent flint (Trench XXXII) and a fragment of a leaf-shaped arrowhead of the same material (XXXIII) have also suggested early Neolithic presence up around the boulder enclosure near to where Grimston Ware fragments were discovered.

6.2.2 The test pit data

During August 1998 the present author analysed the test pit data with Helen Evans, an MA student as a teaching exercise. The material had not previously been characterised by a lithics analyst. The primary archive was in such a poor state that a substantial survey of the area was performed by Helen Evans and another MA student, Adrian Chadwick to locate the test pits (Evans 1998) and re-evaluated Hodges' (1991) theories on the landscape stratigraphy of the area (Chadwick 1998). The positions of the test pit grids are shown in their landscape context in Figure 6.14 and are shown relative to field boundaries in Figure 6.15.

Seven hundred and thirteen pieces of worked flint and chert were recovered from three hundred and seventy-seven of the one thousand and fifty-three test pits excavated. In terms of artefact densities six hundred and seventy-six test pits (about 64% of all test pits) produced no worked stone, one hundred and ninety-nine (19%) produced only one piece and only fifteen (1.4%) produced five or more pieces (Table 6.17).

In terms of raw materials, about 75% of the entire assemblage was flint, chert accounting for 24% (Table 6.18). Just over 1% could not be confidently identified as

⁴ The whereabouts of Trench II appear to be somewhat of a mystery. It is not mentioned by Hodges (1991) and Myers writes that its position is unknown to him (1992, 1).

either, mostly because of the degraded quality of the material. One exception, from Parwich Meadow may possibly be a flake from a polished stone axe.

Of seven hundred and thirteen pieces analysed, forty-nine (7%) were retouched and twenty-nine (4%) cores (Tables 6.19, 6.20, 6.21 and 6.22). Of the 297 complete waste pieces, just 4% are corticated, about 25% are secondary and 71% tertiary (Table 6.23). Metric analysis was not performed on the Roystone assemblages, but blade to flake ratios have been calculated, the overall ratio for the assemblage being 1 : 29 (Table 6.24). There is also a large amount of irregular waste, mainly white chert blocks of highly local origin.

Of eighteen complete cores only two are flake cores. Of the remainder, eleven are blade cores and five bear the scars of both flakes and blades (Table 6.25). Most of the core fragments, and tools made on fragments of cores are also made on fragments of small blade cores. Excluding simple retouched flakes, the vast majority of the retouched pieces are scrapers. There are also two piercing instruments, both small, minimally retouched points.

6.2.3 Lime Kiln Barrow

Lime Kiln Barrow (Figure 6.16) is situated on an exposed hilltop with steep scarps to the west and south. The hill holds extensive views down the Roystone valley to the north and south and further out across Ballidon Moor to the south. This barrow is part of a group of eight, of which Thomas Bateman excavated two in the nineteenth century. Lime Kiln Barrow itself was excavated by local enthusiast Barry Marsden who discovered a primary cist with two plano-convex knives, a number of secondary collared urn and food vessel cremations, and other later insertions (1982). Finds from all three excavated barrows suggest an Early Bronze Age date and their positioning may relate to the nearby great barrow at Minninglow

In the 1984 season a grid of 276 (1 x 1½m) test pits was positioned at ten metre intervals on the hilltop around the barrow and along the top of the steep scarp which drops down into the valley to the west. The aim of this grid was to characterise land use of the area surrounding the barrow (Hodges *et al.* 1989).

The grid indicates a fairly dispersed use of this area (Figure 6.16), with dense concentrations at some points. Just over 60% of the test pits are empty and the average number of finds is 0.62 per test pit. This means that lithic densities are high by

comparison with Roystone Rocks, but just lower than Parwich Roystone Meadows. Waste accounts for 90.5%, cores 2.9% and retouched pieces 6.6%.

About 75% of the assemblage is flint, the majority of which is probably from the Yorkshire Wolds. Only three pieces are of the brown translucent type commonly used during the Early Neolithic. Most of the remainder is a coarse, locally available white chert, with some better quality shiny grey chert.

The barrow has been dated to the Early Bronze Age, but the diagnostic finds closest to it were microliths and end scrapers made on narrow flakes. The only diagnostic later finds on this grid were some thumbnail scrapers and a saw found on the scarp of the hill well away from the barrow. High densities of lithic material in a broad arc follow the break of slope running from south east to north west (Figure 6.16). Microliths, a blade core and large quantities of blade working suggest an earlier presence in this area. Between the barrow field and the scarp is a dense cluster of finds, which include an end scraper, a blade core and a core rejuvenation flake, once again suggesting an earlier presence.

The blade : flake ratio for this grid is 41 : 1 (n=83), which seems low. However this figure is based on complete waste pieces and fails to take into account large quantities of broken and truncated blades. This grid also has the highest proportion of primary waste (six pieces, 7.2%) although, once more this figure only takes account of whole pieces.

6.2.4 Roystone Rocks

Roystone Rocks is a dome-shaped hill with a most uneven surface caused by outcropping dolomitic limestone, and is presently rough pasture. On the north-western brow of the hill, a small area delineated by a limestone scarp was enclosed by roughly hewn stones to form a platform overlooking the valley to the west of Roystone. It is not known whether the enclosure is of prehistoric origin but the platform was certainly a focus for activity. Excavations within this enclosure retrieved large amounts of worked flint and chert dating from the Late Mesolithic to the Early Bronze Age (Myers 1992). Lying against the crags at the top of the north-eastern slope of Roystone Rocks field, and looking out to the west, a possible rockshelter site has been located at 990E/1420N. Excavation and shovel-testing produced Late Mesolithic and Neolithic brown translucent flint and chert artefacts and debitage (Hodges 1991: 60), in addition to Grimston-ware type neolithic pottery. There are several cleared areas on this hilltop

near to these features and it is possible these also date from the Neolithic (Hodges 1991; Chadwick 1998: 12-13).

Between 1982 and 1986, 367 test pits (1 x 1½m) were excavated in this area at ten metre intervals, to characterise the use of the putative enclosure, the sub-circular clearance feature and the surrounding area (Hodges *et al.* 1989). An extension of eight test pits was added extending from the south of the enclosure down the scarp and across the terrace below, where Hodges (1991) thought prehistoric clearance was possible.

Stone working on Roystone rocks appears relatively dispersed (over 70% of the pits are empty, the average number of finds is only 0.53 per test pit, the lowest count) with only a few dense clusters likely in more stone-free areas (Figure 6.17). Only 3.6% of pieces are retouched, 2.6% are cores. Flint accounts for 85% of the raw material on the grid. This time most of the raw material is mottled opaque 'wolds' flint, commonly used in the Early post-glacial (A. Myers 1986) with none of the brown translucent flint found in the excavations. Most of the chert is local, coarse and white, although there is grey-shiny and black cherts too. Once again there is substantial blade working demonstrated by a 1 : 16 blade to flake ratio (n=83), an exhausted pyramidal blade core, along with truncated blades and flakes, often associated with the microburin technique. The western extension of this grid indicates substantial activity on the lower terraces of the hill, where there are more stone clearance features (Chadwick and Evans in prep). The finds from the extension have a higher proportion of flake waste. Across the grid finished tool types are generally scrapers, including a large quantity of edge-worn and re-sharpened scrapers, which suggest the use and discard of such implements in the immediate vicinity.

A clearance feature to the south of the enclosure yielded no finds at all although this may be a function of the positioning of the test pits. An area on the top of the hill to the east of the enclosure suggests a possible working area. Here, edge-glossed and edge-worn flakes and a scraper were found as well as regular and truncated blades and flakes, suggesting the preparation of tools as well as their use.

6.2.5 Roystone and Parwich Meadows

Roystone Meadow and Parwich Meadow together form a high, broad valley running east to west between the Roystone and Parwich valleys. Reports in Derbyshire SMR indicate the collection of microliths, leaf-shaped arrowheads and end scrapers by a local enthusiast in the 1960's, at which time the fields were being ploughed.

The Roystone Meadow and Parwich Meadow grids involved the excavation of 216 and 158 (1 x 1½m) test pits respectively (Figure 6.18). The former covers the western extent of the valley up to the base of the scarp covered by the Jackdaw Rocks survey (see below), and the eastern end, formed by the top of a second scarp above Pentars Wood which drops steeply into the Roystone Valley. The main part of the Parwich Meadow grid covers the lower part of the meadow, which forms the valley floor, and an extension twenty metres wide and one hundred and eighty metres long from the south-east of the main grid, down-slope, almost to a spring. This spring, above the valley floor behind the site of the Mediaeval grange, close to where Roystone and Parwich valleys meet may have been a focus of activity in prehistory in an area that is otherwise essentially without water supply. A cluster of lithic debris spans the border of these two adjunct test pit grids. For these reasons, they have been analysed and are presented together. While later tool forms and non-diagnostic cores and waste suggest there to be an ephemeral Later Neolithic/Earlier Bronze Age presence, the vast proportion of the assemblages are of early date.

Stone-working is relatively dense in these grids, only 57% of the pits are empty and there are up to seventeen finds per pit (although the average number of finds per pit is 0.58, lower than the Lime Kiln Barrow grid). There is a higher proportion of both retouched pieces (10%) and cores (6%) on these grids than on any other. There is a high proportion of chert use (over 32% of all pieces) in these grids, and a relatively large proportion (about 10%) of this is black chert, the nearest source of which is at least 9 km from the site which may reflect a Late Mesolithic presence. This is supported by the nature of the cores in the cluster, which spans the two grids. In the main these cores demonstrate early traditions of stone working, including a pyramidal core, a tiny microlith core, an opposed platform core, as well as two blade cores which are worked to exhaustion. The rejuvenation of cores and their re-use as scrapers (amongst other purposes), along with significant quantities of blade working, is testament to a parsimonious attitude towards raw material associated with the Late Mesolithic and Early Neolithic. A microlith in the south-western extent of Parwich meadow and a micro-burin in Roystone Meadow as well as a number of truncated blades support a Late Mesolithic date. The presence of end scraper on blades, a denticulate and a leaf shaped arrowhead in earlier field collections (SMR 2434 (1)) may suggest that there is also an Early Neolithic presence. It is curious that the blade to flake ratio for this grid is so low (1 : 106, n=107), which may indicate either that a later presence in this area is

reflected only in terms of stone working rather than tool-use and discard, or that blades were prepared for use elsewhere.

6.2.6 Jackdaw Rocks

This area, part carboniferous and part dolomitic limestone, forms the southernmost point of the valley. Immediately south of this field is the northern extent of the Tilcon quarry at Ballidon. An evaluatory excavation ahead of quarrying in 1982 recorded a Romano-British site from beneath which a collection of over a hundred worked lithic pieces were retrieved (Hodges 1991). Located on the edge of a slight terrace, the extent of this scatter was not defined but it appeared to be a chronologically discrete Early Neolithic working floor (Myers 1992).

In 1983, 83 (1 x 1½m) test pits were excavated in an area delimited to the North by the Roystone Meadow grid (see above) and to the south by the Tilcon quarry. Near to the previously excavated area, test pits were sunk every 10 metres, but further away only every twenty metres (Figure 6.19). The reasoning behind this strategy, unfortunate in that it creates a considerable bias, was the immediate threat to the hill posed by the quarry. This may be reflected in the skewed density results whereby this grid has the highest percentage of empty test pits (over 72%), but the highest average density of 1.1 finds per pit.

Material in the northern extent of the grid is similar to that of the southern extent of Roystone Meadow in the presence of truncated blades and blade working in general. It is possible that there is some continuity between these scatters. Closer to the excavated assemblage no remains were found at all which might indicate either that it was a spatially discrete working floor, or merely reflect unfortunate placing of the sample units. There are dispersed low levels of waste across the southern part of the grid including an area of higher density at the southern extent now lost to the quarry, but none of the pieces are diagnostic. The blade to flake ratio is the highest of all the grids (1 : 11, n=24). The effect of the less intensive and effectively random sampling strategy is a less reliable characterisation of this area. Ultimately the test pitting has done little to enhance the original excavation in this field.

6.3 Shacklow and Dimin Dale

6.3.1 Introduction

Major Thomas Harris excavated the neighbouring sites at Shacklow and Dimin Dale (Figure 6.1, 6.20) in the first half of the twentieth century. Field notes of the Dimin Dale excavations, made by Don Bramwell, are with the artefacts from both sites in Sheffield City Museum, but the excavations have never been published. The decision to analyse this collection was made for two reasons. Firstly, 95% of the lithics were made from black chert and the sites are near to several chert outcrops potentially exploited in prehistory. Secondly there was a 'Mesolithic' (and possibly 'Neolithic') component recovered in each excavation. It was hoped by ascertaining the technological character of the assemblage it might be possible to ascertain if there was any chronological bias in chert use and build up a chain of operations representing that use within wider networks of practice.

Harris, while not a professional archaeologist had considerable experience through digging with individuals as illustrious as Abbé Pierre in the Dordogne (Michael Plant *pers. comm.*). Bramwell, whose notes accompany the excavation, was similarly, a competent amateur enthusiast, who had been immersed in prehistory since his youth. Both were knowledgeable about the region's prehistory and about stone tool typology. However, the written record they have left us is unfortunately, rather fragmentary, and it is rather difficult to be sure which plans and sections are related. Worse still, the precise location of the Dimin Dale rock shelter excavations is not obvious from Bramwell's records beyond a six-figure grid reference. This has resulted in subsequent confusion, resulting, it is suggested below, in the county SMR attributing the excavations to the wrong location.

6.3.2 Background

Dimin Dale is a narrow gorge which joins Deep Dale to Monsal Dale⁵ at a point opposite the towering Iron Age hillfort on Fin Cop (from where Bramwell's sketch drawing appears to be drawn: Figure 6.21). Raised above it on the south side, below Great Shacklow Wood, is a Romano-British fort investigated by Alfred Bramwell in 1908 (Storrs Fox 1911) and Major Thomas Harris in the 1926. There, considerable

⁵ Which is a stretch of the Wye Valley

quantities of worked chert were found some attributable to the Mesolithic (SK 169702, SMR 12407), indeed chert blocks and artefacts continue to emerge from the hundreds of mole hills and rabbit warrens on the shelf today. Two polished stone axes were also found in this area (SK 169702, SMR 12408). Harris's excavations of a "round barrow" (probably a Late Neolithic fissure burial SMR 12410) also produced microliths (see also Challis and Harding 1975). This area is henceforth referred to simply as "Shacklow".

On the North side of Dimin Dale is a Rock shelter (SK 16927045, SMR 13555; Figure 6.20) which is the SMR records as being the one excavated by Harris in 1948. It was apparently occupied from Neolithic to Roman times there is also a possible Mesolithic level. For reasons discussed below, this site is unlikely to be the rock shelter excavated by Harris and Bramwell in 1948-1949. It may, however be relate to a quantities found in the Henderson Collection (SCM 1977.592) labelled "from Rock Shelter near Ashford (Taddington footpath)" with a grid reference of SK 171703. This grid reference might place the site on the other side of the A6 much nearer to the River Wye, however it might have been attributed erroneously by the museum. Henderson also collected worked chert from "Shacklow Wood" (1986.481) with a four-figure grid reference also perhaps ascribed by the museum, as it matches the location of Shacklow Wood. It is possible that these finds are actually from the Romano-British village as Henderson's notebooks mentions collecting from the mouths of rabbit holes. Both of these Henderson collection sites are dealt with briefly lower down this section.

Derbyshire SMR records more excavated finds by Harris to the north "on a hillside shelf" (SK 168708, SMR 12431), detailed by Wymer (1977, 54) as including cores, blades and flakes, scrapers graters and microliths. More recently a series of test pits centring on SK17017055, adjacent to the White Lodge car park unearthed tentative evidence of a Mesolithic presence at this at the base of the dale-side (Garton and Malone 1999: 198). These collections have not been analysed for the present work and will not concern us further.

6.3.3 Where is the rock shelter?

The Ordnance Survey map gives the location of a rock shelter at and the Derbyshire SMR (13555) gives the location as SK 16927045. There are two reasons why this rock shelter cannot be the one described in Bramwell's field notes (at least not for the 1949 excavations, and it is assumed that we are dealing with the excavation of one site). Firstly his section sketch of the 1949 excavations (Figure 6.24) gives the location as SK

169703. More importantly, his sketch plan of the 1949 excavations (Figure 6.25) shows the position of the excavation relative to a path on which an arrow points to the White Lodge (now a car park). This factor would rule out the rock shelter at SK 16927045, as the arrow would have to be pointing the other way, or the rock shelter would have to be on the other side of the path. This means that the Harris and Bramwell's rock shelter must either be under one of the southern cliffs in the Dimin Dale gorge (on the left hand side as one walks towards Deep Dale), or under one of the eastern crags of the incline up to the Romano-British Settlement. If Bramwell's grid reference (Figure 6.24) is correct then the latter is more likely (see Figure 6.20).

This being the case then there are serious problems with the interpretation of the lower (i.e. Mesolithic) levels. Bramwell acknowledges a "flood-bed" and "flood layer" in his notes several times. If the rock shelter were on the incline up to the site of the later settlement then all the artefacts below the more structured Neolithic levels in this excavation may have finally come to rest not through discard, but through colluviation. That is to say many of the pre-'Late Neolithic' artefacts in the rock shelter may be there by virtue of hill-wash from the area of the later settlement where we know there also to be Late Mesolithic finds. However, the fact that deliberately deposited Late Neolithic/Early Bronze Age human remains (Bramwell notes: SCM) seal and overlie them by some distance indicates that these tools are earlier in date.

In summary it is my belief that, for our purposes we are essentially dealing with a single disparate early site which has been disturbed by colluviation and admixed with later material in two areas. For this reason the two collections have been analysed together. The artefacts sealed below third to second millennium formal deposits are the only non-diagnostic pieces from the area which can be reliably given a seventh to fourth date, and for that reason it is these contexts from the excavations which are of particular interest.

6.3.4 The Collections

The finds from Shacklow and Dimin Dale were deposited in Sheffield City Museum. There are twenty-two bags of worked stone, of which six are clearly from the Dimin Dale rock shelter (labelled "Demons Dale"). The rest are labelled Shacklow although the provenance of two bags is not completely reliable (see next paragraph). Altogether there are 564 pieces of worked stone. There are a number of methodological problems with using this collection in the context of this thesis.

Firstly, whilst Bramwell's hand-written notes on the Dimin Dale rock shelter excavation (see appendix) partially explain the provenance of some bag contents, the museum staff could locate no notes relating to Harris's work on the Shacklow Romano-British site. Secondly the cataloguing of the collection is not reliable. For instance some of the pieces are obviously bagged by artefact type, while others are grouped by context. Additionally while the two sites are generally distinguished by the names "Shacklow" or "Demons Dale", and by their respective accession numbers 1995.161.9 and 1995.161.1, the numbering is not consistent either internally or with Harris's hand-written cards in the bags. Two bags which give cause for concern are Shacklow Bag 11 which is numbered 1995.161.1 (normally the Demons Dale accession), while Shacklow Bag 7 has a hand-written card which reads "Demon's Dale burins?" Both burins from the collections are from this bag of uncertain provenance.

The skewed nature of the collection is also obvious from an analysis of its composition. As a whole it is characterised by huge quantities of retouched pieces. Just 8.9% of all pieces are waste and 4.6% are cores (Table 6.27), meaning that over 86% of the collection is retouched. While the character of the pieces does indicate an almost obsessive attention to secondary retouch (see below) and there may indeed be something peculiar about the prehistoric use of these sites, a likely contributing factor is that Harris generally discriminated against the collection of unmodified chert pieces.

Although Harris left no record to this effect it would be a perfectly sensible recovery policy given the huge quantities of glacially derived chert, which litters the area. The mineralogical properties of even the finest quality chert do not guarantee conchoidal fracture (Henson 1982), therefore the distinction between humanly modified irregular waste and naturally derived material is simply impossible to make. Because of the peculiar composition of the assemblage there is no purpose in reporting reduction sequences, flake dimensions and blade to flake ratios (although the first two measurements are available in the data listed in the appendix for subsequent use). Only 3.6% of pieces from the two collections are made from flint and 1.6% made of a shiny grey chert of unknown origin. A massive 95% of the collections are made from the fine black chert derived from the dark facies of the Monsal Dale series at the edge of which the sites sit (Harrison and Adlam 1985).

Characterising the working modes represented by the artefacts was extremely problematic. There are two burins, already mentioned, there are four backed bladelets (two from Dimin Dale, two from Shacklow) and a barbed and tanged arrowhead.

However, it is awls and scrapers that dominate the site, although many of the tools were so strange that outside help was sought with their analysis⁶. What is unusual is frequency with which tools appear to be made with more than one of application in mind. Quite often awls and scrapers are combined with notches (resembling those in A. Myers 1986: 378, Fig. 60) and cutting edges. It was often difficult to know whether the tools were primarily intended for scraping, cutting, graving or piercing. This necessitated the extension of the working typology to include a number of new tool categories.

Most diverse are the varied forms of awls or piercers. The short, minimally retouched point (type 22.3, n=41 [7.3%]) is essentially Saville's standard type (1981, 9, F284). The Elaborately retouched, elongated point (type 22.4 n=12 [2.1%]) is much like types found at Windmill Hill (Smith 1965). A variation on this form is that the point is offset by a side notch (type 22.41, n=3 [0.5%]), creating an effect very much like a bottle opener. Spurred implements with a short projection on a scraper-like edge (type 22.5, n=42 [7.4%]) much like those described by Smith (1965, 105) are the most frequent type. This type was also found offset by a side-notch (type 22.51, n=4 [0.7%]). Finally points are also found on heavy blanks (type 22.6, n=3 [0.5%]).

Many pieces from the categories just described are retouched so as to double as crude knives or scrapers. Many of the retouched flakes, while neither extensively worked nor "fancy" enough to merit the label "knife", are shaped like and probably may have involved the same working modes as flake knives.

There are considerably more scrapers than simple retouched flakes or blades, although the difference is probably one of degree⁷. There are 164 Miscellaneous or irregular scrapers (29% of all pieces from both sites). An exclusive sub-category was made for miscellaneous scrapers which bore notches (type 31.1, n=29 [5.1%]). End scrapers (almost exclusively made on blades, type 33, n=9 [1.6%]) were also found with such a variation (type 29, n=3 [0.5%]). Side scrapers (type 32, n=12 [2.1%]), end and side scrapers (type 37, n=15 [2.7%]), and a single hollow scraper (type 34, n=1, [0.2%]).

⁶ Thanks go to both Dr. Mark Edmonds (Sheffield University) and Dr. Andrew Myers (Derbyshire SMR) who on a number of occasions lent their expertise. However some of the pieces left both of them baffled, either because the quality of workmanship was so poor or because the manner of working was simply so bizarre that the intended working mode of the piece was impossible to identify with any confidence.

⁷ I have merely distinguished between them on the basis that retouch on scrapers should be more extensive, regular and steep. This said, the nature of chert as a raw material often means that steep retouch is the only retouch possible.

6.3.4.1 Provenance of the finds

As discussed above, the putative Mesolithic layers are probably residual, but their date is, nevertheless relatively secure, given their inclusion of diagnostic artefacts and that they are sealed by Neolithic layers. Figure 6.24 is the only section drawing in which clear measurements are given. A measurement given from a point on an overhanging rock down to the base of layer H clearly reads “14 feet”, and is supported by tables in Bramwell’s notes (SCM). Now, in terms of artefacts, one “Demons Dale” bag has diagnostic ‘Late Mesolithic’ material within, *Demon’s Dale, Pit 2, 14’ - 22’*, in which two backed bladelets, or simple rod microliths can be found. The bag also contains short minimally retouched points, spurred implements, a scraper and some retouched flakes. Assuming that this level of the excavation represents seventh to fifth millennium activity, *Demon’s Dale, Pit 2 at 14’: Bag 2* could be of the same date, as it has similar piercers, as well as an end and side scraper. *Demon’s Dale Pit 2 Flood Layer* and *Demon’s Dale flood bed at 15’6” Pit 2* also have end scrapers, a core with blade scars on it, and the same styles of piercers.

6.3.4.2 The Henderson sites in the vicinity of Dimin Dale

The “Shacklow Wood” (Table 6.29, 6.31 [site 122]), collection comprises 18 worked pieces of which 9 are waste and 9 retouched. One of the scrapers is made of flint, of the other pieces 12 are black chert and 5 other chert. There are 3 retouched flakes, an awl, 4 scrapers and an end scraper. The “Ashford Rock Shelter” (Tables 6.30, 6.31 [site 076]) collection comprises 137 worked pieces of which 28% are retouched, 4% cores and 67% waste. All the pieces are chert, 90% are black chert, 10% other colours, mostly white. The blade to flake ratio of 1:7 suggests that the assemblage is rather bladed, supported by the six cores of which two have opposed platforms (typical of the Mesolithic and Early Neolithic) and four bear blade scars. There are 7 retouched flakes, 2 retouched blades, a notched and retouched flake, a denticulate, 9 awls, 14 miscellaneous scrapers, a side scraper, 4 hollow scrapers and a backed bladelet.

Although the provenance of these sites is insecure at a micro-topographical scale, their composition is consistent with the Harris sites in terms of raw material and typological composition. Both are likely to be Late Mesolithic in date and given the retouched artefacts similar activities may have taken place there.

6.3.5 The nature of early chert working

It remains to characterise the Late Mesolithic chert working on the hill-side shelf (SMR 12407 – the site of the later Romano-British settlement), a task made difficult by in the light of uncertain provenance and admixture with later material. How were they procuring raw materials? What were they making on site, and for what purpose? And is there any evidence that this material may have been taken away, for use else where in the region?

In the analysis of the Arteamus Peak Transect collections from the Wye/Derwent area, I speculated that black chert was probably acquired from convenient derived contexts in that area. The limestone in the Shacklow area also erodes in a manner that offers a ready supply of derived chert at the base of outcrops, cliffs and gorges. However, at several points chert seams are clearly visible in upstanding outcrops around the Romano-British settlement site and in Deep Dale. These may have been quarried using antler picks if chert acquired directly from its parent material was highly prized.

There is undoubtedly a number of third millennium and later pieces in the assemblage, aside from those found in secure contexts or of diagnostic tool forms. However there is a reason for believing that much of the assemblage is of seventh to fourth millennium date. This is the almost obsessive attention to secondary retouch mentioned above, whereby tools appear to have been worked and reworked into different tool forms. While there are a number of examples of crude working which could be characterised as “two-minute tools” (Ford *et al.*, 1984), most of the pieces show fine or abrupt retouch rather than scalar or invasive retouch, typical of later periods (Bordes 1961, Brézillon 1977). As Myers (1992: 70) has suggested craft activities may sometimes have been undertaken merely as a way of alleviating boredom while watching herds. This comment is certainly resonant in the haunting preoccupation with exhaustive reworking of stone at Shacklow.

Scrapers, used in the processing of wood, leather, bone and antler are, as already mentioned the most abundant forms in the collection. But both burins (Barton *et al.* 1996) and awls (Mertens 1986) are associated, in ‘Mesolithic’ contexts, with the working of antler, which was the best material from which to make picks in prehistory. Red Deer remains were not found in the Mesolithic levels of the Dimin Dale excavations, only in the levels above, but the site may have been connected with the processing of antler for one or two reasons. Firstly as the site gives a good view of a stretch of the Wye Valley,

which probably saw frequent movement of wild herds, it may have been used as a look-out post and processing site (although the primary butchery tasks may have taken place down in the valley below). Secondly, antler resulting from kills or collection may have been worked into picks for the quarrying of chert.

While these suggestions remain conjectural (and further interpretative possibilities for the inhabitation of the locale relative to its landscape context, are outlined in Section 7.5.1), another technological facet of the site, the lack of obvious blade working makes sense in either of these contexts. Blade working has been associated with economic use of raw material to offset risk in mobile communities (A. Myers 1986, Edmonds 1987). But the small quantity of carefully worked blade cores is only surprising by comparison with Mesolithic sites away from sources of high-grade material. On this site, workable raw material was abundant and where cores were prepared, it was probably with the intention of using them away from a convenient stone source. Black chert may have been taken from this site either as ready-made cores or as unmodified tablets of chert, such as those occasionally refitted on sites in the Pennines such as Badger Slacks (A. Myers 1986: 373-374, Fig 58) and Piethorn Brook (Poole 1986: 21, Figs 7 and 8). One of the destinations for this material may have been the Upper Derwent Valley, discussed in the next section.

6.4 The Alistair Henderson Collection and the archaeology of the Upper Derwent Valley

6.4.1 The study area

The River Derwent rises high on the gritstone moors of Bleaklow and flows down the Derwent Valley to join the Woodlands Valley (Figure 4.2) at Ladybower reservoir. Today, gothic style dams contain the waters of Howden, Derwent and Ladybower Reservoirs, which flood the valley bottom. Public access to most of the land in the Upper Derwent Valley has been established by access agreements since The National Parks and Access to the Countryside Act (1949) and is currently maintained by a provision of The Water Act (1989).

High gritstone moorlands give the valley steep sides. These moorlands are criss-crossed by footpaths, which, along with sheep-grazing, accidental fires, climate and acid rain have removed vegetation cover and subsequently the exposed peat. It is from these

erosion scars that amateur enthusiasts have, for some time, collected stone tools and debitage. It would be a mistake to imagine that a distribution map of finds from this area is fully representative of prehistoric land use. Erosion scars are windows of opportunity, into a prehistoric landscape that we could not otherwise know except by extensive test pitting.

6.4.2 The problem

The investigation of artefacts from the Harris Collection suggests that, at least during the seventh to fifth millennia, groups exploited chert from Wye Valley outcrops as well as residual deposits of the Derwent Valley. This abundant source of readily available and high quality material is not strongly reflected on the White Peak but is more visible in the Wye/Derwent zone of the transect (Figure 6.5).

Fieldwork from the 1960s has established that black chert, probably of Derbyshire origin was in use in the Southern and Central Pennines. Both Jeffrey Radley (1968) and Andrew Myers (1986) report that numerous assemblages in these areas comprise more than 90% black chert. However Radley's (1968a: 34, Figure 3) distribution map suggests a geographical hiatus around the Upper Derwent Valley, giving the impression of a "halo" of chert-use locales at a distance of about 15-30 kilometres from the northern extent of the White Peak. It is the purpose of Section 6.4 to demonstrate that this is not a real pattern but a gap in the published fieldwork. The Upper Derwent Valley is the Peak District's principal gateway to the Southern Pennines and our deficient knowledge of the area must be overcome to understand the relationship between the two areas. Most importantly the models used to characterise activity in the Southern Pennines (q.v. Section 5.4.1.1) are predicated on simplistic ideas of upland/hunting/marginal versus lowland/domestic/central, despite the apparent dearth of lowland sites. Therefore by following the guidelines laid down by Gardiner 1987 Section 5.6.3), it is my intention to clarify the prehistoric use of chert in social and physical space through the analysis of museum collections.

Jeffrey Radley's work mentions only two Late Mesolithic sites within the Upper Derwent drainage basin, Bull Stones (Radley 1968a: 35) and Ridgewalk Moor (Radley 1963: 97) both of which are above 450 metres OD (Figure 6.33). However, reference to Derbyshire SMR reveals that many prehistoric find spots were made in this area between the 1930s and the 1970s by one man, Alistair Henderson. The Henderson Collection was therefore analysed by the present author (Hind 1998) to complement a

survey of the Upper Derwent Valley (Bevan 1998) by the Peak District National Park Archaeology Service (PDNPAS). In addition to Henderson's collections, a single assemblage retrieved by the PDNPAS, and another from a local enthusiast, Paul Ardron (who has similar methodologies to those of Henderson), have been drawn upon to complement the Henderson corpus.

6.4.3 The Alistair Henderson Collection

Henderson hitchhiked out from Sheffield to retrieve stone tools from erosion scars (Section 4.3.2) all over the Peak District (Figure 6.26). His contemporaries knew him as a rather secretive man, although not, perhaps, as 'territorial' as some other collectors. Paul Mellars (*pers. comm.*) recalled a dry joke told by members of the Hunter Archaeological Society in the 1960s: "Where's the Mesolithic of the Peak District? It's under Alistair Henderson's bed." But, also unlike many of his contemporaries, Henderson was a fastidious collector who was concerned with all manuports not merely retouched artefacts, and his collections contain many categories of waste and by-products as well as finished forms. If Henderson had one shortcoming it was that he was too willing to see retouched forms where they were not there. Whilst he had a keen eye for detail, all too often unretouched pieces were categorised in his notebooks as finished forms usually because of a resemblance in shape. In sum, Henderson was not a selective collector but his analyses had their shortfalls.

Henderson's finds were, in the main, attributed six-figure grid references. Where four-figure references are given more exact locations can often be established by accompanying descriptions. Some are from sites from which he collected on many occasions, and another collector, Paul Ardron, still visits some of these sites today. While more survey would be necessary for a detailed intra-site analysis or a statistically representative view of the valley, the provenance of the finds is adequate for a scale of investigation that takes the entire drainage basin as its unit of inquiry.

The present author analysed the Henderson collection in terms of raw material categories, waste and tool typology and reduction sequences (Appendix 4). Metrical information was not considered to be useful for two reasons. Firstly the entire target population is unlikely to be recovered at any find spot. Henderson picked up what was visible from erosion scars, therefore it is reasonable to suppose not only that some lithics were still beneath the surface, but also that n-transforms (such as soil slippage) and c-transforms (such as other unknown collectors operating in the area) had

previously removed potential finds. Without a representative sample, calculations, such as those proposed by Ford (1987) to determine date and 'function', would be statistically meaningless. Secondly even when six-figure grid references were given, an artefact scatter can only be tied down to a 10 000m² area (100m x 100m).

While many of Henderson's notes do make it clear that scatters are discrete others are more dispersed. The present analysis also made it clear that certain scatters are palimpsests and others at least contain objects subject to chance loss such as arrowheads. Once again, unless we can be certain that all the waste is characteristic of one period, and that artefacts with different chronological associations are merely chance losses or individual depositions, measurements such as length:breadth ratios and overall reduction sequences will not be as reliable a chronological indicator as those from an excavated site. This said, the general character of waste and by-products was recorded at a more general level so that diagnosis of date was not completely reliant on retouched artefacts.

6.4.4 *The corpus*

Once analysed, various parts of the collection were combined if they had the same grid reference, leaving 55 find spots from around the valley (Table 6.31). It is evident from Henderson's notes that some of the lowland "sites" further coalesce into even larger scatters. Figure 6.27 shows that most of Henderson's Upper Derwent 'sites' have between one and ten finds. There are however three lowland areas with much denser concentrations of artefacts. The Peak District National Park Authority Archaeology Service recently investigated one of these sites on the beach of Howden Reservoir, on the south bank of Linch Clough, and it is with an analysis of this site that this section begins.

6.4.5 *Linch Clough South*

Henderson made a number of visits to the beach south of Linch Clough and collected over 100 pieces of worked flint and chert. Data from six sections of the Henderson collection were combined for analysis of this locale. All have national grid references of either SK 167938 (1977.617-628; 1986.566) or SK 168938 (1986.475; 1986.513; 1986.519; 1986.541) and are variably labelled "Howden Reservoir Beach", "Howden Dam Beach" or "Opposite turning circle". This data (Table 6.31; Appendix 4: Site 201) has been integrated with that from two recent collections. During the summer of 1999,

low water levels in Howden Reservoir revealed more of the lithic scatter previously visited by Henderson, as well as a series of charcoal-filled pits on the temporarily exposed beach (Figure 6.28) radiocarbon dated to the third millennium BC⁸. The lithics were collected, and recorded by tape from a known point by Bill Bevan⁹ (Appendix 5). The present author was asked to analyse these finds, and to enhance the data set, more lithics, collected at the same site from 1992 to 1997, were procured from local enthusiast, Paul Ardron (Appendix 6).

The interpretative problems associated with such aggregation are as follows. Firstly the position finds from different collections are recorded with varying degrees of accuracy. As Henderson's collection only has six figure grid references, we may be dealing with finds from over as much as 20 000 m², although the area is likely to be rather less than half of this. This however alerts us to the second problem. Artefacts with different typochronological associations occur within the scatter, suggesting that it is certainly a palimpsest. Unless we can be certain that all the waste is characteristic of one period, and that artefacts with different chronological associations are merely chance losses or individual depositions, measurements such as length:breadth ratios and overall reduction sequences will not be as reliable a chronological indicator as those from an excavated site. This said, to merely analyse material from the three collections separately is to ignore a possible shared context, and from this perspective it is a worthwhile project.

6.4.5.1 Raw material composition

Of 240 pieces 101 are flint, of which 5 are translucent, 42 derived from the Wolds, and 54 "other", the 'dustbin' category for pieces which cannot be assigned to either (Table 6.32, Figure 6.29). There are 139 pieces of chert of which the distinctive black chert accounts for 101 pieces. Only three pieces are of grey shiny chert, and the remaining pieces are of various colours such as white and dull, pink-grey.

⁸ Beta-137042: Cal BC 2850 to 2815 (Cal BP 4800 to 4765) and Cal BC 2680 to 2200 (Cal BP 4630 to 4150). Beta-137043: Cal BC 2870 to 2445 (Cal BP 4820 to 4395). (Bevan *pers. comm.*)

⁹ Peak District National Park Authority Archaeology Service. This collection is henceforth referred to by its site code, UDKT99F.

6.4.5.2 Typological composition

Of 240 pieces there are 49 cores (including fragments), 57 pieces of irregular waste, 5 core rejuvenation flakes, 62 flakes, 28 blades and 39 retouched pieces (Table 6.32, Figure 6.29). Of 37 complete cores, 6 have only flake scars, 20 are blade or bladelet cores, and 11 have the scars of both blades and flakes, confirming the importance of blade working on site. The majority of complete cores (62%) have one or two platforms. While bipolar and conical cores are present many cores are simply worked to exhaustion, that is until further removal is impossible, leaving a small, roughly cubic piece of flint. Of the regular waste (whole blades and flakes), the flake:blade ratio is 70:30 in favour of flakes, which is nevertheless constitutes a high quantity of blades/bladelets, many of which have punctiform butts (Ford 1987) suggesting an early (seventh to fourth millennium) date (Table 6.34). Other categories of waste also suggest an early date. In addition to quantities of truncated flakes and blades, a single microburin confirms that microlith manufacture was taking place on-site.

Many of the retouched artefacts also suggest an early date. The flint microlith (a rod-like implement) and the chert backed-bladelet are typical of the latest Mesolithic in the Central and Southern Pennines (Switsur and Jacobi 1975, 1979; Spikins 1998). With the exception of one scale-flaked thumbnail collection from Ardron's collection (05/06/1993: 1150), all the scrapers also have stronger associations in Early sites¹⁰. The end scrapers are all small, with steep retouch and more than one has been made on a blade or narrow flake. There is also a beautifully made extended end and side scraper in the Henderson collection (1977.617-628). The knife from Ardron's collection (10/04/1993: 744) could be later but its neat, non-invasive retouch might suggest an earlier date too.

Ardron's collection does include post-Mesolithic artefacts. One piece (25/10/1994) looks like an poor, unfinished leaf-shaped arrowhead. As well as the thumbnail scraper, already mentioned, later working appears to be represented in some of the waste. A broad squat flake apparently from a multi-platform core (14/09/1997) is made from very fine flint, which is different to material that the earlier artefacts are made from. Despite the general prevalence of blade cores, the few flake cores found would not be out of place with Later Neolithic or Earlier Bronze Age assemblages.

¹⁰ The other "thumbnail" scraper is diminutive and was either abruptly retouched or re-sharpened. It resembles those found in the 'Mesolithic' levels at Dimin Dale.

6.4.5.3 Reduction sequence

Reduction sequences are determined in line with the specifications laid out by Garton and Myers (Barnatt *et al.* in prep). Only whole pieces of regular waste are analysed and characterised thus: primary (>50% of dorsal face unflaked); secondary (>0 but <50% unflaked); tertiary (all flaked). Overall the Linch Clough assemblages appear to have extremely low quantities of cortical (primary) waste (Figure 6.32). This may not be a completely representative picture of activities on the site.

One of the problems with analysing reduction sequences in a mixed material assemblage is that the way a nodule of flint is reduced is different to a tablet of chert¹¹. It seems that a number of irregular blocks were removed from chert tablets and the weathered surface (the equivalent of cortex for chert – its original interface with its parent material, limestone) used as a platform. Therefore primary flakes are extremely rare, at least in Peak District assemblages, because the only “cortical” presence tends to be on the platform of a blade or flake, not the dorsal face. As a consequence we cannot say that chert was brought to the site for working on a pre-formed core. If we look at the equivalent reduction sequences for irregular chert waste (Figure 6.33), which is not typically included in such analyses, we find a higher proportion of primary pieces. It seems that chert *was* being brought to the site in tabular form for subsequent modification.

6.4.5.4 Discussion

A full technological analysis is beyond the scope of this study given the provenance and recovery methods from which this material derives. However while a later presence is in evidence, the majority of both waste and retouched artefacts are strongly suggestive of a seventh to fifth millennium date. The same problems of provenance and recovery methods apply to the characterisation of the site in ‘functional’ terms. Given the range of retouched artefacts present we could suggest that the site might possibly be a Type B (balanced) assemblage in Mellars’ (1976b) terms. One interpretation is that the tools suggest a wide range of activities were carried out there apart from the manufacture of microliths. If this were so we might be looking at some kind of repeatedly visited camp taking advantage of the sheltered locale and proximity to a water source.

¹¹ While both materials may come in either nodular or tabular form, flint is principally found in nodular and chert in tabular form on this site and in the area in general.

6.4.6 Linch Clough South in Context

Most published reports of sites in the Southern Pennines involve sites over 400 metres OD (Simmons 1996: 33-34). Figure 6.33 shows the principal published sites in the area most of which are in the neighbouring Dearne, Don and Rivelin drainage basins. These sites are known from the work of collectors such as Jeffrey Radley and their contents are summarised in the *Yorkshire Archaeological Journal* (Radley and Marshall 1963). In the Upper Derwent Valley, a very different category of site is visible at Linch Clough South and at two other locations. The positioning of large mixed assemblages at the mouths of deep gorges is repeated at the mouths of Abbey Brook and Ouzleden Clough (Figure 6.34). These sites are probably the largest known sites with seventh to fifth millennium associations in the Southern Pennines lowland zone (under 300 metres OD).

A locale described by Henderson as “campsite with pot-boilers” (Table 6.31 [088]) on the north bank of the Ouzleden Clough inlet, has no diagnostic artefacts. The cores are flake cores and most of the waste is flake waste. It is possible that some of the cores have been re-used as scrapers, a typically ‘Late Mesolithic’ trait (Myers 1986), but overall, a date cannot be confidently suggested for this site. However the shoreline which stretches six hundred metres up-stream from Ouzleden Clough, in front of Birchenlee East Plantation (Table 6.31 [128]) is littered with waste, much of which may more positively assigned to this period. Chert is, once more, the dominant material. Blade and bladelet cores, some of which appear to have been re-used as scrapers or fabricators, dominate this area, from which Henderson and Don Bramwell collected over a thirty-five year period. Truncated flakes and blades testify to the creation of microliths. Once again the assemblage is balanced with tools for piercing, scraping, cutting and graving all represented. Many of these tools are not morphologically “classic” but retouch and edge-wear suggest the tasks to which they were applied. Like the recycled cores and core fragments, many other pieces appear to have been made with more than one working mode in mind. Flakes are retouched to provide both cutting edges and piercing points. An awl may also have had a burin spall deliberately removed to facilitate graving. Such careful re-use of material, involving such multi-purpose “Swiss army penknife” tools is, as discussed above, a feature of the Late Mesolithic assemblage from Harris’s Dimin Dale excavations.

At the mouth of Abbey Brook a two large adjacent collections of stone tools (Table 6.31 [033 and 183] also represent more than one chronological period, but again, many of the pieces are strongly suggestive of seventh to fourth millennia working¹². Exhausted blade cores (including opposed platform and conical bladelet cores) are prevalent in terms of by-products. Truncated blades and notched flakes are common suggesting that here too microliths were made (Table 6.33). 'Pygmy' thumbnail scrapers as well as burins and piercers are evidence of a wide variety of tasks. Finally a backed bladelet (or crude rod microlith) and a crescent microlith provide firm diagnostic evidence of a seventh to fifth millennium presence as well a variety of activities.

As finds are still being found almost every year at Linch Clough South, the recovery rates from these locales, is probably low. The sites are therefore massive, by comparison with sites from the Upper Derwent Valley above 300 metres OD (Table 6.31, Figure 6.27). They may even compare with some of the Broomhead assemblages (Figure 6.33), both in terms of the area they cover (about 24 000 m² at Site 1 - Radley and Marshall 1963: 89) and the size of the 'target populations'¹³. As signalled above, these assemblages are unique in an area that has been hitherto characterised in terms of generally small, microlith-dominated upland sites. Linch Clough South, Birchenlee East Plantation and Abbey Brook are important as lowland counterparts and while our understanding of them is limited by their provenance and recovery methods we can make some suggestions as to their place in the taskscape.

Firstly, a wide variety of raw materials were used on these sites. While the upland assemblages analysed by Jeffrey Radley (1968a) and Andrew Myers (1986) tend to be weighted heavily in favour of either wolds flint or chert, an array of cherts and flints from both primary and secondary sources are in evidence on these three sites. Overall chert tends to dominate and this may alert us to the importance of the position of the sites. For much of the year this part of the Upper Derwent Valley may have been the navigable limit of the river. One possibility is that chert which could be easily collected (from secondary sources) or quarried in the Bakewell area could be easily transported in relatively large quantities. While there is evidence that whole tablets of chert were transported into the uplands (A. Myers 1986, Stonehouse 1990), this may not have

¹² A broad blade microlith [1986.384] alerts us to as even earlier use of the site.

¹³ Only Broomhead 5 (near to Broomhead 1) has been excavated. Surface collection retrieved 668 pieces (from an unknown spatial extent) and controlled excavation (2.7m x 7.2m) a further 695 pieces (Radley *et al.* 1974).

always been the case. Once groups or individuals began to travel around the high moors on foot, portability may have been at a premium. Linch Clough South, Birchenlee East Plantation and Abbey Brook may have been convenient places to prepare 'tool-kits' for upland tasks, to decide what would be taken and maybe what could be cached.

In summary, while the provenance and recovery methods of the assemblage from Linch Clough South and the other Henderson sites have been less than ideal, comparative technological analysis allows us a glimpse of activities that may have taken place there. Inevitably further interpretation remains speculative and subject to academic trends. But the mere presence of such substantial collections in the 'lowlands' away from the majority of recorded contemporaneous activity suggests their importance. Further systematic investigation could considerably enhance our knowledge of the mid-postglacial inhabitation of the Southern Pennines.

Chapter 7

Writing about the prehistoric inhabitation of the Peak

7.1 Introduction

In the final chapter of an archaeology dissertation it is customary to launch a grand synthesis, where everything is slotted into place through a 'plot', and where the reader is told, epoch by epoch, 'what happened' in prehistory. For reasons rehearsed in other chapters, this is neither a desirable nor a possible outcome for this dissertation. Fundamentally, there are major problems surrounding the chronological resolution of 'the Late Mesolithic,' 'the Early Neolithic', and the transition between the two. None of the changes that we associate with that 'transition' are coterminous. No mortuary structures in the study area have been reliably dated, but it seems likely that many of them were reworkings of familiar, long-inhabited locales (Section 4.2.1). Cereals appear comparatively early, and domesticated animals, perhaps, somewhat later. Meanwhile, there are intimations that the diets of some people remained rather similar to those of previous millennia (Section 4.8). There are ways of working stone that persist, and other ways that change considerably (Section 5.3). Put simply, none of the ostensibly revolutionary changes associated with 'the transition' happened at the same time and, for this and other reasons (Section 2.7), it seems completely inappropriate to continue talking in terms of two distinct periods, each with a set of 'essential' practices. Rather we should recognise different practices as being coeval and historically emergent within the same developing world.

Chapter 3 therefore established an epistemology that recognised the ontology of relational practice. The myth of the primitive was attacked, while acknowledging that there are fundamentally different ways of engaging with the world from those of economism. Through an archaeology of practice, mediated *openly* by metaphor and analogy, it should be possible to understand how social conditions emerged and were reproduced in the constraining and enabling materiality of landscape and technology. It is landscape and technology, simultaneously physical, discursive, social and existential, to which we, as archaeologists, have access, not 'nature' or 'society'. It is through a repetitive engagement with landscape and technology, in the production of experiential time, that humans are capable of conceiving of their past, present and future in terms

other than progress. For many people this comes through the certainty that the dead and the not-yet-born are immanent in the landscape and in the reproduction of technical practice (Section 3.5.4.2). If these propositions are acceptable, then there are profound and unsettling consequences for the way in which we envisage what are often called 'monuments', and the types of work with which they were involved (Sections 3.4, 4.2.1.4). 'Monuments' have been, in some senses, and certainly in this study area, the defining feature of the 'Neolithic'. Below I will suggest that their iconic status has allowed them to be seen almost as things-in-themselves rather than as the consequences of sequential actions, situated in networks of diverse, mutually referential practices.

In Section 5.5 it was argued that reiterative episodes of work collapse in low-resolution patterns of material. Making such artefact scatters speak to social questions is no easy matter, but it is nevertheless an academic imperative, with a series of implications for any particular study area. In terms of lithic technology, with which this dissertation has been primarily concerned, the Peak District is a region where there are relatively limited supplies of raw material readily available for stone working. Under these circumstances, it is quite reasonable to assume that the amount of material that is 'out there' to be collected is significantly lower than that which we would find in areas rich in raw material (Section 5.5.1.2). These variations in conditions prefigure the need for diverse methodological and analytical approaches. The sort of work allowed by the sheer volume of material from Wessex and Berkshire simply cannot be done in the Peak District, and the interpretive strategies employed must change correspondingly. While regional cross-comparison is essential for analytical modelling, it should not take precedence over the unique conditions of the study area. Therefore, while this conclusion is important for future work on the Peak District, the data presented in Chapter 6 and the synthesis presented below have wider implications for the way in which archaeologists contrast one region with another.

The rationale behind my approach to lithics in the study area is that many previous accounts have not paid enough attention to stone working as *practice*. While some analysts have been content to put dots on maps, others have been meticulous in recording the physical *chaîne opératoire* (Myers 1992; Garton in prep.). However the latter prefer to situate those sequences and networks in explicit, generalising models (Section 4.5) or implicit, common sense metaphors based on assumed function (Section 4.6.3), rather than in terms of the production of social space and time. But we should expect no immediate, functional equivalence between a particular arrangement of

certain artefact categories and specific activities (Section 5.4) as the identification of function pre-supposes a knowledge of intention and project, which is only accessible through theoretical intervention (Section 3.5.2.2). Rather, as we are dealing with a relatively restricted range of stone working tasks and a small but flexible 'tool-kit' (Section 5.3.1), interpretation could usefully focus upon possible working modes with respect to the potentials offered by particular landscape settings at various times. By stressing diverse possibilities for the inhabitation of places by historically contingent, emergent identities, and relative to discrete timings, purposes and socio-physical conditions, we might produce more satisfactory accounts of prehistoric practice (Section 5.4.3).

Therefore this synthesis addresses the specific, unique and peculiar character of particular places, rather than the generalised imperatives offered by categories of Mundane Time. This aspect of my approach is by no means completely new: Bradley and Hart (1983) drew on Hawke-Smith's (1979) work to suggest very broad land-use zones, which for a variety of reasons we now know to be inappropriate (Section 4.4). Barnatt (1996) goes one stage further than Bradley and Hart and, in critiquing their work, suggests the social potentials for four major land-zones (Section 4.7). Within those categories I wish to identify specific characteristics of individual areas and the ways in which they might have anchored the projects and practices of the people who moved through and inhabited them.

It is for all the above reasons that I will depart from the expected format of a chapter divided by chronology or societal subsystems (economy, ritual, etc.). Instead, I will examine individual drainage basins of the Peak District one by one, the motives for this strategy being twofold. Firstly, by archaeological accident, each drainage basin has an uneven relationship to the major categories of archaeological material. Some have produced well-excavated monuments or faunal assemblages and others have not. Secondly, and more importantly, the sense of intimacy this method provides will make it easier to fulfil the landscape approach outlined in Chapter 3. For archaeologists and prehistoric actors alike, landscape is 'good to think with' and drainage basins provide a manageable way of orienting the body in experiential terms. In certain micro-regions I have found greater potential for the discussion of particular aspects of social life, the expression of which is not easily articulated through the materiality of others. The style of presentation may be displeasing to some readers who are used to clearly defined sections for theory, data, interpretation and conclusion. Instead, the format is more akin

to a tour guide of individual valleys, with each section drawing together the themes best evoked by the material represented therein.

I emphasise that, in a variably densely wooded landscape, the paths of least resistance are the edges of precipitous dry-valleys, the banks of rivers, and the high watersheds. These 'given' corridors were not only of economic and symbolic value to the people who traversed them, but were, through attentive social engagement, effectively embodied in their muscles and embedded in their consciousness, mythic and otherwise. Between these pre-existent paths, the trails of animals, spirits and ancestors, human and other agencies would generate further spaces and passages for future action. Concern with the ordering of cosmic and social forces, then, is likely to have been expressed by reference to tangible terrestrial manifestations including rivers, forests, mountains, caves and other landforms. Crucial to my argument is the idea that people recognised watersheds in the past as important thresholds, not lines that they were incapable of crossing, but across which socio-physical conditions had the potential to change. It is also critical to my interpretative framework that people's lives and their understandings of the world did not stop at those thresholds but, through the dissemination of bodies, objects, and ideas, were presenced by broader worlds. These understandings then, took them, not only into different parts of the study area, but also, in the procurement of flint for example, very much further beyond. While encompassing borders are rarely hard and fast in systems of zero and one-dimensional tenure (Casimir 1992; Section 3.5.4.3), many small-scale communities with an intimate attachment to their land make moral or normative contrasts with areas beyond that intimacy (Helms 1988: 22).

From this kind of geographical perspective, one gets a sense of nested landscapes, materialising as part and parcel of the nested identities of self and community, which operate at varying social scales (Section 3.5.3.2). We cannot know, as would one who studies the living, the way in which these communities organised their work, interaction and the dissemination of their material expressions, beyond the likelihood that it was at a small-scale and organised through kinship relationships. The division of labour, which is so important to the emergence of identity, may well have been informed as much by horizontal as vertical distinctions, the latter tending to be unstable and short-lived in small-scale communities (Section 3.5.4.3).

The differences in lithic scatter composition suggest that some places saw persistent use over time, some were used over more limited periods, while others were used episodically over and over again. Their varying size suggests that, quite often, the scale

of residence in a place may have involved no more than an extended family. During the course of their residents' tasks, nearby locales would have seen activity by an even smaller range of people. There were, however, other places where the scale of social interaction was potentially significantly greater (Section 5.4.3), perhaps contexts such as mortuary structures, communal pasture and quarries. It is rarely obvious however, whether large numbers of people were all present at the same time or whether they came to a particular place sequentially and into contact with the evidence of others.

The broad similarities in material forms, visible to archaeologists over large areas (e.g. Section 2.5.1), came out of what is likely to have been a very fluid inhabitation of landscapes. In taking a network approach to landscape and technology I recognise that points in those networks were human beings arranging themselves in *praxis*, probably through principles of kinship, made and re-made on a daily basis through face-to-face contact. Small groups of people, who we assume, on the basis of the proximity of their living, were likely to have been closely related, nonetheless would have recognised themselves as caught up in something bigger. But that 'something' is not likely to have been as discrete, fixed or structurally stable as social evolutionary models would tend to suggest. If there was ever any sense of a strong resolution of political hierarchy (vertical distinctions) it could change or collapse rapidly and certainly over the scale of generations.

With respect to the fourth millennium the model of fixed, stable residence by small farming communities has oscillated back and forth between the homestead and the village, interchangeable in many accounts (Thomas 1996b). We can say, with a high degree of confidence, that many early mortuary structures could have been built by, not a thousand, but a few dozen people, and at different times were encountered by perhaps just one or two. Absolute numbers are irrelevant: what is important is the difference in character between face-to-face interaction experienced between a few dozen and a few thousand people. Because of the character and scale of fourth millennium mortuary structures, it is fair to say that they are likely to have been built by groups on the former scale. Nevertheless, it may be through the coming together of just those few dozen bodies at certain times, in specific places, through the materiality of working, eating and exchange that some sense of broader corporate identity was given expression. It is, therefore, unnecessary to maintain the distinction between small 'Mesolithic' communities, and larger 'Neolithic' groups. What is important is to cultivate a sense of how community is articulated at the level of day-to-day practice.

7.2 The south-east limestone plateau

This section focuses on the traditional centre of Peak District prehistory. My purpose in starting here is to encourage, in the accounts that follow, a sense of places and paths developing and the inter-generational rehearsal of movement, of people following the paths their forebears walked to the places they knew as part of themselves. Part of them, that was, because every year the meanings they first discovered at each, through an education of attention, would have been rediscovered in growing relationships with other inhabitants.

7.2.1 The southern dolomite ridge

The majority of the geometric microliths and the earliest pottery known in the study area were found at the intersection of the Lathkill, Matlock/Wirksworth and Parwich/Bradbourne drainage basins (see Figures 4.2 and 7.1). To understand this area it is crucial to appreciate that it is not really a plateau, but rather uneven territory by virtue of two spines of dolomitised limestone, which run south-east to north-west. Along the way great crags and ‘tors’ stand proud of the ridges, whether as isolated stacks or “castellated escarpments” (Dalton *et al.* 1988: 13-21). Their substance is the result of sedimentary, volcanic and geochemical processes that happened millions of years ago, their emergent form given by subsequent differential erosion.

The post-glacial regeneration of woodland may never have extended to cover the highest ground on the plateau during the Holocene, due to a combination of climatic/altitudinal factors and human interference at an expanding woodland edge (Barnatt 1996: 48). Pollen cores from three locales in the White Peak (Taylor *et al.* 1994) suggest repeated incursions into a naturally expanding upland forest edge by controlled burning and grazing. It may be that only birch, hazel and willow scrub were able to colonise ground above about 300m OD, and locales such as those along the dolomite ridges were relatively open scrub throughout prehistory. Hawke-Smith believed that in the fourth millennium BC “the limestone plateau constituted a specialised outlying habitat offering valuable resources of grazing on the base-rich soils and perhaps elm leaves and shoots as food for stock” (Hawke-Smith 1979: 177). The higher ridges of the limestone plateau may have offered seasonal grazing for wild herds in relatively open woodland for several millennia beforehand (Garton 1991: 15; Barnatt 1996: 50).

Tors offered shelter and pockets of standing water to deer and cattle. Repeated grazing, trampling and manuring around these locales may have led to the creation of a “halo of open vegetation” which in time provided a focus for human exploitation as at the granite tors on Dartmoor (Evans *et al.* 1999: 27). In places, progress across the areas where dolomitic limestone outcrops could be difficult, as its already de-calcified, ice-wedged character is broken up further by tree rooting, which contributed to the form of the tors. Nevertheless, for people moving through the light open woodland of this area, the dolomite tors offered excellent landmarks. By them the body could be anchored and orientated in its tasks. Over time the movement of bodies and the development of paths regularised the way each new generation came to see these places, although the stories surrounding them changed subtly and imperceptibly from mouth to mouth.

7.2.2 Picking up the trail

We start at the south-east end of the lower chain, at **Hopton Top [1]** (Figure 7.1), where one of the first White Peak scatters with geometric microliths was recognised on a ploughed field (Manby 1963: SMR 8308, 8342). The maintenance of cores, their re-use as scrapers, as well as the production of backed bladelets and microliths are the trails of these people for those who came soon after, and for us. A range of possible tasks could be represented, some of which are demonstrable through microwear analysis at more recently discovered sites. But here, as at so many other places we will pass, the elements of this flexible tool-kit are silent as to the work they did. What we can say is that the brown translucent flint may well have been brought from the Trent gravels, perhaps up the Derwent as far as where Matlock stands today before ascending on to the plateau. The nearest outcrops of the dark-grey chert are about 10km to the north as the crow flies, in Lathkill Dale. Perhaps it was recently acquired from a secondary riverine or glacial source on the journey or else it had been carried for some time. Perhaps the journey was being made in the other direction, and the flint had been acquired through exchange or curated since the last visit to allies in the valley. Maybe no great journey was being made, and the tools were made while watching animals move on the ridge, or in clearings below.

Nevertheless, we are alert to the presence of raw materials that are both relatively local – accessible within the *durée* of daily activities – and non-local, requiring a journey outside that spatially restricted set of daily locales. The latter may involve a visit to a different area (in this case over 30km), which nonetheless might be in the same tenorial

base. If so, it might be preferable to wait until the time at which one would be visiting anyway. On the other hand, obtaining non-local materials may involve entrance to another tenorial domain, negotiating with known or related neighbours who hold the right to and knowledge of the resource. In this context, it may be appropriate to stay and work with that group for a period of time, before eventually returning to attend to one's own land.

7.2.3 In the sky, in the land

Moving west along the watershed, maybe a morning's walk, depending on who we are, with whom we travel, and the purpose of our journey, we come to **Harborough Rocks [2]**, a great dolomite tor, the highest point for a great distance in any direction. A pyramidal core of the same brown flint was abandoned on the north side of the tor (Manby 1963; SMR 2452), and other debitage resulting from the same techniques was found on the south side (SMR 2409, 3479). Time and time again, people sat under this massif resting on a journey, watching animals, working stone, perhaps telling the story of the place, demanded by the size and incongruity of rocks themselves. Stories change, but the importance of a place can grow. Mortal remains would later be left in the phreatic cave below the summit, but first they would be left on the summit itself.

At the pinnacle, between two outcrops, is a structure categorised as a 'chambered tomb' by Manby (1958), and by Barnatt (1996) as of passage grave type. When Ward excavated the structure, the passage "was taken up with a confused mass of human limb and trunk bones, mostly broken" (1890: 122). The skulls and the pelvic bones were deposited in a chamber at the back of the structure. Over time, maybe generations, they who used some of the earliest pottery left a ceramic vessel and four leaf-shaped arrowheads along with the remains of at least five of their fellow humans. Ward suggests that the "extreme delicateness and thinness of [the arrowheads] . . . render it most unlikely that they were made for use" (1890: 129). The flint-working floor in the forecourt suggests that objects may have been made, there and then, for the purpose of deposition.

The simple choice in interpreting this material is to fall back on apparently self-explanatory labels, such as 'tomb' or 'monument'. As with any artefact, the use of these terms carries the assumption that, from the outset, we can identify a single function to the aggregation of material (Sections 3.5.2.2, 4.2.1.4). It may indeed be that these residues represent the creation of an ancestral community and that the accompanying

stone artefacts are grave goods. However, this is to neglect the range of themes that were potentially addressed through the building and maintenance of a stone structure, or the deposition of bodily fragments and arrowheads. The consequences of these acts are only appreciable in the socio-technical and temporal context in which they took place. While the meaning given to the organisation of space was context or 'practice' specific, it could also refer, through association, to those meanings which were invoked in other contexts (Moore 1986: 85). So, *if* arrowheads carried connotations of 'maleness' or hunting activities (Edmonds and Thomas 1987), then the dispositions worked through in those spheres may also have informed acts at Harborough Rocks. Similarly, the individual biography of each actor present contained a number of temporal stages, formed and defined by their past and future spatial movement. From the top of Harborough Rocks, a 360° view over most of the southern half of the Peak is available. But the passage directs our gaze east and slightly north along the dolomite ridge, with the Parwich/Bradbourne basin to the left and the Matlock/Wirksworth basin to the right. Part of the importance of this site and the dry, broken terrain it overlooks, may have been the routine passage of the bodies of the living between tenorial acts and the tasks which constituted identity and community.

Following the watershed due west to Manystones Tor, one will, with difficulty, find **Rains Cave** [3]. The roof of the vestibule has long since collapsed and today, entrance is through a narrow portal that leads into a large single chamber. The phreatic cave slopes inward to a low bedding chamber, where the sediment partially excavated by Ward (1892, 1893) chokes a spring (Ford 1977: 85). Like many others in caves and dry valleys, this spring may well have been active over the study period, at least on a seasonal basis, after heavy rains. In the lowest level Ward found fragments of a plain ceramic bowl (Ward 1889: 39, Plate II, 3) characterised by Gilks (1990: 11) as Towthorpe Ware, and by Manby (1996: 162) as Mildenhall Ware. He also found different animal bones¹, many of which "were scraped and hacked, and still more had been broken when in a fresh condition" (Ward 1893: 161). An edge-worn narrow flake, a knife (non-invasive retouch) and a quartzite hammer stone were amongst the simple chippings (1892: 238-9). The pottery was "rude, friable and hand-made . . . dark superficially and always black within" (1892: 239).

¹ Unfortunately, the catalogue (Ward 1893) fails to tie down fauna to the particular layer and as this cave is re-used through to Roman times, one cannot speculate about practices involving animal bones in the Early Neolithic.

Already a picture is emerging of a ridgeway path more open than those that run through the shelves and valleys it overlooks, due to its altitude, geology and the movements of herds. People could move easily here whilst watching animals on the flanks of the ridge, as well as the smoke rising from the clearings below where others might be working. Our 'evidence' that this was a path trodden over many generations of humans and nonhumans, comes from the rediscovery of different parallel and successive craft traditions (all flexible and non-specific with respect to 'function') across the ridge, along with the synthesis of environmental data. But for the people who walked the ridge in prehistory, what more evidence of ancestral footsteps could *they* ask for than the scale of the tors themselves or the phreatic caves with their temperamental springs? Over the rest of this chapter other contexts of deposition will help us understand how new categories of objects, the structure and its contents on Harborough Rocks, the pottery in Rains Cave, came to be incorporated into the reproduction of these places over time.

7.2.4 Where the ancestors watch the waters rise

If we were to move along the watershed to the north and off the dolomite ridge we come to a knoll called **Slipper Low** [4]. As we drop down from this hillock we have entered the vale above the village of Aldwark, part of the valley head of the Matlock/Wirksworth drainage basin. Before the lowering of the water table by 18th Century lead-mine drainage, the Griffe Grange Valley stream may have risen somewhat higher than today, probably at Shothouse spring (Figure 7.1). The Aldwark Vale above the stream is a dry valley, but has no less than five springs, none of which flows more than a few paces before being reabsorbed by the limestone. These springs doubtless drew herds and hunters alike for millennia, becoming bound up with the identity of this enclosed place, making it special, even sacred over time. In contrast to the dolomite ridge above, this valley head may have been relatively wooded by the fourth millennium BC, as test pits indicated that there had been "no significant colluviation in this part of the valley since at least the Later Mesolithic period" (Garton and Kennett 1996: 10). Still under light, open woodland, this locale may have offered a range of fruits and nuts in late summer and autumn.

There is a proliferation of activity associated with the manufacture of geometric microliths near to the springs, known from the collections of enthusiasts (Manby 1963; SMR 134; 2401, 3473, 3405, 107, 128). Below Slipper Low itself scatters of principally

early flint working were found which included cores, gravers and scrapers (SMR 2412, 2413). A recent evaluatory survey found evidence of the manufacture of microliths, along with blades and narrow flakes (Garton and Kennett 1996). Tantalisingly, test pits also produced a fragment of the carinated girth of a Grimston Ware vessel.

It seems that over the fourth millennium BC, the expression and cementation of relationships between people, as well as between people and place, developed through at least four mortuary structures of enduring importance on the ridges overlooking these springs. In some cases this involved the reworking of the structures' forms over hundreds of generations. **Minninglow [5]** sits on the watershed with a 360° view incorporating both the Roystone and Aldwark valleys (as well as much of the rest of the Peak). By Beaker times it had been re-constituted as a massive oval barrow with many chambers and passages. But in the fourth millennium BC it may have come into being as a long cairn orientated ENE/WSW (Barnatt and Collis 1996: 88), that is, perpendicular to the watershed on which it sits. Most of the chambers were then built into this cairn orientated north to south along the watershed. Minninglow sits at the western end of a spur of land, at the other end of which is **Rockhurst [6]** long barrow, similarly orientated, but with only the Aldwark vale down to the Grange Mill gorge visible. There have probably been no excavations at this site (Barnatt and Collis 1996: 85). On the north ridge of the bowl sits the robbed out remains of the once immense chambered structure, **Stoney Low, Aldwark [7]**, excavated by Bateman. There were at least two chambers containing the remains of adult and young humans as well as animals, pottery and a leaf-shaped arrowhead (Barnatt and Collis 1996: 89).

At the end of this same northern ridge, which separates the Aldwark Valley head, from the neighbouring vale stands the chamber tomb of **Green Low [8]**, excavated by Bateman, and subsequently by Manby. Green Low has, demonstrably, the deepest history of all four structures. It sits, overlooking the Griffe Grange Valley, between three springs, thrown up by the presence of basalt sills in the limestone. Manby discusses only briefly the pre-chamber inhabitation of this site as suggested by stone axe fragments and flint flakes beneath the cairn material. "As most of the flints from the site have a Mesolithic aspect and are densely patinated due to weathering effects in the thin alkali soil, these flints may have been on the site a long time before the erection of the cairn" (Manby 1965: 17). These include two opposed platform blade cores (one subsequently worked to exhaustion), two piercers with careful non-invasive retouch, a diminutive end scraper and a notched flake. In the forecourt area, beneath the blocking

material were found Grimston Ware pottery and numerous fragments of quartzite pebbles (pot-boilers) along with more flintworking, and the bones of pig, sheep/goat and ox. The subsequent development of the locale is extremely complicated, but may have started with a simple chamber and passage, the cairn, facade and blocking material coming later. As well as the bones of at least nine humans are represented in the chamber along with parts of domestic dog, fox and cow, red deer.

This valley head, with potentially four fourth millennium mortuary structures, highlights the danger of explaining such edifices in general or common terms such as territorial marking. To do so not only fails to capture the rich variety of purposes that their establishment assisted, but overlooks the changing significance of their use across generations (Edmonds 1999b: 88). All were built near or, in the case of Green Low, on earlier remains, which may have been simply camps or themselves sites of mortuary activity, traces of which have vanished. Certainly in the case of Green Low, and probably the others, the reference to water features in this arid upland locale may be important.

Each structure has a unique architectural history. Even in their origins as long mounds, Minninglow and Rockhurst are, morphologically, very different, and despite their proximity offer completely different vistas. Did each successive enterprise draw attention away from previous natural and artificial configurations or reference them? Are we witnessing a locale with sets of resources to which competing or complementary claims were made? Two things only are certain. Firstly, the seasonal round brought people back to work under the gaze of 'the dead' as the waters rose and the herds grazed, and through this work identity, community and world were renewed and redefined. Secondly, these ancestor-associated spaces not only commemorated historical events but also retained a sense of currency and immediacy, conditioning the present in an immediate and cumulative fashion that influenced the interpretation of current events.

7.2.5 The pots and the people

Had we entered this landscape over the Derbyshire Dales, instead of coming straight up onto the dolomite ridge, we would have experienced it in a very different way. Here is the gently rolling land overlooked by the dolomite ridge. In this area there are none of the dramatic steep-sided dales that characterise the rest of the Peak. Rather, this southern fringe of the limestone massif is a confused tract of limestone inliers, a poorly

defined shale boundary and sand-filled solution collapse pockets (Ford 1977: 222). Little is known of the prehistoric environment in this area, although ash may have been on the increase on the calcareous soils of the limestone (Birks 1989). As the ground rarely reaches 300m OD the woodland canopy may have been denser over the fifth and fourth millennia. On the high plateau areas over 200m OD there may have been a more open canopy of mixed birch, hazel and ash woodland (Spikins 1998).

The distribution of fourth millennium pottery warns us against using topological, geological or current administrative boundaries to close off the study area. Just beyond the southern extent of Figure 7.1 Grimston type sherds have been found beneath Wardlow Pasture Barrow and further away in the Trent Valley in half a dozen other contexts (Garton 1991). As already suggested, connections with communities on the Trent floodplain are likely to have been closely maintained, and the same communities may have inhabited both areas at various times. In the seventh to fifth millennia closed canopy woodlands dominated by dense lime forest (Spikins 1998) would have largely dominated the Trent Valley. Rarely attractive to large game animals except perhaps in spring when growth was possible on the forest floor, the maintenance of clearances may have been particularly important to the communities dwelling therein. But given that hunting is often a communal, sometimes ceremonial activity (Bahuchet n.d.), it is possible that members of different groups occasionally combined. Alternatively outside groups may have been granted usufruct rights to hunt at certain times, perhaps during the autumn rut, when deer were gathered together and their movement was more predictable. On the other hand, boar would have been plentiful in the lowlands throughout the year, and the invitation to join different hunts may have been a seasonal exchange phenomenon.

Aside from at Roystone Grange, only two excavations in this low, southern plateau area have produced remains that may relate to the study period. Big Lane, Hognaston [9], sits on locally high ground (just below 200m) on a terrace beneath Hognaston Winn, which, with Wigber Low, Haven Hill and Madge Hill form a miniature limestone plateau at between 200 and 300m OD. The shale covered flanks of this plateau drain into the small surface streams which descend steeply into Kniveton Brook, Havenhill Brook and (before the creation of Carsington Reservoir) Scow Brook. Overlooking Scow Brook, a pit dated to 3937-3345 BC (BM-2421) with Mildenhall style pottery was found sealed below the Bronze Age Barrow (Barnatt and Collis 1996: 141). This date is comparable with Mildenhall contexts in the ditches of Briar Hill causewayed

enclosure², Northamptonshire (Bamford 1985). A backed knife and a bladed assemblage (principally in translucent brown flint) on the old ground surface were also interpreted as indicative of an Early Neolithic date (Barnatt and Collis 1996: 164-165).

At the far end of the limestone outlier, pottery from the old ground surface below the Bronze Age Barrow at **Wigber Low [10]**, Kniveton (Collis 1983), may also have Mildenhall or Abingdon associations or else features of the Ebbsfleet style (Manby 1983: 52). About twenty vessels are represented by rims, likely to come from shouldered bowls or jars. Like the palimpsest sites on the central plateau (see below), this locale saw the deposition of polished stone axes, from Langdale, Graig Llwyd and Charnwood Forest. The other lithics from the old ground surface are more strongly suggestive of a mixed Late Neolithic and Early Bronze Age assemblage. In the faunal remains on the old ground surface, pig is as well represented as cow, providing further indications that this may be a 'Middle', rather than 'Early Neolithic' assemblage. Molluscan evidence suggests that although the immediate vicinity was cleared there were probably stands of trees nearby.

These isolated intimations of the fourth millennium belie the extent to which this area may have been inhabited: study period activity is represented to a greater or lesser extent in all micro-topographic zones examined in the **Roystone Grange [11]** survey (see Chapter 6). Small concentrations of seventh to fifth millennium material are fairly evenly spread; there are at least as many on the hills surrounding Roystone Valley as in the valley itself. In the main these are typically small concentrations or stray pieces. Concentrations of exhausted cores from around the water source at the junction of Parwich and Roystone Meadows may suggest that preparatory manufacturing work took place at this sheltered location. Myers has suggested that an isolated microlith from the Romano-British site in Roystone Valley suggests that "the principle activity conducted in that area was the hunting of isolated animals by stealth" (1992: 69). Artefacts attributed to the fourth millennium appear in all the micro-topographic zones except the highest ground. There is little evidence for the inhabitation of the valley bottoms, although, as discussed in the last chapter, there was no extensive survey of this area. Relatively dense concentrations of this date appear on the slopes and hills, but even these are characterised by a range of artefacts suggesting a limited suite of activities.

² These range from 4780±120 BP (HAR 5271) to 4080±70 BP (HAR 4066).

Following Kinnes' (1988) rendering of fourth millennium subsistence practice as largely focused upon cattle, Myers suggests the lithic arrangements are indicative of a few individuals tending their herds. Such management might have involved "grazing on the hills with cattle being periodically brought down to be watered" (Myers 1992: 70). This seems entirely reasonable, and would not preclude other activities such as hunting, suggested by the leaf shaped arrowheads, and perhaps the procurement and processing of plant foods. Because of the limited range of artefact types, the small concentrations, as well as the dominance of brown translucent flint in the collections, he characterises these sites as short-term encampments away from full residential sites (1992: 70). These, he suggests might be found in

"the basins and valleys leading to the low lying regions which surround the southern Pennines . . . At such sites we might expect a somewhat greater accumulation of lithic material, and a broader range of tool using behaviour represented. This does not mean however that earlier Neolithic residence sites were large or permanent. They themselves may have been mobile, being relocated periodically during or between years" (Myers 1992: 71).

This model of logistical or radiating mobility (Binford 1980; Kelly 1995; Whittle 1997: 21) is a satisfactory proposition for these scatters in ecological terms on three provisos. First, a simple bipartite model of temporary camps against residential camps bears little relationship to most of the ethnographic documentation of hunter-gatherer and small scale cultivator mobility. Studies such as those by Price (1973) Binford (1978) and Bahuchet (n.d.) emphasise a much wider diversity of site types including aggregation sites, short and long term residential camps, specialist exploitation camps for specific resources, hunting 'blinds', short term hunting camps, kill sites and butchery sites. Second, all these authors emphasise procurement and mobility strategies as a continuum for understanding variability in distribution, rather than as a 'blanket model' for past settlement 'types', a point which Myers incorporates. Third, while meat from large game animals is often a preferred food (Lee 1968: 41), its contribution to the diets of many known hunter-gatherers is frequently low (Kelly 1995). Similarly, despite the prestige bound up in 'domesticated' resources, the diets of cultivators and pastoralists are rarely completely dependent on those things, and considerable quantities of time may be spent engaged in procurement activities common to gatherer-hunter-fishers (Bahuchet n.d.).

Across the Roystone Grange area, there are numerous broadly similar lithic assemblages, which are rarely diagnostic in terms of a distinction between the seventh to fifth millennia and fourth millennium BC. One way of accounting for this is that there may have been little distinction in the range of procurement and manufacturing activities practised over this time at these locations, although with such a flexible technology this is difficult to demonstrate without microwear analysis. But while similar forms were repeatedly deposited, the material conditions within which such practices were maintained *were* changing. Of course, change is the norm, stability the construct (Section 1.3.3.2), but from the early fifth to the mid-fourth millennium new archaeological 'signatures' appear in the area, previously understood in terms of 'the Mesolithic-Neolithic transition'. The gradual acceptance of novel organic, artefactual and architectural forms must have fundamentally changed some human relationships because of the work that was involved in their social integration (Sections 3.6, 4.8). With the introduction of domesticated livestock, new relationships with people and animals may have been established (Section 3.5.4.1). Keeping 'domesticated' herds may not be categorically different from other special associations with animals that we would call 'wild', but there are some qualitative differences (Section 3.5.2.3), which affect the constitution of social life. Similarly, that an emergent attitude towards dead bodies created new material expressions from the end of the fifth millennium suggests changes in the reproduction of human relationships. These changes, which appear to coalesce over a period of around a thousand years, may well have been very significant and had consequences that radically affected the future trajectory of social life. But their complex and fragmented presentation renders persistently debatable any interpretative reduction to domestication, the emergence of a new level of social complexity or a shift in the nature of settlement patterns.

There is little lithic material, demonstrably of fourth millennium provenance, on the high areas, but communities were not avoiding these places. High on the watershed above Roystone Valley, the Minninglow long cairn was brought into being. Its novel architecture which was subsequently, repeatedly "drawn upon to define and instigate the authoritative demands of discourse" (Barrett 1988a) crosscut a number of pre-existing 'fields'. The movement of herds and humans (past and present), clearings or stands of trees in the valley head, the aggregation of people when plant foods were predictable, already informed the path along the watershed. Within this developing network of bodies and objects all simultaneously material and discursive, all perhaps informed by

relationships with the spirits of herds and an ancestral community immanent in the landscape, new practices emerged. This architectural transformation of a watershed locale not only drew on and reaffirmed authority ascribed to the existing forms of the landscape but also provided a focus for its reproduction and reconfiguration through rebuilding.

This mortuary structure, more enduring than those built previous to it (if any were), was only one such focus. Relationships were also sedimenting around portable forms, which individually had less enduring biographies, but embodied new and lasting types of attentiveness towards elements of the world. Alongside older, essentially unchanging traditions of stone working surrounding stable task-sets, the art of bifacial flaking was learned through the fabrication of novel equipment. A completely new set of procurement and craft skills were learned and passed on surrounding the production of pottery. The excavation of solution holes containing silica sands and clays may have taken place on the plateau areas surrounding Roystone Grange. The use of the pottery itself, found at Roystone Rocks and at nearby plateau locations, was caught up in developments which transformed attitudes to a number of traditionally exploited foodstuffs, as well as being bound up perhaps with the milking of livestock (Section 7.5.2). As these novel bodies and objects were gradually introduced, they were caught up in (re-) structuring of families, wider affiliations, debt, changes of residence and a multitude of other practices.

7.2.6 Where many paths meet

Walking to the head of Roystone Valley we come to the point where three catchments meet and the southern extent of the Lathkill drainage basin, a wide, relatively flat expanse to Long Dale in the north and the head of Griffie Grange Valley to the East. This plateau area separates the dolomite ridge already discussed from its parallel neighbour on which Kenslow Knoll and Gib Hill are sited. To the west it extends off along the watershed parallel to this dolomite band.

The lithics from the test pit survey at **Minninglow Car Park [12]** produced what may be a series of dense but discrete activity areas (McElearney 1992). In terms of formal artefact types, the heavily bladed assemblage has only two geometric microliths but considerable quantities of bladed waste. This aside there is only a burin spall and a retouched blade. On this basis and on that of the high proportion of corticated and core

maintenance debitage, Myers suggests that the activities were not 'residential' but neither did they involve the maintenance and use of tools made elsewhere (1992: 66).

Surface scatters at Astonhill [13] (May 1971), Elton Common [14] (Radley and Cooper 1968, Gerrish 1982), Mount Pleasant [15] (Garton and Beswick 1983), Upper House Farm 2 [16] and Aleck Low 2 [17] (Hart 1981, 1985) were found within a short distance of this point. For our purposes, these fieldwalked areas have four things in common.

First, in terms of their landscape situation, all these sites are on the northern band of dolomitised limestone. They cluster around the steeply-graved, almost invisible slopes of the Long Dale and Gratton Dale dry valleys, which plunge down from the plateau and snake their way through into the major river gorge Lathkill Dale. In terms of the quality of the soil for growing crops Hawke-Smith (1979) characterised these areas as poor on the basis of thin, stony soils; however, his predictions have been problematised by the discovery of plant remains on 'unsuitable' soils at Lismore Fields (Garton 1991: 15). Stoniness aside, all these find spots are on the edge of exceptionally level and easily cleared ground. On the basis of the sickle blades and serrated narrow flakes found on Elton Common (Radley and Cooper 1968: 42, fig 3, 18) plant collection of some description may have taken place on these locales, at some point in the fourth or third millennium.

Second, in each case, a microlithic component (or by-products thereof) alert us to (presumed) pre-fourth millennium BC activity. Like the distinct geometric sites at Pikehall Farm [18] (Hart 1981; SMR 6919, 3424), there is a preponderance of black chert blade core working, end scrapers, utilised blades, core rejuvenation flakes and rod microliths.

The third feature shared by these sites is that they are all palimpsest scatters. In each case large second millennium scatters will be masking smaller fourth millennium scatters if they are there at all. Only by the fortuitous surface-survival of Mildenhall style pottery at Astonhill, and the recovery of Grimston Ware by trial excavation at Mount Pleasant, were archaeologists alerted to discrete fourth millennium BC components.

Fourth, at all of these sites except Aleck Low 2, substantial flakes from Langdale axes were found. Indeed the plateau area around Gratton Dale is where the highest density of polished stone axes in the Peak District is recognised (Figure 4.9). There are several

factors that may have contributed to this recovery pattern. The first is the distribution of modern arable land, which has been more concentrated on the limestone plateau since the introduction of varieties of altitude-tolerant wheat in the 1960s. This in turn provided more frequent venues for amateur lithic collection, especially attractive given their close proximity to the two major monument complexes at Minninglow and Arbor Low. Axes are found in similar landscape situations on the northern limestone moors where fields have been ploughed and people have looked (e.g. Hart 1976; 1981), but the frequency of each has been less than in the Gratton and Elton Moor areas.

Axes are not useful for chronological diagnosis as their production persists from the early fourth to the mid-second millennium BC. While axes did not travel far outside their source areas until about 3400 BC, Bradley and Edmonds (1993) have made a case for the frequent exchange of Langdale axes across the Pennines during the Early Neolithic. In the Peak District axe fragments have been found, in association with Grimston pottery, in postholes at Lismore Fields dated to 3785-3645 BC, 3690-3380 BC (mean dates expressed in Garton *in prep.*) and in a pit dated to 3680-2910 (UB-3297). Therefore while the vast majority of polished axes in the peak may be from Late Neolithic contexts, we should be sensitive to the possibility for an early date when axes are recovered through fieldwalking close to other artefacts typical of a fourth millennium BC date.

Bradley and Hart note, with respect to the Late Neolithic of the Peak, that polished axes “concentrated on what may have been agricultural land” (1983: 186). The implication here may be that axes were involved with clearance prior to the sowing of crops, but this is problematic for a number of reasons. Firstly the concentration of axes on the dolomite ridges mirrors exactly the land which Hawke-Smith had dismissed as “of restricted value for cultivation” (1979: 63) on the grounds of its shallow, calcareous soils which are susceptible to drought. Garton (1991) has commented that Lismore Fields, where considerable quantities of fourth millennium BC plant domesticates were retrieved, is also on land dismissed by Hawke-Smith on the basis of soil characterisation. However a more compelling reason why axes should not equate to clearance for cultivation is that ard-based cultivation “would only have been workable in soils that were free of roots. This means that it could not have been used by forest farmers on newly cleared land, but only on land that had been long cleared and perhaps converted to grassland” (Hawke-Smith 1979: 22). A more likely reason for the initial clearance of areas in the fourth millennium BC is the creation of browse or pasture for

wild and domestic animals. These openings, if sufficiently maintained, may have been suitable for cultivation by the end of the Early Neolithic. Additionally we should not overlook the possibility that portions of woodland were already being managed prior to the fourth millennium (Section 7.5.2). With this in mind it is worth noting the discovery of one of only three tranchet axes known from the Peak District at **Kenslow Knoll [19]** (Hart 1981).

However, the assumed link between axes and agricultural land (Section 4.4) may not do justice to the character of people's engagement with these objects at that time. Particularly in communities that, while relatively mobile, have an attachment to a set of locales, objects from beyond the places of common practice have a special significance. According to Mary Helms, material goods that come from a distance "are likely to be considered as unique and powerful, as containing exceptional potency and magical strengths and abilities. If the things that come from a distance are also acquired from a mystically charged source . . . then potency is virtually assured" (Helms 1988: 114). Mark Edmonds has highlighted the possibility that the relationships developed and maintained through the exchange or gift of axes may have structured the way they were deposited in rivers, pits or the ditches of monuments. This may not have stopped with human components of the exchange cycle:

"Sometimes tied to protracted funerary rites, these acts of consumption may also have been gifts to the gods, prestations that bestowed honour on those who placed spirits in their debt. Inscribed with rich biographies axes helped define relations between people and the ancestral world" (Edmonds 1999: 42).

In this context material objects from the world "outside" could be used directly and concretely to regulate and operate the world "inside" (Helms 1988: 49).

All this being so, it seems unlikely that appeals to 'chance loss' or western concepts of 'refuse' should adequately explain the disposal of axes. I prefer instead to use the term 'decommission' to signal that in most cases their discard is likely to have been part of intentional strategies in the maintenance of unknown structuring dispositions. The combination of the power of foreign objects and the prestige gained by the journeys made and the relationships formed in their acquisition, their life within the homeland, and perhaps the passing of the people who used them, may all informed the manner of their withdrawal from circulation. This being the case then, if axes were more often decommissioned around the head of Gratton Dale over the fourth and third millennia BC and this distribution is not just an artefact of survey preferences, then there may be

have been some prior significance to these locales. Like the nearby 'monument complexes' it may be that through the activities of hundreds of generations paths forged through dry valleys or along their crests, as well as the watersheds themselves, met at these points. If this was so, perhaps it was somewhere people returned to over varying annual and lifetime ranges, a return which may have been given added impetus by the emergence of new practices and relationships surrounding wild and domesticated animals, novel categories of artefacts and eventually more permanent built structures.

7.2.7 Selfhood and land: presencing the absent and the past

Given the notion of relational personhood outlined in Section 3.5.3.2, we can suggest that human selfhood is likely to have been developed through interaction with other humans and nonhumans in the context of attachment to, and responsibility for, land. The interpretation of stone artefacts has begun in these terms, particularly that stone procurement would sometimes have taken place within the context of inter-community relationships and the affirmation of tenorial identity (Section 3.5.4.3). Going to certain places to extract stone from the ground is an activity the timing and spacing of which might have brought people into combinations different to those in other tasks, and into contact with the evidence of other people who had worked there previously. These encounters perhaps gave expression to, and allowed the recognition of the places occupied by actors in a broader social world extending beyond close family. In the Peak District a variety of raw materials from different source areas are present, and it is possible that some also came to the area through forms of exchange. Engaging in exchange would also have lead people to recognise their position in a series of identities and communities beyond immediate kin, from those who worked nearby flint sources into increasingly rarefied spheres of communication possibly extending to distant axe factories.

The other development in this section is that the rediscovery of places and paths was a process that presenced the past, and was guided by the demands incumbent on those holding tenure over land (Section 3.5.4.1). The demands of the land lay, not only in its daily care, but also in recognition of it as something *existing with* actors at a scale beyond that of *dasein* (Section 3.5.4.4). In a generalised but underdetermined way, we could suggest that, for many people who practice gathering and hunting, pastoralism and small-scale cultivation, time is often subordinated to space and materiality (Section 3.5.4.4; Morphy 1995). This is to say that while walking familiar paths, people attached

significance to the material evidence of the past which they encountered: the paths themselves, the evidence of other activities that happened in recent years or mortuary structures. The compression of time does not result in 'timelessness' in an ahistorical sense. Rather, particular times and events, from what we might call 'the past', were immanent in a direct and unmediated way, when presenced by the project of an actor. Rather than people who lived in the past, these were people in whom the past lived, people who made the past 'now'. This is the essence of what a mythic historicity does: rather than making the past 'other', it makes the past 'present', 'now', immediate, relevant and active. (Section 2.2.2.3).

The bones in mortuary structures could at one and the same time be recognised as having genealogical depth, being active in the here and now, and perhaps also of a world which operated outside normal temporality. In kinship terms, there might have been interplay between the recognition of someone as a specific individual, as a particular member of a genealogical community, as well as of broader affiliations in widening, concentric levels of inclusiveness (Helms 1988: 31). So too, in terms of time, relational personhood marked an actor as somebody who is of the present, of a genealogy that extends into the past, and of a community that exists in the past and in the present. The variability of bone assemblages suggests all of these ideas may have surfaced in mortuary practices. Rather than any simple, singular, generic transformation from individual to ancestor, there was the potential to recognise a nebulous ancestral community, a particular kin group *and* a specific individual, in the same bone, depending on the field of discourse in which it was presenced. Like repeatedly worked paths and areas of regenerating forest, there was a metaphoric potential in things that were born, lived, died and then fell apart, which had resonance for the articulation of the living community and the evocation of *temporal* levels of inclusiveness *vis à vis* identity. I have only touched on practices surrounding the treatment of bodily remains in this section. The next section, in which the landscape situation of archaeological material from the south-western river gorges is reviewed, concentrates particularly on the these practices to raise questions concerning the relationship between humans and non-humans.

7.3 The south-western river gorges

Barnatt argues that early movement in the Peak concentrated along the sorts of ridges discussed above, whilst the dry valleys and river gorges "were probably heavily wooded

. . . and were in effect sinuous barriers that divide[d] the landscape in dendritic fashion” (Barnatt 1996: 44). While they may have been heavily wooded, dry valleys and river gorges, when approached from the lowlands, could still have provided access into the upland basins and plateaux below the higher ridges.

The sources of the River Dove, and its tributary the Manifold, are on the millstone grit edges of the Western Moors (Figure 7.2). The River Dove rises on the high gritstone moorlands of Axe Edge and runs southwards for 45 miles to join the River Trent. Its meandering course passes through a series of spectacular limestone gorges, Beresford Dale, Wolfscote Dale, Milldale and Dovedale, their white rocks carved into fantastic towers, caves and spires by interglacial water erosion. Some of the hard reef limestones were left standing as hills and peaks after less resistant rocks were worn down. Reef limestone can be seen in the steep, spear-like **Chrome and Parkhouse hills [21, 22]** at the northern end of the Dove Valley, **Raven Tor [23]**, **Pickering Tor [24]** and the **Tissington Spires [25]** in the middle and further south, the shapely reef knolls of **Bunster Hill [26]** and **Thorpe Cloud [27]**.

Inhabitation during the study period is mainly recognised through cave deposits and mortuary structures in the south part of this catchment, but in the north the transect surveys have added some relevant lithic remains. Barnatt writes, “no meaningful correlation of architecture with landscape features has been observed” (1996: 51), and one of the aims of this section to identify a level on which we can reconsider this assertion.

7.3.1 Non-human persons

Although many of the caves were used through prehistory, indications of fourth millennium use are rare. Leaf shaped arrowheads have been found in **Wetton Mill Rock Shelter [28]**, **Darfur Ridge Cave [29]** and **Seven Ways Cave [30]** (Kelly 1976; Bramwell 1977: 269; Green 1980: 432-3), but all associated with essentially third millennium assemblages. However, all three of these caves were used by people who manufactured geometric microlith assemblages, and so these sites were known and may have had ancestral associations, perhaps expressed through the apprehension of their other inhabitants.

It is through the many cave sites of the Peak District, especially in the Dove and Manifold Valley, that we can best appreciate the range of non-human prehistoric inhabitants, as well as more specific micro-environments which may have existed.

Throughout the post-glacial this area was home to predators such as brown bears, wolves and foxes, all of which were cave dwellers. In the third millennium the bones of these and other animals become regularly used in structured deposits within cave contexts, sometimes alongside human bones (e.g. at Fox Hole Cave: Bramwell 1971).

Red deer and roe deer are known from fourth millennium mortuary structures, but cave deposits from Wetton Mill and Darfur Ridge Cave indicate that aurochs and wild pigs were both being hunted until the second millennium BC. Species valued for their fur included beaver, badger, marten, pole cat and wild cat (Bramwell 1977), all found most regularly in open woodland environments. Game birds known from the area include partridge at Seven Ways Cave, also in the Manifold Valley. What is especially interesting about the range of animals represented is the variety of different habitats suggested. Roe deer prefer to feed on the shrub layer in forests, while red deer and aurochs are thought to have preferred grasslands and open forests (Jochim 1976: 97, 106) although as the latter are extinct this is difficult to demonstrate (Legge and Rowley-Conwy 1988: 19). Wild pig would have been more common in dense oak forest and beaver in riverine environments. Both these animals provided an important source of fat in winter – boar, perhaps when they aggregated for the November/December rut, and beaver throughout winter and early spring when they are particularly lethargic (Spikins 1998). While the faunal remains from the Dove/Manifold Valley caves are from numerous different chronological associations, few of which may be tied down with any great precision, many of these species persist over the study period (Bramwell 1977).

The cave excavations of the Dove and Manifold valleys, while methodologically inadequate to construct intimate site histories, provide powerful evidence of a range of environmental conditions across space and time. I will return to the importance of species other than humans and the inhabitation of these 'niches' at the bottom of this section and throughout the rest of the chapter.

7.3.2 The dead in different contexts

Excavations at **Cheshire Wood Cave [31]** produced "Windmill Hill type of Neolithic Ware" (Emery 1962: 35). In the same layer were the bones of badger, sheep, wild cat, dog, a y-shaped deer tine and a chert flake. Most intriguing of all were "the teeth and jaws of two adults 25 to 30 years old at death and two children 3 and 4 to 5 years of age" (Emery 1962:35). One of the adult mandibles had been blackened by fire. The

excavations appear to have been amateurish, but if the dating is secure, this example of fourth millennium mortuary practices could be unique in Peak District caves, where human remains have otherwise never been found in seventh to fourth millennium BC contexts. In the longer term, they are by no means unique. There are many third and second millennium contexts in which artefacts and bones are deposited in caves and rock fissures, a close later parallel being found in Church Dale rock shelter, near Lathkill Dale where the mandibles of three children were also found (Piggott 1953).

Another, perhaps linked, feature of Cheshire Wood Cave is the presence therein of a spring in prehistoric times, which ran through the cave and collected in a pool at the entrance, possibly on a seasonal basis (Emery 1962: 33). At Dowel Cave, sections of a cavern previously occupied by the makers of geometric microliths, had been walled off into compartments containing ten or more 'Neolithic' inhumations. Like Cheshire Wood and Rains Cave (see above), these deposits were found stratified in silts which suggested the contemporary annual resurgence of water at these sites as well (Bramwell 1959: 97, 104-5). Therefore the ancestors could be associated with caves in gorge locations as well as level valley head positions, springs and perhaps also other watery locations, not currently known to us.

On the subject of hydrology it is interesting to note that, for at least three months a year, the River Manifold sinks below the surface shortly before Wetton Mill rock shelter. The neighbouring River Hamps sinks in the same way and both flows emerge a little way beyond Cheshire Wood Cave (Ford 1977: 219). Aside from the potential for the development of cosmological beliefs around such a phenomenon, it would have had the more pragmatic consequence of eliminating boat travel beyond the confluence of the Dove and Manifold Rivers. Whereas the upper reaches of the Wye and Derwent valleys would have been accessible by small boats, the Dove too is relatively shallow after this confluence.

On the Manifold/Dove watershed, opposite Cheshire Wood Cave stands Long Low [32], a strikingly similar landscape situation to Minninglow, as both possess spectacular 360° views. Like the latter, we know that Long Low had a fourth millennium BC incarnation as a long mound, and was similarly later converted to a structure with chambers. Like the Aldwark Valley below Minninglow, Long Low also has a breathtaking view of an enclosed area, this time the open basin at the point at which Wolfscote Dale and Biggin Dale meet before the River Dove disappears into Dovedale Gorge. There may have been up to three more chambered structures built around this

valley over the Early and Middle Neolithic at Stanshope [33], Bostern [34] and Pea Low [35], which also has an impressive 360° view over both the limestone plateau, the adjacent shales and gritstone edges.

The siting of these mortuary structures may have drawn on, but is also dwarfed by, nearby monumental landscape features. In a different context, Tilley has suggested that “the monument – ‘hides’ contexts in which it does not appear. It captures and draws attention, domesticating the view of the landscape” (1994: 205). I would suggest that the opposite is true. The limestone rubble and orthostats are themselves of the same material as the outcrops, spires and cliffs amongst which they stand: they draw attention, not to themselves but to the world in which they stand. The builders of such a structure were *submissive* to the landscape in their relationship with it, both in the materiality and the spatial and temporal scale of their labours. I will return at the end of this section to why Tilley’s view of a nature, which ‘Neolithic’ people gradually ‘domesticated’, cannot be squared with Peak District practices of the fourth and fifth millennia.

7.3.3 On the shelf

Biggin Dale is the most northerly dry valley to intersect with the Dove Valley. The dendritic character of such dry valleys, commented upon by Barnatt, is thought to reflect the superimposition of successive earlier drainage patterns onto the surface of the limestone (Dalton *et al.* 1988: 22-3). Many dry valleys today contain temporary streams after heavy winter rainfall, providing water for wild and domestic animals (Millward and Robinson 1975: 45). As modern mining activities have considerably lowered the local water table on the limestone, seasonal dry valley streams may have been more common features in prehistory (Makepeace 1998: 95). Under the greater woodland cover of the mid-postglacial, such valleys may have had the appearance of paths through a subterranean realm of screes, cliffs and caves, and progress along them may have been difficult. Some, like Monks Dale, are practically impassable in summer vegetative conditions even today. However, the shelf edges above the gorges may have been a naturally occurring woodland border, with exposure to strong winds promoting wind-throw, enabling easy travel along the crests of these valleys.

A number of early assemblages have been retrieved from such positions. North-west of Pea Low on the eastern shelves above Biggin Dale, a fourth millennium site was recently discovered sealed beneath the famous Later Neolithic barrow at Liffs Low

[36], Hartington (Barnatt and Collis 1996: 95-136). A pit produced charcoal dated to 3990-3640 BC (OxA 2290). A discrete charcoal spread, possibly a hearth, gave a date of 3893-3381 BC (OXA 2291). A coarseware sherd also sealed by the barrow is “comparable both in form and fabric with Grimston/Lyles Hill Ware” (Barnatt and Collis 1996: 113). Also sealed by the barrow and adjacent to the pit and possible hearth were forty-one stakeholes penetrating the subsoil. Given the combination of fourth millennium BC dates and the presence of stake holes in the shape suggestive of small shelters this site offers an opportunity for speculation about Early Neolithic mobility for which there are at least three possibilities. The Liffs Low shelters may have been part of a short-stay camp in a system of embedded or tethered mobility where portions of the community spent time away from more permanent built dwellings to which they eventually returned. Alternatively they may have constituted an outlying camp occupied in a system of logistical or radiating mobility, for herding, hunting and gathering or cultivation. Importantly it provides a contemporary alternative to the sedentism model suggested by Garton for the occupation of the longhouses at Lismore Fields. While there may have been a degree of short-term sedentism for some communities, or parts thereof, the post hole arrays at Liffs Low suggest that some people were more mobile either in general or at certain times. Herders, hunters and cultivators all may have moved over distances that could be measured in days (Armit and Finlayson 1992), but the constituent parts of such a round may have extended over the seasons, even as residence patterns shifted over generations (Edmonds 1999b: 90).

There are several interesting features of the lithic assemblage from the old ground surfaces at Liffs Low which cannot easily be interpreted, because the assemblage is certainly a palimpsest straddling the fourth and third millennia bc. First of all, had it been found in the absence of ‘Early Neolithic’ pottery, it might have been characterised as a largely Later Mesolithic on the basis of broken and retouched blades, the opposed platform blade core and the relative quantities of chert (about 30% of the assemblage: Barnatt and Collis: 116-117). The only two ‘finished’ artefacts are two scrapers, one of which is an end and side scraper. Given the area of the open excavation (15m x 8m), the recovery of seventy lithic pieces may not represent a particularly dense activity area.

This certainly has consequences for the way in which we interpret the nearby Arteamus assemblages near the head of Biggin Dale. As we have no idea of the extent of activity at Liffs Low, it would be unwise to compare the densities with per-hectare figures from transect fields. Leaving aside the concentrated third and second millennium scatter

that would have resulted from ploughing the barrow, densities may be comparable with the small shelf scatters at Moscar Farm [37] and Cotesfield Farm [38] (Section 6.1.7), which incorporate backed bladelet technology. At the latter, careful core maintenance and a restricted range of non-manufacturing activities are represented, particularly scraping and cutting. On the other hand, the dense scatter at Clemonseats [38], while demonstrably a palimpsest, is largely of earlier date (Section 6.1.5). The composition of the earlier component of the assemblage, dominated by the dumping of cores, is qualitatively different from Liffs Low where waste dominates. Clemonseats is also set apart from the Liffs Low, Moscar Farm and Cotesfield Farm by its topographic setting at the head of the dry valley, enclosed on three sides by higher ground, due to a series of possible sink or solution holes (Ford 1977). The other sites are located on exposed gentle or moderately sloping hillsides, between the watershed and the scree of the dry valley gorge. A wide range of activities is suggested by Clemonseats' balanced assemblage (including more 'finished' artefacts and the re-use of cores as tools) and it may have been one of a variety of activity areas that we might characterise as a base camp in a system of logistical mobility. The dumping of cores could suggest that fresh raw material was available once one reached this site, perhaps in a cache. Access to the watershed, favoured over the seventh to fifth millennia, and valley edge locations, important throughout prehistory, was quick and easy from this sheltered site.

There may have been a wide range of environments present in this upland area and there are indicators that open woodland may have persisted beyond the third millennium from **Fox Hole Cave [40]**, **Dowel Cave [41]**, and **Hindlow [42]**. At Fox Hole Cave and Hindlow considerable quantities of black grouse bones were found, which may indicate heather moorland perhaps with a light cover of birch and pine. (Bramwell 1977: 269; Ashbee and Ashbee 1981). In an area where elevated levels of polished axes are known (Figure 4.9), it seems that while axe deposition may be associated with relatively flat upland areas (Section 7.2.6), these may not have been extensively cleared but remained a mosaic of clearances and regenerating woodland until rather a later date. Pollen horizons from Fox Hole Cave indicate that oak and ash (which would remain prevalent through to the second millennium BC) gradually overtook the local pine woodlands of the early postglacial. The fine silt at the Late Neolithic levels at Dowel Cave produced several hundred bird bones of a woodland habitat as well as red grouse, probably brought by kestrels and tawny owls as well as water birds such as mallard, teal, dipper, moorhen, water rail and crane.

7.3.4 Community relations

The seasonality of human movement has received little serious attention, but a common assumption is that upland environments were summer pastures for herds, which sheltered in lowland areas over winter (e.g. Clark 1972; Jacobi 1978; Simmons 1979). Spikins (1998) finds the ethnographic support for this model to have been misplaced and, on the basis of a wide range of environmental studies of plant species available under various canopy conditions, offers more complex alternatives. While deer thrive in open woodland, the dense climax forests of the fifth and fourth millennia valleys and lowland would have been a relatively unsuitable habitat for them as its density and shade increased. However, the annual leaf fall of deciduous trees leaves the forest floor open over the winter months and in a short 'vernal' period in early spring some undergrowth species flower rapidly before the full development of the forest canopy. The valleys may have also been attractive in autumn where nut-producing trees dominated the canopy, but not so much in mid-summer and winter. Evidence for the seasonality of human endeavour is not exactly tangible in this area, and will be better discussed after the presentation of further evidence in Section 7.5. The power of the Dove and Manifold bone assemblages is the picture they give us of the range of non-human life in the study area, and, in the context of human inhabitation, this demands further comment.

The circulation of human remains in the fourth and third millennia has been commented upon for some time (Ashbee *et al.* 1979, 83), but in the Peak District must be understood in terms not only of surface architecture but also of other contexts such as caves. Their appearance at Cheshire Wood Cave suggests that, if the dead were in some senses out of sight or immanent in the landscape, they were perhaps free of the spatial constraints affecting contemporary mortals (Helms 1988: 44). The building of mortuary structures did not freeze or fix perspective (Tilley 1994: 205) because, like, people, the ancestors were constantly on the move. That metaphor of 'enculturation' perpetuated by Tilley (1994) stresses the separation of humanity and nature. But the circulation of human remains must also be understood as operating alongside coeval and contemporary practices involving non-human remains. Earlier, I suggested a propensity of humans operating under non-capitalist economic rationales to define animals (Section 3.5.4.1), and the dead (Sections 3.5.4.2, 7.2.7) as fit to enter into exchange or kinship relations, that is as persons rather than objects. Such a relational perspective is preferable to account for the emergence and proliferation of mortuary practices which (unlike those

that went before) are archaeologically visible. Categories are brought into being under specific historical conditions. They are constructed and reproduced as a relationship in which agents control sets of resources which are simultaneously material and conceptual.

The newly visible mortuary practices, which do not account for the entire human population, appear at roughly the same time as new hybrids (Sections 2.3, 3.6) such as cattle and pottery, which are frequently incorporated in deposits *instead of* humans (Kinnes 1988: 5). It may be that these practices were continually re-establishing classificatory orders and bringing the relationships and practices surrounding novelties into line with pre-existent types of relationship. Thus people kept cattle, extracted clay and made pottery, but these new practices took place in arenas that already had associations with human and non-human ancestral communities, immanent in the physical landscape. If communities involved these latter beings in exchange and kinship relations, then the proliferation of new hybrid forms would undoubtedly affect those affiliations, and the depositional practices through which they were expressed.

This is not to posit a simple cause and effect model, that 'monuments' were needed because of the necessity to accommodate cattle within existing relationships. Rather it is to signal a complex developmental process that drew on fresh architectural forms and their raw material, as well as pre-existent 'natural' features, in contextually specific acts across the landscape through time. Such acts not only accommodated new hybrids but were wrapped up in the re-establishment and transformation of existing relationships with beings and things.

7.4 The Lathkill catchment

The Lathkill catchment is the second largest drainage basin on the White Peak (Figure 7.3). Its east-flowing river originally passed over the surface from the Monyash area, but today surfaces at several points within the gorge to the east (Ford 1977: 215). Following periods of heavy rainfall a strong flow of water still issues from Lathkill Head Cave (Millward and Robinson 1975: 55; Dalton *et al.* 1988: 33). Unlike the dry valleys, there is reason to believe that the Lathkill Gorge may have provided a wide 'resource base' for prehistoric communities.

Wet soils at the edges of rivers often support a variety of resources such as edible seeds, greens and tubers as well as a host of medicinal plants and herbs (Mabey 1996). Rivers

provide stretches of lowland forest 'edge' habitat, which by contrast to those caused by tree fall, are stable and predictable. Localised pollen cores from barrage tufa-dammed systems at **Raper Lodge [43]** in Lathkill Dale suggest that even at these lower altitudes birch, hazel, oak, elm, lime and ash all flourished to varying degrees over the early and mid-Holocene. The same sequence indicates a sudden decline in elm and lime associated with an opening in the woodland canopy at 4220-3805 BC (BETA-64033; Taylor *et al.* 1994: 362). Later burials in fissures and caves (e.g. Piggott 1953; SMR 10232) may reflect a longer tradition of largely unrecognised deposition: one of only three tranchet axes known from the Peak was deposited in a fissure in Lathkill Dale (Hart 1981: 32; SMR 11402).

The Lathkill Dale gorge may also have been repeatedly visited to exploit its seams of fine-grained black chert of the Monsal Dale series dark facies (Harrison and Adlam 1985) in the context of movement up to or down from the shelves and ridges, or for working on site. Raper Lodge itself was the site of frequent prehistoric chert working (Henderson Site 81), and working of the distinctive black chert found has been noted on the shelves above the Lathkill gorge **opposite Ricklow Dale [44]**.

7.4.1 Ridge top activities

I have already remarked upon the quantity of polished axes retrieved from the Gratton Moor area, at the southern extent of the Lathkill catchment area. This concentration shades off from the dolomite ridge onto the plateau area north and north-east, towards the source of the River Bradford and along its flanks (SMR 10149, 15713, 10122, 15705). Following the dolomite ridge north-west, with the **Moneystones [45]** site on our left, will bring us to the end of the ridge where **Gib Hill [46]** sits.

If Moneystones was unusual in being a watershed locale where a relatively wide range of tasks were carried out and complete tools frequently discarded (see Chapter 6) over the seventh to fifth millennia it was certainly not unique in its position. Further up the watershed a number of other find spots of geometric microliths on Middleton Moor (SMR 10186) and **Benty Grange [47]** (SMR 6839). At this watershed locale, a small tabular block of black chert was worked and a crescent microlith was left (DCC 2). Nearby a dense surface assemblage (DCC 31, 115 lithic finds/Ha.) included a rod microlith, an end-scraper, a notched flake and two flake knives. Leaf shaped arrowheads also saw common use and/or deposition up on this watershed (SMR 10136 and DCC 30). These earlier ridge top sites show great technological diversity from site to site, and

reducing them to hunting sites in our interpretations would be overly simplistic. Manufacturing, tool-use, repair and discard are all represented to varying extents, and serve as a warning against any simple functional interpretation.

On the north-east facing slopes opposite, and a kilometre to the south-west of Gib Hill numerous stone axes have been recovered from Newhaven Lodge Farm [48] area (Clough and Cummins (eds) 1988: 189-90; SMR 7001; 6867). Like the fall-off in densities at Gib Hill, this situation may suggest that activities focused on the slopes at the peripheries of this upland sink, rather than within the solution pockets in dolomitised limestones and tertiary and quaternary head deposits. We might speculate a correspondence in line with recent theories from other areas that activities concentrated near the margins of longstanding woodland (Holgate 1988, Woodward 1990) down-slope from the watershed ridge.

7.4.2 Gib Hill

Repetitive or intensive activity certainly concentrated upon the moderate south-westerly facing slopes at the head of the northern dolomite ridge to the west and south of the Gib Hill cairn and barrow. This structure sits on the north-west tip of this ridge which runs beneath the barrow on Smerril Moor (Figure 4.3) south-east to Elton Common. The burnt layers and cattle bone in the Gib Hill mound may suggest a locale where at some times the importance of cows was brought into focus. The residue may have been deposited in the wake of feasting at this site, but the significance of cattle as a resource for ceremonial consumption should be understood as based in wider practice. The preservation of such remains are the exception on the White Peak due to strong alkali soils, but their inclusion in mortuary structures elsewhere suggests a close identification of people with herds in other regions (Ashbee *et al.* 1979: 247; Edmonds 1999a: 28). Cattle in general, or particular beasts, may sometimes have been conceptualised as non-human persons, analogous to children in the way they were cared for by adult humans, at other times as non-persons or objects (Ingold 1996a; Bird-David 1999). They may have stood in a relationship of metonym to the humans who moved with them or to the relations between human communities that had contributed to their breeding stock (Edmonds 1999a: 27-8).

Some of the pastures where cattle grazed were very likely the same clearings through which generations before had followed herds of wild cattle and deer, with which they still shared springs and watercourses. The tenorial relationships between people, which

informed their conduct towards animals and places, may have been similar regardless of whether the herds with which you moved were strictly domesticated. The significance of raising a mound following acts of communal consumption at a locale already understood through concepts of tenure may have incorporated and carried forward those same ideas, adding another resource through which visitors and tenorial 'caretakers' could discursively establish access and regulate practice. This signals a departure from the approach of authors such as Tilley (1994), which holds that mortuary structures fundamentally transformed the locales they occupied, as ancestral rights and ways of thinking about the self were remade by gathering together bones there. Such an argument tends to close down the way that these places might have been given significance by people, in isolation from the meanings invoked from acts of building and rebuilding, of brief encounters and proximal activities with no immediate reference to the dead.

Gib Hill, like many of the other mortuary structures in the Peak, was constructed over a long period of time, through episodic rearrangements of accumulated midden material (Section 4.2.1). Its constituent elements, which indisputably had symbolic qualities, could themselves be the residues of successive instances of many different practices or prolonged occupation. Either way, at some point in the historical trajectory material was either created for the purpose of building the mound, or gathered together from existing old material and built into that structure to which other things would later be inserted. Rather than closing down the interpretation, we must recognise that each stage in the occupation creates further series of potentials depending on the character of labour that is going on, and the variable co-presence of humans and animals. This is to say that while the materiality of social memory is real, it is also something incredibly fluid, which is worked at and changed through time (Section 3.5.3.2). Mortuary structures could be evocative of a range of ideas beyond the disposal or transformation of the dead. A whole variety of different concerns could be brought into focus at different times, depending on who was present and what tasks were being performed.

From the surface collections nearby (Section 6.1.4) it certainly appears that a wide variety of practices took place at the locale through time. On the south-west slope, adjacent to Gib Hill, we find evidence for activity from the fourth millennium and before. End-scrapers on blades are common, and more unusual forms such as denticulates and serrated pieces, often associated with the processing of vegetable matter (Smith 1965), are also present. Possibly, at some point in the fourth millennium,

this was a place where people resided for longer periods while plants were harvested. The presence of waste-forms associated with the thinning of bifacial tools, as well as bifacially flaked pieces of various types are widespread. While much of this waste may be the product of third millennium activity, some of it may relate to the creation of leaf-shaped arrowheads, which also litter the area, some in early stages of manufacture. The importance of these still novel artefacts in the development of identity (Edmonds and Thomas 1987) may have been expressed in restrictions on their manufacture involving distinctions of place, time and person. Opposed platform blade cores are prevalent in terms of by-products, many bearing the scars of tiny bladelets and frequently worked from black chert, readily available in nearby gorges. Many are not so carefully maintained and resemble those on sites outside the region dated to the fourth and third millennia.

The lithic scatters of earlier date to the north-east side of Gib Hill have a very different character. Among the later arrowheads with which these fields are littered, we still find end-scrapers and leaf-shaped arrowheads (APT 9, 10) but there is generally less blade core working and lower densities of waste. Up slope, we notice profligate use of rare, distinctive flint from the Yorkshire Wolds (which may not be from the study period), along with the evidence that axes had been broken (APT 11). On the shoulder of the hill on the east side of Arbor Low amid later flint-working and arrowheads, we see firmer evidence for an earlier presence, in careful blade-working and a bi-polar core, reused as a tool (APT 12). Nearby a rod and a scalene microlith were found, along with an end-scrapers, and more bladeworking (APT 13). Local sources say stone axes have been picked up from adjacent fields for many years, but only a few are recorded (e.g. SMR 15713).

Down slope to the north-east at the head of Cales Dale, another possible long barrow was discovered at **One Ash Farm [49]** during test pit survey (Barnatt and Collis 1996). Like Gib Hill this low earthen structure included the remains of a great deal of cattle bones and burnt material, and while its character was indistinct, the context of its creation may be analogous. Two concentrations of stone axes are known from the shelves around Lathkill Dale. Around **Monyash [50]** about ten Neolithic axes (10208; 10209; 10210; 10221; 10222; 10230; 10261) have been recorded, within a few hundred metres of each other. Another concentration (SMR 487; 489; 12432) is known to the north near **Dyke Head Farm [51]**. Both transect surveys walked ploughed fields in the vicinity of these locales, but found little diagnostically early material.

Upon the skyline to the north, at a high ridge location at the head of Kirk Dale, Radley excavated an Early Mesolithic rock shelter at **Stoney Low, Sheldon [52]**. Half a metre of “hillwash” incorporating a number of Neolithic artefacts sealed these deposits, suggesting that the area had been more or less permanently deforested in the intervening period (Radley 1968a: 28, 31). Nearby Hart found further evidence of Late Mesolithic activity, and more recent survey retrieved the products and by-products of careful blade working along with denticulates, end scrapers and microlithic by-products. Many of the artefacts from all the collections mentioned in this paragraph were made from black chert, which outcrops both in Kirk Dale and Lathkill Dale. Also close at hand, the DCC transect survey retrieved two high density assemblages (DCC 32 [70.6 finds/Ha.] and DCC 35 [84 finds/Ha.] both with blade:flake ratios of 1:4. In both instances waste forms typical of earlier traditions were found, such as vast quantities of core rejuvenation flakes (10 and 28 respectively), truncated and notched pieces. Artefact forms included large quantities of flake knives and end scrapers as well as a burin and a microburin, suggesting a wide range of activities were performed on site.

To the east, of this collection, along the watershed, is **Bole Hill [53]** chambered tomb, which occupies a similar position to Minninglow, and may have a similar complex history (Barnatt and Collis 1996: 65, 91) although no ‘Neolithic’ artefacts were retrieved in Bateman’s excavations. Below, and between the heads of Ricklow Dale and Cales Dale, lies **Ringham Low [54]** chambered tomb. Situated on level ground close to the northern side of Lathkill Dale, this site, now completely robbed out, exists only as a pear-shaped cairn of limestone rubble, aligned north-south, with a concave recess in the broad southern end. A large central cist (cist 1) at the northern end was excavated by Bateman and contained the scattered bones of twelve individuals as well as three leaf-shaped arrowheads. To the east was a double cist, the eastern compartment (cist 2) containing parts of four individuals with a bone pin, the western compartment (cist 3) three leaf arrowheads with 2 incomplete inhumations and a bone pin (Manby 1967: 263-4; Green 1980: 322).

7.4.3 Cattle and changing relationships

The intensity and duration of inhabitation at Gib Hill is paralleled at only a few locations on the White Peak (Section 6.1.4.1, note 3). At the scale of the *longue durée* it is evident that it was an important place. People stopped there to work stone over many millennia, and later built a succession of earthworks of which the long barrow was

merely the first. Meanwhile the pollen sequences from Raper Lodge give us a tantalising glimpse of woodland management in the area leading up to the time of Gib Hill's construction. Looking across from the chambered tomb on Bole Hill, the hillside may have been completely or partially cleared by the end of the fourth millennium, an island in the sea of trees, which reminded onlookers of times ahead and past. While the Gib Hill and One Ash mounds have not been carbon-dated, they provide the best indication that at some time during the fourth millennium a type of pastoralism similar to that frequently posited for the south of England (e.g. Thomas 1999) may have been practised. While assemblages from elsewhere in the area (see below, Section 7.5.3) suggest that mortuary structures were constructed by people who still engaged in hunting, the introduction of domesticated animals is likely to have heralded new kinds of social relationships and logics.

In general terms, while pastoralism is frequently based on 'accumulation', hunting is often based on an institution of collective 'sharing'. Accordingly, they differ with respect to access to animals and to terrestrial resources, as manifested in property categories. Living animals are rarely considered individual property by hunting communities, though dead animals slain by the hunters sometimes are (Ingold 1986). It is in connection with pastoralism that living animals may acquire their greatest importance as items of property, wealth or standing. In the context of Saami reindeer, Ingold posits that the transition between the two forms of property relation is found in the small herds of domesticated animals that are kept by individual households within hunting groups for draught and labour purposes. Pastoral property relations "will become explicit and dominant at the point where the progeny of domestic herds cease to labour for man but become the principle subject-matter of labour" (1980: 88-9). It is uncertain if this model is applicable to the context of fourth millennium communities in Britain: wild cattle and pig did exist, but genetic analysis is yet to prove whether they are represented by a separate gene pool (Kinnes 1988: 2).

Regardless of the process, some of the consequences of domestication may have been analogous to Ingold's model. At least in qualitative terms the uptake of herding cattle must have heralded a shift in the way labour was allotted to various tasks. Time previously available for activities related to hunting, such as tracking, waiting at reliable intercept points or making traps, may have been taken up with the protection of cattle, or generation of their fodder. The seasonality of work and its distribution among community members may also have seen a qualitative shift, with some people

temporarily joining traditional 'task groups' at various times of the year, and others performing the daily tasks of animal husbandry. The way in which access to certain resources was regulated may also have changed. Certain resource units held in common, through collective social arrangements or an institution encompassing all the 'households' (if that was the productive unit: c.f. Pollard 1999) in the wider community, may have become held separately by the individuals or families.

Once adopted, cattle could provide a source of metaphor and moveable wealth (Edmonds 1999: 27). It is impossible to know what strategies were followed in the keeping of cattle (e.g. localised herding or nomadic pastoralism), but the largely forested conditions of the Peak render it unlikely that it was on a large scale. One of the few things we can say with a measure of confidence is that it is unlikely a herd of animals would be constantly bred inwards. Therefore, as with other technological practices, the combinations of people and animals were not fixed. Rather, by accident and by design, breeding pools were mixed. Through a series of, perhaps carefully timed, practical involvements with livestock, relationships to the land and with other people were constantly reforged.

Cattle, then, are likely to have been available for many communities as possible sources of livelihood at an early date, alongside the pre-existent possibility of hunting and gathering. Whether or not considerations connected with these activities were ascribed such a weight as to determine local forms of habitation or the allocation of labour would have been influenced by the (perceived) opportunities at large. These opportunities may, in turn, have been influenced by the options of interaction with neighbouring peoples. For example, relationships with other communities may have had some influence on subsistence choices because of the role hunting and food are likely to have played in inter-community relations, including ceremony, exchange, marriage (e.g. Ingold 1980: 169-70). Even where one particular subsistence technique was predominant, several others are likely have been operational. It follows that various divisions of labour were practised simultaneously, implementing different kinds of competing or complementary 'social logics' at different levels, through different seasons and within different communities (Bourdieu 1977:82-83). While demand-sharing (Bird-David 1999) may have continued in some contexts, in others a sense of property may have allowed owner-determined disposal of beings and things. This is not contradictory to an ethic of sharing and hospitality (Whittle 1996: 370), but allowed people to direct when the gift, of food for example, was given in order to address a variety of concerns. The role plant

and animal domesticates had in the transformation of social life, including relationships with wild animals, is a theme to which I will return in the next section.

7.5 The Wye Valley

The Wye catchment is the largest drainage basin on the limestone and the Wye is the larger of the two rivers that flows continuously over that geology, as well as the major tributary of the River Derwent (Figure 7.4). Unlike the Lathkill, much of its middle course is underlain by impervious toadstone in the valley floor preventing loss to subsurface flow. In addition a host of springs and resurgences between Buxton and Monsal Dale double the volume of flow between these points, meaning that, unlike the rivers encountered so far, it would have been navigable by boat. At Monsal Head (Figure 4.7) more localised pollen cores from barrage tufa-dammed systems confirm that birch, hazel, oak, elm, lime and ash flourished in the valleys subject to interference by the elm decline (Taylor *et al.* 1994).

7.5.1 The shelves either side of the Wye

As examined in Chapter 6, the laminated and nodular cherts found in the upper strata of the plateau limestones, particularly the black cherts found in the dark facies of the Monsal Dale series, provided a ready source of raw material for prehistoric people. Regular supplies of such material were available from exposures in the valleys and hillsides overlooking the River Wye between Bakewell and Hay Dale (Harrison and Adlam 1985). As in the Lathkill catchment area, concentrations of chert knapping in the Wye Valley tend to appear on the shelves and scarp edges overlooking the sources. For instance, at **Dirtlow Plantations [55]** (DCC 20), just across the watershed from Bole Hill on the eastern shelves above Kirk Dale, black chert cores, rejuvenation flake, end scraper and waste were retrieved.

Visits to stone sources such as those in Kirk Dale and **Dimin Dale [56]** (Section 6.3) may have involved not only the acquisition of raw material but also the garnering of knowledge about the past that lay behind the present order of the social landscape (Edmonds 1999b: 487). This may have been through an oral tradition concerning the place and the mythic qualities of its stone (Section 3.5.4.2), but also through the presence of material cues alerting the visitor to prior work on-site. Access for those without tenorial privilege may involve the re-negotiation of relationships between individuals and communities. In the seventh to fifth millennia the use of these Wye

Valley Stone sources may have been more or less embedded in routine subsistence concerns. Large tablets of high-grade chert may have been quarried for planned journeys to the eastern floodplains of Derbyshire and South Yorkshire, or the northern uplands of the South and Central Pennines. This sort of procurement may have involved the separation of certain people from their kin. It is likely to have involved a very different kind of performance to the routine acquisition of chert nodules from scree, river and till contexts during the course of routine local movements bound up with the movement of herds and incidents of fishing or hunting. Nevertheless, their use over generations lent these places ancestral and genealogical significance, and the stone may have been steeped in ideas surrounding qualities which went beyond mere operational facility. In either scenario the procurement of stone and its subsequent transport, use and deposition, presented the potential for connections to be made, if not distinctions to be drawn, between people.

As black chert dominates many 'Late Mesolithic' assemblages, but few 'Early Neolithic' type fossils appear to have been rendered in that material, some authors have suggested that there is a significant break in practices of raw material procurement and use (Sections 4.2.3, 4.8). If there is, as yet, no evidence for the systematic exploitation of (presumably quarried) tabular chert then it seems likely that material from the Monsal scree may have still been used in the fourth millennium for *ad hoc* tools which are non-diagnostic for us. The pre-barrow Liffs Low assemblage (Section 7.3.3) demonstrates that fourth millennium communities did not shy away from the use of local raw materials. More widely, then, a range of forms that overlap the conventional typo-chronological boundary (cores, blades and narrow flakes) could easily be, and are sometimes demonstrably, fourth millennium in date. These forms continue to be made in the stone that has always been used, and 'the transition' means nothing in terms of such practices. If specific raw materials were selected from the range available to make certain artefact forms (not unknown in the fourth millennium: Clark *et al.* 1960) there may be very good social reasons for this, to which we have no intellectual access.

Given that some basic stone working and acquisition modes apparently persist then we might suggest that this is an important factor in the way attention to place was being worked and re-worked rather than utterly transformed as one moves into what we conventionally call the Neolithic. Even if there was a qualitative change in the procurement of raw material used from the fifth to fourth millennia (Garton 1991; in prep), the great white limestone outcrops continued to stand proud above Monsal Dale

at this time and could have informed the wider inhabitation of the valley. Unlike the sources for stone axe material (Bradley and Edmonds 1993), Dimin Dale is not set apart from the world of routine and ancestral associations may have persisted even if the area different tasks came to the fore in its inhabitation. The faunal assemblages from Dimin Dale (Bramwell 1977; Notes, SCM) produced a variety of game birds such as duck, plover, crake and partridge. Hunting may have focused around such species around the annual moult, when they are unable to fly for a period of three to five weeks (Keene 1981: 118), and may be caught in large numbers with the use of nets. The importance of such riverside habitats in other respect has already been emphasised in the context of Lathkill Dale (Section 7.4).

Moving up Taddington Dale from Dimin Dale we emerge onto the Wye's southern shelves, which like the slopes and shelves around the Lathkill saw considerable concentrations of stone axes in certain places. As the day wears on, this area is overshadowed by the bulk of Taddington Moor, which rises above it. On this massif sits **Five Wells [57]**, the chamber tomb which appears to have been used by the makers of simple plain ware, often associated with the fourth millennium, and by communities using Peterborough Ware (Section 4.2.1.2). Amid the remains of at least fourteen individuals were found a leaf shaped arrowhead and a flake knife. In prehistory a large, round rubble mound would have made the structure rather more visible from the shelves than it is today. The view from Five Wells seems spectacular but the gentle slope of Taddington Moor ensures that Five Well's view is restricted to the Wye drainage basin. While portions of shelves and hillsides all over the catchment are visible the broken nature of the terrain ensures that the vast majority of the area is hidden from view. Further, while broadly speaking the structure overlooks Monsal Dale and the Wye shelves opposite, the orientation of the passage faces out at an oblique angle both to the scarp and the watershed, directly towards the nearby springs from which the monument has acquired its name. Thus it is possible that rather than being a territorial statement relative to the shelves lying beneath it, the mortuary structure was actually built in reference to a much more modest micro-topographical feature. The structure may be a tenorial statement concerning a set of resources including the wells themselves, and a comparison could certainly be drawn with Green Low in this respect.

All this is not to detract from the view of the valley available from this site, which includes every other Early Neolithic monument in the catchment but the Tong. Directly opposite Five Wells, standing proud above the Northern Shelves, is the mortuary

structure at **Wind Low [58]**, which may be of fourth or third millennium provenance (Barnatt and Collis 1996). Survey in the parish of **Wormhill [59]** indicates blade working in chert and flint to have been widespread on the Northern shelves below Wind Low (Hart 1976). Although the southern shelves have not been as extensively surveyed, where recent fieldwork has been carried out, for instance at **Chelmorton Low [60]** similar blade-core working is found (Guilbert and Garton 1995). Nearby a mutilated mound, **Gospel Hillocks [61]**, has been described as a long barrow on the basis on morphology and its low-lying position, which is similar to the Tong and Perryfoot (Barnatt and Collis 1996: 86).

7.5.2 Lismore Fields

Near the peaty headwaters of the River Wye at the edge of the White Peak the site of **Lismore Fields [62]** was excavated in the mid-1980s. This site could almost be seen as the Peak District's mid-postglacial in microcosm. Almost every category of evidence, which elsewhere appears in isolation, is represented here. The site, as yet unpublished, is most famous for the postholes of two timber buildings and the prolific quantities of cereal grain retrieved therein. The reduction of the site to these elements makes it easy to understand it as both 'Neolithic' and domestic (Section 4.6.3). If we are to understand different practices as coeval and historical (Section 7.1), I believe it is necessary to preemptively dismiss such an interpretation as undesirable through a brief examination of the contexts of artefact deposition.

Firstly, there is no reason why the presence of semi-permanent buildings at Lismore Fields should negate arguments about residential mobility at various scales and, tellingly, it seems likely that both buildings were deliberately demolished (Garton in prep). At both Building I and II, some posts were removed prior to destruction, many were differentially burnt, some surviving to rot *in situ*. In both cases flakes from polished implements, other stone artefacts, and pottery were found in the post-holes or adjacent pits but the significance of these deposits was dismissed as residual. The amount of duration implied by those structures does not in any way come close to capturing what we call the Early Neolithic, and any model of 'embedded sedentism' (Whittle 1997: 21) should be rejected. Any stable settlement in the fourth millennium could well have been short-lived and combined with a degree of mobility.

Particularly interesting with regard to the interpretation of fourth millennium BC sites on the southern limestone plateau is the depositional context of the 152 sherds of

pottery. All but two of the Grimston sherds were found in cut features. This is particularly interesting with regard to Herne (1988) and Kinnes' (1988) suggestions that Grimston pottery is exclusively to be found in "non-functional" deposits in the Fourth Millennium BC. Merryn Dineley (1996) has raised the intriguing possibility that the production of alcohol may have been an important motivation behind pottery manufacture and cereal cultivation and may have been central to certain 'ritual' activities over the third and second millennia in Scotland. All the components necessary for such an enterprise (grain, water, hearths and fireproof pottery) are present at Lismore Fields. Additionally, the presence of wax on the Grimston sherds raises the possibility that forest bee-keeping was practised, perhaps so that honey could be procured for use as a sweetener and as an alcoholic base. Given the wider associations of Grimston Ware and the context of its discovery at Lismore Fields, it might be problematic to label the site a 'settlement', in the sense of a purely domestic context.

Beswick however (in Garton *in prep*) dismisses any ritual associations for the pottery at Lismore Fields on the grounds that residue analysis has shown all the sherds were used for the containment of foodstuffs, particularly dairy products and 'wild' resources such as honey, wax and apples. She believes the "pottery had clearly fallen into the void when the post was removed" (Beswick in Garton *in prep*). Such an appeal to chance movement seems unlikely, even if we posit differential survival and midden activity close to all the features, when less than two percent of the sherds were retrieved from the surface. It seems doubly unlikely, if we consider the propensity of people over the fourth millennium BC to deposit objects in cut contexts before leaving sites and the mediating role such acts are likely to have had in the maintenance of tenurial and inter-community relationships (e.g. Edmonds 1999: 29-30).

Interpreting Lismore Fields as a 'domestic' site, concerned with economic matters, in opposition to "ritual sites" where mortuary and other 'non-economic', practices took place is unwise. Many have found such separation of the concepts of the domestic/economic and ritual/mortuary to be unhelpful. "Daily activities may be organised with reference to ever present gods and ancestors, they may maintain ideas of cultural purity, or they may express divisions of status between the living" (Barrett 1988b: 31). The destruction of the post-buildings at Lismore Fields may well have been an event involving the deliberate transformation of the meaning and value of the building or the place at certain times as the conditions of and reasons for the existence of each structure changed. If this was the case then the presence of artefacts in post-

pipes may be better understood as a material expression of such a process, along with the removal of the posts and the firing of the building. Any number of things, including the death of an occupant or the failure of a harvest, might have precipitated such an event (Hugh-Jones 1995). What needs more consideration is the relation of the destruction of post-structures to other fourth millennium practices such as the infilling of pits (Edmonds 1999a, 1999b) and enclosure ditches (Evans 1988) subsequent to deposition, and the firing of wooden mortuary structures (Manby 1988). These three structural categories, along with the types of artefacts often deposited in them (axes, arrowheads and pottery), were novel phenomena, almost certainly bound up in corporate and inter-regional relationships. If this was the case then we should not underestimate the importance surrounding their abandonment and the role such practices had in the establishment of personal and community identities. That such prolific quantities of a novelty like Grimston Ware should be squandered and forfeited possibly at the same time as buildings were torn down and the site (at least temporarily) abandoned, may suggest that 'here too the gods are present'.

Also troubling is the automatic assumption that microlithic forms (such as the possible microlith fragment in the post hole of Building II) must be residual. Given what we know of the duration of microlithic technology in the Central Pennines (Section 5.2) it seems possible that microliths were used concurrently with 'houses', cereal cultivation, leaf shaped arrowheads, stone axes and Grimston Ware. While Lismore fields was demonstrably re-occupied over several millennia throughout the mid-postglacial, it is encouraging in some senses that had it been recovered as a ploughzone scatter it would have been interpreted as essentially 'Late Mesolithic'. In terms of the small discrete scatters in the Wye/Derwent zone and those subsumed by Late Neolithic/Early Bronze Age artefacts in large palimpsests on the White Peak, we can now appreciate two points. Firstly while microlithic forms are statistically likely to date from the seventh to fifth millennia, a small proportion may date from the fourth millennium BC. Even with artefacts in radiocarbon dated contexts, there will be sceptics who will persist with the 'residual deposition card' but the slow change now recognised in stone working traditions will never allow for the complete rejection of a very gradual abandonment of microlithic technology across the fourth millennium.

This being the case, then what is important is the systematic cohesion of a set of manufacturing practices through a time when other customs are changing and yet more are being introduced and developed. The characterisation of rectilinear post structures

and cereal cultivation as fundamentally 'Neolithic' firstly conceptually separates them from the practice of microlithic technology and secondly groups them with an array of third millennium practices, in the setting of which we understand 'houses' to be all but absent (e.g. Thomas 1999: 17-18). I do not wish to draw any alternative conceptual boundaries here, only to offer a vision of prehistory where developmental trajectories of related practices can be seen as independent from region to region, from generation to generation, rather than slave to an overarching atemporal cultural imperative. That different practices maintain cohesion over time is as worthy of comment as is the gradual relinquishing of individual habits.

There are a number artefact clusters at Lismore Fields which represent the creation and use of scalene and rod microliths, sometimes one type being exclusive to a certain scatter. As with the few Dark Peak sites where wider areas have been excavated it is difficult to know whether these scatters are broadly contemporaneous or represent repeated use of the site, but the lengthy and complex pollen record from peat deposits seventy metres away suggests the latter (see Section 4.3.2). This sequence of 'interference' and regeneration provides powerful support to models, such as those as Simmons (1996, 213) and Moore (1997, 38), of selective burning analogous to Native American 'fire yards' and 'fire corridors' (Lewis and Ferguson 1988). Such a practice would have lengthened the season in which grasses and herbs were available for browse or fodder in clearings, and also kept the edges of streams and other paths relatively open. The abandonment of structures and the eventual return to the site also allow us to think about the locale in terms of a named place, perhaps related to a certain household (Thornton 1997). The effort invested in clearance may have been both a condition of, and conditional on the tenorial status of those involved and reaffirmed their usufruct rights to the locale.

The introduction of cereal cultivation may not have significantly altered the annual routine of much of a community, but the material from the fourth millennium allows us a much greater insight into the seasonality of place. Times of clearance may have been longer and involved more of the group. There was much to be done: cutting or burning the long grass, breaking, softening and weeding the ground. But following planting, it may be that only a few were left to see off crows and magpies, and to hoe the ground once the plants were a couple of inches high. As summer turned to autumn others in the group attended to a series of other tenorial responsibilities, hunting, herding, and collecting apples from orchards. Forest bee keeping may have been a major seasonal

activity, involving the careful monitoring of bees at different times of year, in which nests were sought and ownership marked (Needham and Evans 1987). The opportunity for bee husbandry would have greatly increased with the intensity of forms of forest management (such as the practice of coppicing) as their populations tend to rise with the increased herbs, shrubs and flowers that grow in clearances (Clark 1942). The composition and preparation of food consumed were rituals of participation which, even on the most ordinary of occasions, “manifested the significance conferred on the transition from one season to another” (Bourdieu 1977: 130). Alongside this process, the gathering, preparation and consumption of food may have played roles in the reification of a whole host of classificatory distinctions within the community (Lévi-Strauss 1969b; Goody 1982).

7.5.3 ‘Border subjects’ – the northern uplands

Like Gib Hill, the locale of the probable long barrow at the **Bull Ring [63]** at Dove Holes, would later be referenced by a henge monument, but this will concern us no further. Also like Gib Hill, it occupies the border of different geologies (in this case the gritstone, limestone and shales) is close to a major watershed (in this case the border of the Wye and Goyt catchments), and overlooks (at a distance) a series of springs. To us today, this seems all the more dramatic as we understand its position as being on the edge of the Peak District and the County of Derbyshire. The interpretation of its prehistoric inhabitation is made difficult by the lack of systematic excavation either at the site or at other areas in the locality, especially over the watershed in Cheshire. However one very obvious quality of the locale can be commented upon without such evidence. That is, that the portion of watershed it neighbours is the lowest stretch for many miles in either direction; in short, this is the path of least resistance in or out of the region as we know it today. One function of this accident of geomorphology is that it may well have been the route by which raw material travelled in either direction.

Brooks (1989) has established that much of the flint used during the seventh to fourth millennia BC at Lismore Fields probably originated on the Cheshire Plain. Short of traversing the mountainous dissected gritstone plateau of the western gritstone moors, or a considerable diversion to enter the Peak via Staffordshire to the south, the route of the modern A6 road north of Dove Holes seems the most likely inroad for this material. Similarly geometric and rod microliths fabricated from black chert have been found not far to the West on the sandstone outcrop at Alderley Edge, Cheshire (Manby 1963; SJ

856779 and SJ 860776). Aside from the Derbyshire limestone, the nearest source for this material is Prestatyn, North Wales. Viewed from this perspective the locality of the Bull Ring can be seen as the region's gateway to the north-west, and may have been the way by which Langdale axes entered the region. Once more I stress the lack of comparative archaeological data from East Cheshire and Greater Manchester, the picture emerging from recent fieldwork is that this region was inhabited by groups related to those in the Peak, with similar practices throughout the mid-postglacial³.

Geographical distance is a relative quality, which is meaningful only in respect to particular places, times, or people. The communities involved with the use of this area may, at some times, have been the same, or closely related to, communities who worked in the Peak District. At others, under a system of dichotomous zoning (Helms 1988: 31, 57) they may have been "not quite us". In this respect going to acquire flint from till sources less than 30km away may have involved negotiation with those holding tenure over such resources, as at Dimin Dale. It may have been more crucial as the identification of sub-surface sources required local knowledge and regular engagement with the soil unavailable to visitors.

If the neighbouring groups of the Cheshire Plain were "not quite us", then those of Cumbria, may have certainly been "others" and, as discussed above this might have lent significance to axes. This is likely to have been the case whether axes (or unfinished blanks) moved in a series of short hand-to-hand episodes with many different actors, or whether certain people made the journey all the way to source areas. Travel to such remote areas may have been undertaken with reference to ancestral journeys (Fabian 1983: 6-7; Helms 1988: 47). The importance of exotic artefacts (themselves prestigious and ceremonial) may have been subordinate to the (particularly esoteric) knowledge that people acquired, and beyond the edge of one's own country the journey may have become primarily a religious matter. Those who left the safety of their homeland, in a quest involving physical and ritual danger, may undergo a change of identity upon their return (Helms 1988: 49, 67, 83-6). If the shale valleys of the Peak were the centres of one's world, reaching the Bull Ring barrow, and the first sight of the white limestone

³ Mesolithic and Neolithic archaeology are in their infancy in Cheshire, but Mesolithic chert use sites at Carden (Matthews n.d. 1) and other Mesolithic inhabitation is becoming apparent through rescue (Jenkins 1998) and survey (Leah *et al.* 1997). Aside from the long-known chamber tomb at Bridestones, Congleton, evidence for Neolithic inhabitation of the area is emerging with potential earthen long barrows at Somerford Booths and Wervin, possible causewayed enclosures at Farndon, and Churton-by-Farndon and Grimston Ware incorporated into the Roman wall at Chester (Matthews n.d. 2).

outcrops of their country, may have signalled the moment for ritual purification before re-entry to the community. Understood in these terms a great effort may have been expended in the acquisition of axes. Their consumption through destruction and deposition (Sections 7.2.6, 7.2.7) depended on access to these exotic items. It seems likely that personal prestige may have been bound up with a conspicuous display in the contexts of both their procurement and disposal.

Like the Bull Ring long barrow, the chamber at **Harrod Low [64]** and the long mound at **Perryfoot [65]** are both less than 500 metres from the border of the limestone. There is an imminent change in the character of terrain, vegetation and the colour of rock outcrops. They sit, sentinel-like, either side of the head of Perry Dale, the same dry valley that, as Dam Dale, Hay Dale, Peter Dale and Monks Dale, will pass under the Tong and Tideslow before emerging into the Wye Valley. To their north in the valley head are the springs of Adam Well and Cop Well, to the North is Rushop Vale, through which the limestone-shale junction runs, with its various surface streams, solution features and swallets (Dalton *et al.* 1990: 42). Excavations at Perryfoot long barrow in the Nineteenth Century recovered the bones of wild and domestic animals, including red and roe deer, boar or pig, cow, sheep or goat horse and dog (Pennington 1877). Like the Dove and Manifold cave sites, we can recognise the presence of species that prefer dense and open woodland as well as more open habitats.

This geological and ecological boundary between the White and Dark Peak may have had mythical connotations or been drawn upon to make classificatory distinctions and mark out social oppositions. Barnatt suggests that the gritstone upland beyond was “the last remaining ‘wildscape’ rather than a ‘cultural landscape’” (Barnatt 1996, 57), and suggests its importance lay in hunting, its identity as the ‘other’ place for activities outside of the normal. In Section 3.4.5, I suggested that the conceptual bracketing of nature as against humanity is a historically constituted phenomenon, with no necessary relevance to the study period. Further, fourth millennium understandings of the gritstone upland are likely to have been informed by mythical expressions of a wide range of activities which had taken place there in the millennia before. Spikins (1999) suggests that the uplands may have seen a variety of uses beyond hunting and may have been in no sense a liminal area. However, given the environmental history of the Kinder Massif (Section 4.3.2) which was largely under blanket peat by the time of long barrows, it may be that the area had come to embody significantly different priorities to those of the neighbouring mosaic woodlands.

At **Middle Hill [66]** a ring slot (four metres in diameter) excavated by Radley and Plant (Archive Sheffield City Museum; Hart 1976, 1981) was discovered while excavating a cluster of microlith-associated material and Peterborough Ware pottery, neither set of artefacts firmly associated with the feature. Garton (in prep.) has drawn attention to the similarity of this feature and those at Lismore fields, which were radiocarbon-dated to the early sixth (UB-3294) and late fifth (OxA-2433) millennia BC. Several similar ovoid or subcircular earthworks in Parwich have been found, the largest of which is 6.5m x 9m, the smallest 3.75m diameter. Makepeace attributes these to the late Neolithic or early Bronze Age on the basis of pollen samples, and postulates they may have enclosed super-surface excarnation platforms (Makepeace and Shimwell 1997). While bone has not survived at any of these three sites, and while they are unlikely all to be contemporary, Makepeace's speculation provides food for thought on the subject of the essentially absent mid-postglacial burial record. This feature aside, the landscape situation of the Middle Hill site, as well as the character of the palimpsest scatter is practically identical to those in the Gratton and Elton Moor areas. Firstly, it is on a high moor area, overlooking close to dry valleys at the rear of a drainage basin. Secondly the flint scatter obviously represents re-use of the site with seventh to fifth millennia and third to second millennia BC flint working represented. Fourth millennium mortuary activity is strongly suggested less than 200m away at the probable long barrow, **The Tong [67]**, in which "quantities of human bones" were found (Bray 1775; Barnatt and Collis 1996: 86).

Like Minninglow and Long Low, the massive barrow at **Tideslow [68]** has a 360° at this time, and it sits on the junction of three catchments (Longstone Basin, Bradwell and the Wye), a siting which cannot be coincidental. Tideslow can be seen from all over the northern White Peak and from much of the surrounding gritstone moors. Little is known about the inhabitation of Longstone basin during the study period. Two further mortuary structures, **Longstone Long Barrow [69]** and a possible closed chamber site near **Wardlow [70]** occupy the area. Like Minninglow and Long Low, Longstone Moor straddles the watershed (this time between Longstone Basin and the Middle Derwent Valley). Unlike those other barrows, it does not appear to have subsequently been re-developed.

Bradwell Dale is one of the most northerly sources of black chert although the fine grained material, apposite for conchoidal fracture, like that found in the Wye Valley, is rare. Nevertheless in the few artefact scatters known from this catchment, chert plays a

major role. A little further up the watershed from Tideslow, test-pitting on **Bradwell Moor [71]** recovered a spall of dark-grey chert, as well as a flint core rejuvenation flake and a fragment of a small blade (Guilbert and Challis 1998). On the shelves overlooking the Hope Valley, a large blade production site at **Bradwellmoor Barn [72]** was found sealed by a later banked enclosure. In addition to a large use-worn bladed component, some with faceted and abraded butts, some from bi-polar cores (indicating careful preparation), core rejuvenation flakes, as well as a knife with scalar retouch and edge gloss may indicate a fourth millennium date. Much of the material was black chert but a grey chert and two types of flint were also represented, perhaps suggesting re-use of this locale over time (Guilbert *et al.* 1995, 1997). The lack of actual cores found may stem from the position of the test pits but it would hardly be surprising if cores were largely absent given what we understand about the extreme economy of raw material use away from local sources. A nearby survey at **Dirtlow [73]** (Dearne 1997) provided tentative evidence that seventh to fourth millennia activity may have been common all along this area close to the scarp-edge.

The Hope Valley down below, is another area where relatively large concentrations of polished axes, and several leaf-shaped arrowheads have been found. The slowly permeable, seasonally waterlogged soils may not have been suitable for prehistoric cultivation but would have provided communities with a number of other resources. There has been little survey in the area, but Henderson has found chert working at **Navio [74]** and all around the mouth of Bradwell Dale, where the chert outcrops are most accessible. None of this material however is particularly diagnostic.

High above Bradwell Dale in **Fissure Cave [75]**, Hartle Dale, sherds were discovered described by Gilks (1989) as comparable to Towthorpe Ware or Mildenhall Ware, in either case probably of fourth millennium provenance. Below these deposits, were found the bones of at least one beaver. Beaver could have been an important source of fat in the lean months, since 30-40% of their body weight is fat, even in winter, as well as a source of meat, teeth and pelts. The beaver at Fissure Cave may have been caught on the River Noe where, by analogies with modern populations, it is likely to have been exploiting tree bark, buds of willow and birch and various aquatic herbs and plants. reports that winter would be the optimum season for beaver hunting as they are slow moving and in predictable locations (Keene 1976).

7.5.4 Rituals of the everyday: keeping accounts and establishing power

In previous sections I have speculated upon broad structuring principles surrounding engagement with communities of the dead, as well as wild and domestic animals, based mainly on sketchy evidence of how human and nonhuman remains were treated. On the basis that mortuary practice could not be effectively characterised in terms of Euro-American biological or economic facts, they must be seen as social facts of attentive engagement with communities of animals and the dead. In Section 7.4.3 the possibility that a range of different social logics informed the use of long barrows was suggested on the basis of the investment of time necessary for the upkeep of domestic animals and their significance in human relationships. It was posited that new divisions of labour and new combinations of community relationships came into being as a consequence.

Up until now I have been cautious in the use of the word 'ritual'. There are two reasons for this. Firstly understanding the context of mortuary practice involves drawing attention away from the mortuary structures themselves. These buildings contain things such as pottery, animal bone and arrowheads, which, in other contexts we would not immediately interpret under the rubric of ritual. Meaning may be evoked from such objects in a variety of different ways depending on identity and context of articulation. However they also have a referential dimension "composed of all the meanings assimilated to [specific elements] in past and future contexts of invocation" (Moore 1986: 127). This is to restate that a key concern of mortuary practices is that their material components have the potential to presence previous and forthcoming activities in other social arenas. In the ethnographic literature, both hunting and bloody sacrifices are frequently informed by the need to ensure renewal of resources (Ingold 1986). The inclusion of red deer at Perryfoot then, may have served as a mnemonic of past successes or failures in hunting, themselves interpreted in magico-religious terms, as well as a type of exchange ensuring future good relations with the appropriate spiritual authorities. This brings me on to the second reason for caution on the use of the term 'ritual'.

If we are to interpret mortuary structures in terms of ritual then it must be in relational sense. Ritual did not stop at mortuary structures, but informed, and was informed by symbolically charged actions from across the landscape. In the Wye Valley area we find evidence for a wider range of practice, and intimations of different scales of interaction. Like long barrows, the use of stone sources or post-houses, the organisation of long journeys and the management of forest areas involved actions and decisions informed

by values that went beyond simple questions of utility. The myriad fragments of local and variably exotic stone at Middle Hill, some left on the surface, some perhaps consciously deposited in pits, suggest a theatre of the material in which substances and crafts had mythological origins and values (Section 3.5.4.2). In certain scenes, the power and skill of some actors was recognised as admirable artefacts were worked, while others were humiliated. The songs of people working together in the garden plots near Lismore Fields may have invoked spirits in the cultigens to be gathered, even as they entertained the singers. In the context of the rhythmic pounding of grain, or the clicking of granite on flint, gossip and lore, ritual and technical routine, all melted into one.

In the past archaeological discussion of ritual, especially in the context of mortuary structures has been dominated by a preoccupation with vertical distinctions between people (e.g. Renfrew 1973). But if we accept that they are instead caught up in the ongoing negotiation of tenurial rights and the renewal of ancestral ties binding the living to the living (human and nonhuman) and the dead, then we should be more concerned with the elaboration of horizontal distinctions. We must also stress that the dynamism of parallel work traditions *did not* recreate the *same* 'society' from generation to generation *because* power was neither centralised nor institutionalised but considered a quality of persons or things (c.f. Adams 1977: 389). Equally, as there are different fields of practice with rhythms and cycles, power is contextually emergent and negotiable through space and time. Different abilities in different spheres and the variable connection of actors to superior, numinous powers is likely to have established codes of social differentiation, referring primarily to individuals and not to groups of persons, such as kin-groups. The complex of one's abilities, along with age and gender, may have been the most important criterion for determining a person's current position within the social network. The collective order was thus established by their concrete actions, not merely overarching codified norms.

Membership of a community involves a kind of *competence* in the giving and reading of accounts, reasons, stories, or excuses and is routinely evaluated through the mutual surveillance of conduct. It is this propensity to act and move in particular ways rather than others, that creates the direction and momentum that we call practice (Section 3.5.3.2). At the same time, this calling to account of one's peers is prefigured by one's position in a "stream of conduct, behaviour, attitudes, gestures already made, sentences

already pronounced or written, within which they have already been given once to those who act, behave, exchange, work, speak” (Foucault 1970: 354).

The ‘prefiguring’ of accounts is profoundly affected by the changing composition of the social, especially by the introduction of new technologies and new types of social relationship. Technologies are not mere *additions* to social life; rather, identity work is always co-extensive with artefacts (Strathern 1991) in a continuous prosthesis of extension and belonging. The making and subsequent use of things, including the ‘management’ of locales, allows members of a community to be called to account, as in all contexts there are right and wrong ways, times and places. For outsiders wishing to exploit tenorial resources such as salmon runs or stone sources there may have been an ‘ask-first’ policy (Section 3.5.4.3). As technical acts are performed alongside other people their effects offer simultaneously the means of surveillance and of sanctioning. Surveillance is maintained through the durability of regimes of authority and prestigious imitation in an ostensibly technical system. Sanctioning is retained as a discretion, which may be relatively dispersed or appear to accumulate in authority figures relative to different spheres of action. Community membership is always provisional, always being reaffirmed, but in choosing to remain, members defer to the judgement, and give up discretion to, authorities in various spheres of practice. Thus individuals initially welcomed into a community on whose territory the hunting was good might be gradually ignored or isolated if their conduct did not meet the customary standards.

The variable durability of artefacts, including the visible results of the ‘economic’ activities of the seasonal round, embodies this deferral of sanctioning. In their potential for calling others to account, artefacts, structures and managed locales are instruments of surveillance, and records that are durable and flexible. They are durable because as collapsed acts they exist beyond the moment of their creation, flexible through the potential for sanctioning to be deferred over time and to different persons. And it is this potential for deferral, over when, and how, readings are to be made active through sanctioning, that incites a continuous re-distributing of ‘discretion’ and power within the community (Descola 1994). Not only may the material results of work be read at agreed junctures, on a communal basis, but individuals also undertake reflexive self-monitoring, hold themselves to account on a more routine basis. A man might be scolded for idleness because his cattle were in poor health or stupidity because of his lack of skill in bifacial working. An old woman, no longer felt able to tend her garden plots, might choose a successor to take over her tenorial responsibilities.

The division of labour, the regular fusion and fission of communities and their constituent members inferred from such activities, prefigured fields of discourse and practice where identity emerged and power was negotiated. The rhythms of work and interaction were a medium through which identities and values were materialised. This is a theme to which I will return at the end of the next section.

7.6 The Wye/Derwent interfluve

Successive glacial episodes over the Pleistocene scoured out sections of the Wye and Derwent valleys (Figure 7.5) to significant depths leaving quantities of glacial erratics, head, till and boulder clays between Monsal Head and Baslow as well as in the Derwent Valley (Jowett and Charlesworth 1929: 315; Straw and Lewis 1962). For people whose lives frequently involved the digging of pits and ditches (Healy 1987) these secondary deposits of raw materials may have been as important as the seams in the valley walls. While the procurement and transport of black chert in the seventh to fifth millennia may have been highly structured manner, it is quite probable that its *ad hoc* use continued through the fourth millennium as it was found in the processes of clearing woodland, cultivating crops and pit-digging.

It is generally agreed that clearings in seventh to fifth millennium woodland were more frequent than suggested by early tree pollen dominated cores particularly if browsing animals kept areas clear for longer periods (Simmons 1996: 131). I have already suggested that riversides offered clearings in, and ecotonal 'edge', to the lowland forest, where plant resources were stable, predictable and abundant in contrast to openings caused by tree fall. But larger rivers had an additional importance.

Salmon would have been found in all British rivers in the Mesolithic, with the largest salmon runs tending to be on the largest rivers (Netboy 1968). The Derwent and the Dove are tributaries of the Trent and, before pollution and canalisation, salmon runs in the east coast rivers occurred in both spring, when the fish are in prime condition, and autumn (Netboy 1968). The timing and productivity of salmon runs can vary markedly. (Rowley-Conwy and Zvelebil 1989) on the basis of climatic conditions.

7.6.1 Indifferent occupation?

The last chapter established the density of seventh to fourth millennium findspots now known from the varied topography of the Wye-Derwent interfluve. Unlike the upland shelf and plateau areas where large third and second millennium scatters routinely mask

earlier traces of activity, three surveys have demonstrated a proliferation of uncontaminated, low-density, earlier activity in this zone. It is neither possible, in terms of space, nor desirable to treat every one of these knapping episodes with the attention with which I have treated the more extensively spaced upland occurrences. Suffice it to reiterate that these vestiges share a common concern with economy of raw material use, the tool kit common to people from the seventh to fourth millennium and the prolific use of readily available local stone. A few sites which appear 'chronologically discrete', inasmuch that none of the artefacts would be out of place in the seventh to fourth millennium, stand out because of their relative density and the high percentages of primary waste.

Scatters from **Bubnell Hall [76]** and **Bramley Farm [77]** are both within 300m of the River Derwent, and, by comparison with the zonal average, have elevated densities of 13.7 (combined) and 20.6 finds per hectare, respectively. Exhausted blade cores (11 [9%] and 7 [11%] of the assemblage respectively), microburins and flake knives are found at both sites, as are leaf shaped arrowheads, the example at Bubnell Hall being unfinished. End scrapers and notched and retouched blades were also found at Bubnell Hall. **Home Farm Hassop [78]** and **Handley Bottom [79]** also have high densities of 9.5 and 14.4 finds per hectare. Each of these sites is on elevated ground and adjacent to tributary brooks of the Derwent. These assemblages have similar elements to those near the Derwent including high levels of exhausted blade cores (6 [14%] and 4 [8%]) and knives. End scrapers and edge-used, glossed and retouched pieces also appear at Handley Bottom.

The dense palimpsest site at **Ashford Hall [80]** on the banks of the Wye appears to have a cluster of activity dating from the seventh to fourth millennia largely obscured by later activity. In circumstances where this situation is repeated on the southern-central plateau, a number of sites have produced evidence for microlithic technology as well as potentially fourth millennium stone working. The latter is sometimes affirmed by the recovery of Grimston Ware, for instance at Mount Pleasant and Aston Hill (see above). I am making no causal link between the later emergence of larger sites with earlier activity where pottery is used but the Ashford Hall locale might certainly be worth observing in the future.

In the same way parallels can be drawn between the history of the locale at **Beeley Horse Pastures [81]** (Barnatt and Robinson 1998). Here Grimston pottery, adjacent to a flake knife were found close to an assemblage which included a microlith, microburins,

and a bladed assemblage assumed to be 'Late Mesolithic' in date. At the beginning of the second millennium BC the locale saw the deposition of a cremation urn and later stone artefact forms may also date from this time. The location of this site is, like Linch Clough South, at the junction of a small brook and the Derwent River. Their landscape situation may be informed as I suggested in Chapter 6, by the nature of fission and fusion among small scale, partially mobile communities. Such interfluves may have been safe places to pass the time while waiting for the arrival of kith and kin, as resources would have been relatively plentiful year-round. Horse Pastures, particularly is at the junction of a number of routes, micro-regions (the Wye, Derwent and Lathkill Valleys) and, probably, different ecotones. While there is no evidence for structural elaboration of this locale, through this "crossroads" quality, like the upland sites at the junction of watersheds or the heads of valleys, enduring identities of place may have developed.

Twenty years ago virtually nothing was known about the inhabitation of the Wye-Derwent interfluve during the study period, and now we have a landscape characterised by extensive but concentrated episodes of knapping. Despite observed technological variation, these scatters are difficult to interpret, because they are relatively 'indifferent', with respect to both their chronology and the range of tasks in which they could have been implemented. They all suggest 'business as usual' with the exception of Horse Pastures, where Grimston Ware alerts us to something out of the ordinary, given that the use of such novelties may have been tightly prescribed⁴ (Section 7.5.2; Herne 1988). In Section 7.5.4 I discussed the ritual qualities of routine practice as the context for incessant power play within communities. The power invested in individuals was specific to the tasks and company at hand, as well as the time and place. The next section examines how the same work also extends identity across time, and the character of that temporality.

7.6.2 Seasonality and nested identities

There are a variety of forms of mobility, social conditions and subsistence strategies under which the scatters in the Wye Derwent interfluve may have come into existence. Some of their locales may indeed, have been "ideally suited for 'home-bases' used for

⁴ It is of course possible that formation processes have lead to the destruction of Grimston Ware on many other sites and that it would have been rather more common than we understand it to be from the present record, but this is conjectural.

over-wintering” (Barnatt 1996: 55). However the seasonality of their inhabitation is likely to have been a good deal more complicated than this. Spring is also likely to have centred on the valley as the forest floor exploded with plant life, before the canopy closed for the summer. The regeneration of the forest floor may have attracted wild ungulates more often found in open areas, and temporarily provided extensive grazing for cattle. In the river, beaver may still have been lethargic (Renouf 1989) and the salmon running. Such immediately available, resource-rich conditions would have been ideal for aggregation of the wider community, in acts of communal hunting, feasting, exchange and the re-establishment of bonds. Winter on the other hand may have seen very different types of work, particularly the cutting of coppice stools and pollards, after the sap had fallen. Immediately this generated fodder for cattle, and in the short term would provide leafy shoots for animals next spring. Clearance was also undertaken for other immediate purposes such as the preparation of ground prior to settlement, or the maintenance of mortuary sites. But activities such as coppicing also anticipated the generation of material for tools and hafts over the next few years, and structural timber for the next generation of people.

During the course of this ‘futural’ work, the different types of woodland encountered also enabled retrospection at the scale of one’s life, concerning the extent of growth since one’s last visit, the presence of others since. As old ground was re-cleared old hearths, middens and knapping floors emerged (Edmonds 1999a, 26). At the level of the *longue durée* long abandoned sites could be identified, either by structural remains or the presence of long, straight timbers. There, oral tradition located long dead kin, and re-affirmed the land-claims and genealogies of the people now working (Gow 1995). This historicity is likely to have been on the same level of mythic time as the presencing of mortuary structures, and equally evocative in terms of the working through of identity and power.

However the situational context of work involved working alongside different combinations of people. A whole host of different classificatory distinctions and types of authorities could come to the fore in each situation, as people categorised themselves on various levels, ranging from a unique individual through various nested or overlapping group identities. The changing articulation of identity depended on the relative salience of various social categories, which are highly context-specific through temporalities and places. It may have been heightened by comparison, “where two or more categories appear[ed] simultaneously, either actually or symbolically” (Turner

1987: 120). For instance, the social category *adult* is made more salient by the presence of members of the category *child*, that of *man*, more salient by the presence of *woman*.

Whereas the forest at large, may have provided a metaphor for 'the people', past and present in continuous duration, its mosaic composition across space provided bases for comparison and differentiation in the construction of identity and power. Uncut primary forest could be compared to land under tenure, which nevertheless displayed mature growth, or with cleared areas such as cultivation plots, mortuary ground and temporary settlements. The permanently clear areas of the ridge tops could be compared with well-timbered space. Most importantly this would have been related to people's activities: where we sleep and eat, where we garden, where we hunt, where we collect honey, where we avoid. Each was informed by oral and material performances unique to a particular context, by variable and fragmented identities, relative to the changing composition of the workforce, and the changing balance of power between individuals.

7.7 The gritstone uplands

An eternity of weathering and erosion of the soft shales between successive beds of gritstone had sculpted a stepped profile by the time the first human feet trod the East Moors (Figure 7.5). From Beeley Moor [82] in the south, to Hallam Moors [94] 18 kilometres to the north, Namurian rocks dip eastwards at shallow angles, a cuesta with a well-developed scarp facing westwards over the Derwent Valley (Dalton *et al.* 1990: 35). Secondary edges set back from those overlooking the Derwent Valley give much of the moors a two-tiered character, with the dipslope between each underlain in turn by gritstone and shale geologies. Head deposits have completely covered many of the slopes below these escarpments, running to the eastern bank of the Derwent in some places and completely burying parts of the valleys below ten metres of colluvium (1990: 21-33). Poorly sorted deposits of clay, sand or gravel loams containing blocks of sand or gritstone up to 7m across merge into the ancient screes immediately below the exposed rock of each westerly facing escarpment edge (Eden *et al.* 1957: 159). The variable nature and irregular drainage of the screes below each west-facing rock escarpment still support diverse plant communities, including remnants of "semi-natural" oak woodlands (Anderson and Shimwell 1981: 12, 75, 85).

The Dark Peak (Figure 7.6) to the north of the limestone plateau is also a landscape of contrast, between the moorland plateaux and cliff-like edges of the millstone grit rock and the broad flat valleys lying on the shale. The dominant feature of this area is the

extensive elevated gritstone plateau, reaching 636m at Kinderscout and 633m at Bleaklow. This moorland area, deeply dissected by dendritic drainage channels, is consistently over 300 metres above sea level and is today largely covered by a thick layer of peat.

In the absence of the types of mortuary structure associated with the fourth millennium, the 'Early Neolithic' has been all but absent from accounts of these gritstone uplands. The environmental record suggests that there was a fourth millennium presence on the East Moors (Section 4.3.2) involving short-lived, sporadic, probably small-scale openings of the canopy on the lower uplands, with some persistently open areas higher up. The Boreal-Atlantic transition saw peat initiation over much of the Ringinglow area on the East Moors, especially in natural depressions and gentle slopes, but not on steeper slopes and projecting ridges (Conway 1947; 1954). Alder stratified in the peat indicates this area to have lain at the edge of "lowland" forest in the seventh to fourth millennia, below the extent of spread of "upland" woodland and scrub (Conway 1947; Tallis and Switsur 1990: 867). The mosaic canopy of deciduous species may have been largely unbroken across the East Moors, except for at the gritstone edges, and in areas of initial formation at locations such as at Ringinglow, Leash Fen, Tolley Moss and Hipper Sick (Hicks 1971: 662). In the latter areas, the seventh to fourth millennia saw "the opening out of the woodland to allow a much more luxuriant development of grasses" (Conway 1947: 171).

A comprehensive programme of coring across the Southern Pennines has identified a complex and variable history of peat development contingent on the interplay of topography, altitude, geology, climatic change and land-use histories. However, woodland management by communities over the seventh to fifth millennium BC, suggested by charcoal layers associated with episodes of peat growth, may have played a critical role (Tallis 1975: 484; 1991: 411-3; Tallis and Switsur 1983: 599; 1990: 868-9). A distinct phase of peat initiation can be identified at water-collecting sites over the sixth millennium BC, associated with controlled burning and repeated grazing, the latter suggested by "pollarded" tree remains at Holme Moss and Coldharbour Moor (Tallis and Switsur 1983). Regular incursions into an otherwise expanding forest edge by controlled burning and grazing allowed only birch, hazel and willow scrub to colonise ground above about 425m OD (Tallis and Switsur 1990: 867; Tallis 1991). The process resumed at both water-collecting and water-shedding sites on gentle convex slopes from around the mid-fifth millennium BC (Tallis 1991). By the mid-fourth millennium,

coincident with the elm decline, the higher reaches of the Dark Peak were, as we find them today. A patchy mosaic of vegetation with blanket peat predominated on the gritstone plateau summits and advanced before a receding woodland edge on sloping ground (Tallis and Switsur 1990: 875; 1983: 587). The deliberate felling of scrub and forest cover, to improve existing grazing or to create new pasture, may have begun to play a significant role by this time (Tallis and Switsur 1990; Tallis 1991). By the mid-third millennium blanket peat had almost spread to its current extent (Tallis 1991: 408-13). Recent surveys warn of considerable localised variation in the historical process. Brayshay (unpub.) suggests that in some areas peat inception did not take place until the third millennium BC and that scrub woodland was locally widespread until the first millennium BC, when grassland and blanket peat communities finally dominate.

Therefore there is no question that that these areas were used over the fourth millennium BC, the issue is what potential was there for specific forms of engagement with these parts of the landscape? Certain problems surrounding the stone tool assemblages from the East Moors and the Dark Peak of the Southern Pennines make a discussion of prehistoric inhabitation difficult to relate to the sub-regions so far discussed. The main obstacle to their integration is the collection process by which they were generated. The vast majority of artefacts from gritstone areas originate from windows of opportunity created by moorland fires and erosion (Sections 4.2.3, 4.3.2) and are therefore not fully representative of the breadth of inhabitation. The collection methodology, by today's standards, was disorganised at every stage, sometimes selective in terms of which artefacts were valued, and lacked spatial resolution. Finds such as the Beeley Moor [83] microlith 'hoard' (80 flint scalene, trapezoidal and rod microliths - Hart 1981: 32) were often tied down only to four figure grid references.

There are unresolved methodological issues relating to the parity of assemblages found on peat exposures and those from White Peak fieldwalking and test pitting units. On wide, level tracts of this exposed ground, we can posit that the sample population of particular scatters may have been much closer to the mythical target population than in systematic survey methods in pasture or ploughzone. However erosion by the traffic of livestock and humans tends to open up linear exposures which may cut across only part of a scatter. Additionally, on less level ground, the erosion of peat is known to allow the movement of artefacts over considerable distances (Garton 1987; Trent and Peak Archaeological Trust 1991).

Within this context the research agenda of collectors such as Radley (Section 4.2.3) was specifically focused on 'the Mesolithic', resulting in a written record, in any case short on detail, which largely ignored artefacts attributable to the fourth millennium BC onwards. My analysis of the Henderson gritstone collections for the PDNPAS (Hind 1998) suggested the following. 'Early Mesolithic' activity was possible or probable at 3.3% of the sites, undifferentiated Mesolithic at 26%, and Late Mesolithic at 17%. Early Neolithic activity was possible at 15% of the scatters. Undifferentiated Neolithic activity was possible or probable at 2.7% of the sites, Late Neolithic activity at 5.4% and Bronze Age at 7.6%. A massive 48.4% of the scatters, mostly small knapping episodes involving non-diagnostic waste or simple tools, could not reasonably be attributed to any one technological tradition. The problems with chronological resolution in Gritstone lithic assemblages then, are comparable to those of the White Peak, but compounded by the lack of auxiliary evidence, such as mortuary structures and pottery. In this section, it will be argued that many of the gritstone scatters may be similar in composition, landscape situation and chronological range to those in other areas of the Peak.

7.7.1 The East Moors

In prehistory the gritstone edges of the East Moors and Southern Pennines provided a vantage point rarely obscured by the crown of any trees rooted in the head soils immediately below. As growth on the level ground up on the edges would have been restricted by their gritstone surfaces, the shallow depth of soils and exposure to strong winds, this woodland border offered the easiest north-south path through an otherwise densely wooded landscape. Like the dolomite ridges of the limestone, such breaks in the canopy may have attracted wild animals, and in turn the opportunistic exploitation of hunters and herders (Brown 1997: 140-1).

The knapping floors found on such gritstone edges have a varied composition, making simple division of tasks by micro-topography questionable. A scatter found near **Raven Tor [82]**, overlooking the Derwent Valley produced a bifacially flaked knife, notched, truncated, retouched and core trimming flakes (Table 6.31: Sites 001 and 154). In addition to the microlith hoard mentioned earlier, later activity was also in evidence on **Beeley Moor [83]**, principally in the form of twenty leaf shaped arrowheads and 29 chronologically later projectile points. Elsewhere along this edge, more routine, ephemeral traces have been found (Table 6.31: Sites 096 and 182) such as a microburin,

a burin, a hollow scraper, blade cores and trimming flakes as well as retouched and edge-worn blades. Nearby, regular, small scale temporary clearance of the upland Atlantic mixed oak forest is visible at **Hipper Sick [84]** around 3766–3350 BC (GaK-2294) and the appearance of ribwort plantain may indicate an association with cereal cultivation (Hicks 1971: 653-4). The initial formation of peat vegetation at would have opened out the woodland allowing the development of grasses attractive to a variety of different animals.

The **Leash Fen [85]** pollen diagram showed a series of clearance phases attributable to agricultural activity and dated by a series of nine radiocarbon dates, the earliest at 2889-2311 BC (GaK-2285). Described as slight opening up of the forest cover rather than a major clearance, the locale appears to have been under light mixed woodland, especially oak, birch and alder (Hicks 1971: 649). This low saddle in the gritstone moors was carved by east-west surface drainage in the Pliocene (Dalton *et al.* 1988: 35-6), and erratic cherts from excavations on **Gardom's Edge [86]** suggest it had once been glaciated. While the rubble enclosure at Gardom's edge is thought to relate to the third millennium BC (Barnatt 1996), stone tool analysis from excavations and test pits has identified material which appears to be of an earlier date (Jim Rylatt *pers. comm.*). The presence of axe fragments, a wide variety of raw materials, the scale of the enclosure and its location would seem to accord with a place that might have significance for people coming from different directions (Barnatt *et al.* 1997).

This saddle may have been one of the main raw material transport routes in and out of the region. **Meekfields [87]** (Section 6.1.11) has an extensive view of the Rother Valley, and it is less than 7km from lowland sites such as those at **Unstone [88]** where copious quantities of black chert were taken from the White Peak and worked the seventh to fifth millennium (Hart 1981). At **Whitegates Farm [89]** a dense assemblage, thought to date from the fourth millennium BC testifies, like that at Meekfields, to the careful maintenance of five riverine flint cores and twelve rejuvenation flakes (Barnatt *et al.* in prep). Like the occasional dense activity areas in the Derwent Valley, these two locales can be seen in the context of more scant traces of early activity. Sporadic finds of microliths suggest the use of a patchwork of forest and clearings created by wind-throw and augmented by purposive acts, providing a context for camps and seasonal activities.

Both Radley (Archive, SCM) and Henderson (Site 095) collected flint and chert waste and artefacts from all over these low moors, but found very few discrete concentrations.

The material included knives, end scrapers, cores, saws, retouched blades, a leaf shaped arrowhead (and later forms) and a microlith. Much of this material was found around the isolated periglacial gritstone tors set back from the summit of **Birchen Edge [90]**. Such features are impressive when viewed against today's open skyline, and functioned as guideposts along a series of packhorse routes in the pre-turnpike era (Radley 1963b: 44). Even on light woodland paths their efficacy as navigational aids may have been considerable and their quasi-organic form may have lent themselves to the evocation of mythical connotations (Basso 1984; Thornton 1997). As in the valleys, small streams may have provided a range of resources not available elsewhere. Across the **Barbrook Valley from Gardom's Edge**, a dense multi-period cluster of lithic material including blade cores, maintenance products, and two geometric microliths (**Sandyford Brook [91]**). Such remains could be interpreted in terms of preparation for 'stealth hunting' at the water source, but this may also have been the type of locale that saw the intensification of wild nut-and-grass husbandry for part of the year (Zvelebil 1994).

The proximity to Sheffield of **Totley Moor [92]** left it particularly open to collection by urban enthusiasts in the 1960s. A dozen or so concentrations are known from the area which range from single finds and small indistinct scatters of loosely related material (such as Totley 2, and 8) to dense concentrations of more than 200 pieces (Totley 3 and 5). While no quantitative analysis has been performed on these sites, it is obvious from Radley's notes (Archive: SCM) that the composition of the larger sites is heavily weighted towards chert and flint waste. A range of activities aside from tool manufacture are usually represented and while microliths are sometimes the most common retouched tool type, it is not by any great margin. Of 215 pieces at Totley 3, for example the only special artefacts were a 3 microcores, a microlith, 2 button scrapers, an end scraper on a blade, 2 hammer stones and 3 third to second millennium arrowheads, the rest being waste. Some of the smaller sites may be demonstrably single episode sites, such as Totley 7 (all white-grey flint) or Totley 10 (all black chert), which could suggest that the larger sites were favoured locations to which various groups repeatedly returned.

The height of Totley Moor and its proximity to Ringinglow suggests that this area may have become rather more open throughout the seventh to fifth millennia BC through the recursive relationship between peat development and clearance. The Elm decline at Totley Moss was dated to 4215-3384 BC (Hicks 1971, 1972; GaK-2293), even earlier than at Hipper Sick. These openings have long been understood in terms of hunting

grounds due to the vast quantities of projectiles retrieved from the Totley, Burbage [93], Hallam [94] and Ughill Moors [95] (Radley 1966b; Riley 1962). However, the range of working and tool types suggests a rather larger repertoire of tasks, and as with streamside locations, these forest-edge locales would have offered different opportunities in terms of the management of plant resources.

Stanage is the largest and most impressive of the gritstone edges, and forms the western extent of the Hallam Moors. Mostly between the 400 and 450 metre contours, with most of the rock face itself between 15 and 20 metres high, it is often snowbound in winter. Visible from miles away in the shale valleys and on the limestone, it stretches for a length of approximately six kilometres, from its southern point near the Cowper Stone to the northern tip at Stanage End (near Crow Chin). The high point of the main edge is at the High Neb buttress, which lies near the north end. Stanage Edge is the area with the highest density of find spots in the Henderson collection, with an almost unbroken sequence of knapping episodes all along the scarp edge (Figure 6.26). Major concentrations at Cowper Stone Rock Shelter [96], High Neb [97] and Crow Chin [98] (Table 6.31: Sites 175, 177 and 105 respectively). A wide range of forms was found at Cowper Stone (flake knives, awls, a scraper and an edge worn flake) but just two microliths. High Neb, dominated by waste with a blade/flake ratio of 1: 2.5, produced no microliths at all, the only retouched piece being a reworked blade. At Crow Chin microliths and associated by-products were in the majority in terms of retouched types, but a wide variety of tasks and working modes are evident in the form of retouched and edge-worn flakes, a core tool, and the overwhelming scale of the working of cores and chert nodules. Therefore Henderson's (1979) simplistic interpretation of these scatters as hunting sites seems to rest on a more general, ill-founded, meat-fixated view of 'Mesolithic subsistence' (Section 5.4.1.1), besides which some of the material may potentially be of a later date.

This distribution of principally early material reinforces the importance of edges as relatively clear routes through the region, grading down to the river valleys by way of steeply graded cloughs, with tors serving as landmarks. The siting of Crow Chin would have been informed not only by its position at the end of the edge, but as the junction of three drainage basins (the Derwent, the Rivelin and the Sheaf), and may have been a reference point for more than one community. The importance of watershed locations is also notable in the saddle between the Hallam Moors and the Derwent Moors. At Moscar Cross [99] (320m OD) between the Derwent and Rivelin catchments, recurrent

ploughzone collection has located a large palimpsest scatter. While much of the material has middle to later Neolithic characteristics (backed and polished knives, bifacially flaked pieces), there is also a wide variety of earlier stoneworking. Blade/bladelet cores and rejuvenation flakes, frequently reworked/re-used, dominate the by-product assemblage, and while the blade to flake ratio is only about 1:6, there are also large amounts of retouched, edge-worn and truncated blades present. Potentially early finished artefacts include simple, well-made knives, end scrapers and rod microliths.

7.7.2 The Upper Derwent Valley

To redress the imbalance in traditional research in the Southern Pennines (focused on 'Mesolithic' microlith-dominated sites), my analysis of the Henderson collection concentrated on large 'balanced' assemblages from the Upper Derwent Gorge itself (Section 6.4). Of fifty-five find spots from Henderson's collections in the Upper Derwent area, forty-three are above the 300m OD contour line, none of which have more than fifty finds. By contrast, of the twelve valley sites, **Linch Clough South [100]** and **Abbey Brook [101]** produced over one hundred finds; **Birchenlee Plantation [102]** over fifty (Figure 7.6).

All these assemblages are near to the junctions of the river and its tributary brooks, and other activities apart from core reduction and microlith creation took place at all three. It may be that these sites were campsites where some individuals stayed for longer periods than certain single episode upland sites. Historically the Derwent Valley is one of the major thoroughfares of the area, a route linking the White and Dark Peaks, the gateway into the Southern Pennines. Therefore these locales may have been places where people could rely on meeting people at certain times of (or even throughout) the year. Neighbouring groups may have met up periodically, for major collective hunting expeditions, or for ceremonies. Conjugal families may have visited their relations living in other camps for a few days or even a few months. The composition of hunter-gatherer camps today continually fluctuates: there is always a family off visiting or another that has come to stay (Bahuchet n.d.). Such camps may have been abandoned as a result of food shortage, the size of the group, the requirements of visiting, proximity of neighbouring groups, and also social disruption or death. As months went by, communities came together and split up in a perpetual movement of fusion and fission.

Similarly many of the upland scatters consist of a few pieces of worked stone with the occasional scraper or microlith, in classic watershed locations. On the southern slopes

overlooking Mill Brook Clough around the area known as **John Field [103]**, a number of small scatters were identified which included, in addition to geometric microliths and truncated blades, a number of edge-worn blades and scrapers. In the shelter of Mill Brook Clough itself a microlith core, a number of truncated blades, an edge-worn and edge-glossed blade and a side scraper. On the northern scarp edge above the clough chunks of flint and chert, scraper and awl. Many of the scatters adjacent to the third/second millennia barrows at **Pike Low [104]** and **Green Stitches [105]** contain both earlier and later elements (especially arrowheads). At others a number of discrete scatters found on erosion scars are more suggestive of early work. Edge-worn, truncated and retouched blades, blade cores, rejuvenation pieces and notched pieces are well represented, as are rod microliths, fabricators and scrapers. The character of the stone tools and debitage from this upland shelf area then, is not limited to material suggestive of hunting and butchery activities, but suggests a number of manufacturing tasks and occasional pieces potentially instrumental in the exploitation of plant resources.

7.7.3 Interpreting the invisible

Any interpretation of the inhabitation of the East Moors and the Upper Derwent Valley must, on current evidence, be tentative because of the problems surrounding parity of collection methodologies with those of recent times (see above). The dominance of microlithic technology in the lithic assemblages of these areas may have been overstated due to the research interests of those who collected them. Nevertheless, the importance of landforms and environmental developments that encouraged woodland-edge is not to be under-estimated. In terms of the seventh to fifth millennium I have drawn on Spikins' reformulation of 'Mesolithic adaptations' (1998), local pollen sequences to question the pervasive importance attributed to dispersed large game hunting in the gritstone uplands. The topographical diversity of the gritstone uplands would have presented communities with a variety of 'ecological niches' (in our terms) with different potentials in terms of economic and symbolic resources. Gathering may have covered a wide variety of activities aside from collecting plant foodstuffs: collecting animal foodstuffs (honeys, eggs, insects, etc), gathering medicinal, hallucinogenic or poisonous plants and all the plants used for a technical purposes (birch resin for hafting, bark for baskets, fibrous elements for binding etc). However the time and effort invested in maintaining clearances suggests that relationships of people to these locales were more than opportunistic and likely to have been bound up with the development of personal

and communal identity, power and prestige. Within a context of residential mobility, the evidence is suggestive of a strong sense of place and tenorial responsibilities, materialising through the creation and maintenance of clearings to encourage the presence of animals and edible plants (Section 4.3.2).

In the absence of pottery and mortuary structures, fourth millennium activity is effectively masked by the persistence of technological traditions (Section 5.3.1). While Barnatt acknowledges the importance of the East Moors for prehistoric agriculture, prior to soil degradation, he still emphasises hunting and opposes this area to the 'home-base' country of the Valleys (1996: 57). In terms of fourth millennium activity, however, it remains to be demonstrated that the intensive amateur survey of the 1960s really retrieved any more leaf shaped arrowheads than are now recognised, for example in the Lathkill catchment. There may have been some qualitative differences between this area and the area around Lismore Fields or on the upper Limestone plateau in terms of woodland composition. Year round this area may have been more suited to roe deer and boar rather than red deer and aurochs.

On the shelves above the Upper Derwent Valley however there are likely to have been real long-term changes in the relationship of people to the land with the advance of peat and the retreat of the woodland edge. By analogy with areas under peat today, birch and hazel may have continued to flourish, and some forms of woodland management may have persisted, but by comparison with the East Moors the potential for grazing and cultivation may have been rather limited. Where once a wide variety of game species were available, red deer and wild fowl may have come to the fore in terms of hunting, except in the deeply incised valleys, the significance of which may have remained relatively stable. That such locations interested communities during the third millennium is clear from the three large lowland sites examined in Chapter 6, and a host of other smaller clough-side scatters. Complete abandonment of the Upper Derwent Valley during the fourth millennium is unlikely, however its recognition is only likely to be affirmed through further peat coring in the locality and the chance discovery of the kind of deposits that affirmed 'middle Neolithic' dates at Linch Clough South.

7.8 Concluding thoughts

I have argued that re-iterative patterns of work collapse in low-resolution patterns of material, which should be viewed as social expression and made to speak to social questions. In line with demands made by Pollard (1999) and Brown (1995), I have

interpreted lithic assemblages as evidence of practices and attempted to integrate that interpretation into every other aspect of evidence available from appropriate contexts. Such a project has required the re-evaluation of archaeological language to clarify the role of analogy and metaphor in my account, and to conclude, I wish to discuss: (1) what I have gained by abandoning the analytical totalities 'Mesolithic' and 'Neolithic'; and (2) why I have avoided the term 'monument', so widespread in archaeological discourse today.

7.8.1 Unthinking 'The Neolithic'

Garton suggested two foci for the investigation of the 'Early Neolithic': first, a "traditional concern with siting close to a water supply and at the interface between different geological and ecological zones", and second, (after Hawke Smith 1979: 177 and Halstead 1989: 41) "that animals, particularly cattle were the major motive or necessity for using the Peak" (Garton 1991: 15). However, this palaeo-economic agenda led her into problems when she attempted to separate fourth millennium flint working from that of the seventh to fifth millennia (see Pitts and Jacobi 1979). "Is it not odd that we now accept Mesolithic activity within the flint scatters on the Limestone Plateau, but claim that the earlier Neolithic is unrecognised?" (Garton 1991: 15) She concluded that it would be necessary to treat these apparently Mesolithic elements more carefully, and that the recovery of Grimston Ware on such sites may indicate that we are recovering fourth millennium material, but not in a form we can recognise. Finally, comparing models of Mesolithic environmental manipulation (Mellars 1976a; Simmons 1975) with the models of Early Neolithic cattle herding for the White Peak (Hawke-Smith 1979) Garton suggested that "we may not be witnessing significant changes in the ways in which the landscape was used" (1991:15).

On a purely ecological level, Garton's argument seems persuasive. Most recent models of fourth millennium landscape inhabitation now incorporate the idea of a substitution phase (Zvelebil 1986), and certain persistent stone artefact forms may be a crude indicator of a range of persistent practices. On the other hand, basic stone toolkits have been known to survive intact through considerable changes in subsistence regime. A survey of New Guinea tools "revealed none that is indispensable to any form, from the simplest to the most complex, of Highlands agricultural practice, except the stone axe or adze and the digging stick which are not only common to all but also serviceable in other than agricultural contexts" (Golson 1977: 161; cited in Pfaffenberger 1992: 497).

Equally, if a reliable, flexible and portable technology remained a concern because of the demands of residential mobility, then this does not explain the persistence of stylised reduction sequences in bi-polar blade core working. There are different ways of achieving such an end: Parry and Kelly (1987) demonstrate that, for many mobile Native American groups, bifacial cores met the same needs. For both these reasons, regularity of form cannot be explained purely in terms of the environmentally determinist arguments offered by Garton (1991), A. Myers (1986) and others.

While stone working may have been informed by myth and some artefacts may have had sacred properties, the formalised working of by-products is likely to have been located in the realm of common sense. However, that everyday routine, while less explicit than discursive 'ritual' moments, was all the more powerful because it was taken for granted (Section 3.5.3.2). Beside practices that remained relatively stable, the introduction of new categories of architecture and artefact (some of which were not locally available), as well as domesticates, created new arenas of value. Social relationships within and between communities could be re-established or transformed in new ways. At the same time these novelties had to be incorporated into existing practices concerning conduct towards 'wild' animals, the ancestral community and spirits immanent in the landscape.

It is now a commonplace to recognise no *one* 'Neolithic', and work by Spikins (1998) and Simmons (1996) has done much to alert us to the variety of lifestyles over the 'Mesolithic'. On the basis that these terms now serve no chronological purpose (Section 7.1) we are left with two 'quasi-facts', which serve as fig leaves for the theoretical biases of the researcher (see Chapter 2). Even with the poor chronology we have for related traditional practices we can see that such labels have relatively low use value for characterising landscape inhabitation in the fifth and fourth millennia.

Microlithic technology potentially persists into the early fourth millennium (Section 5.2), contemporary with the use of causewayed enclosures and the introduction of cattle. At Lismore Fields, practices often associated with later times, such as building post ring arrangements (UB-3294) and digging pits (HAR-6500), are in evidence at the turn of the sixth millennium. Intimations of woodland management are in evidence throughout post-glacial period (Section 4.3.2). Along with bi-polar blade core working, these practices appear to persist into the fourth millennium, but the context of their implementation may have radically changed with the introduction of new networks of relationships between people and between people and things.

Cereal cultivation, for example, seems to have been initiated in the early fifth millennium. This practice pre-supposes clearance, but not the same type of clearance that is performed for the generation of browse, or occasional burning to *stimulate* growth. Rather it requires a longer-term, persistent and cumulative effort to maintain suitable soil conditions (see 7.2.6). If we accept that hunter-gatherers almost universally practice demand sharing, that is, whatever one has will be given up if requested (Bird-David 1999), this has profound consequences for the introduction of cultivation beyond the harvest of small-seeded grasses (Zvelebil 1994: 62). Under this ethic, a person who spends three to four months farming must give everything away at harvest time when all the relatives come to visit and request food. Molar dental wear patterns from mortuary deposits suggest diets based on coarse fibrous plant material 'typical' of hunter-gatherers (Section 4.8). But the presence of animal domesticates from the same contexts suggests that new social logics developed, in terms of seasonality, clearance, property, exchange, and even tenure (see Section 7.4.3). Domesticates, then, are not all about diet and diet is not all about domesticates; rather, both are informed by wider social practices.

One such set of practices is the scale of movement, relationships with communities in neighbouring regions and long-distance exchange, which the distribution of raw materials suggests took place across the Early Holocene. Certain people had long undertaken journeys of a considerable distance outside the course of their annual round in the quest for raw materials not locally available. Successful return may have transformed or maintained their identity and enhanced their status. Flint from the plains to the south and east of the Peak District was procured throughout the seventh to fourth millennia. The polished axe, then, was introduced into a world when long-distance exchange was already established, and may have gone on alongside the exchange of other artefacts and materials. However the power ascribed to such exotic artefacts may have been of a different order to the existing elements of transaction (Sections 7.2.7, 7.5.3).

The variety of technological composition, found in lithic scatters within any given topographical zone, suggests we should not expect to be able to predict scatter siting and function. Instead, a reflexive response to scatters must be taken as palaeo-environmental evidence from the study area become increasingly sophisticated. It is unreasonable to expect that we will often be able to tie down particular artefacts to particular phases of clearance or regeneration. Nevertheless the appreciation of the

potential of various micro-topographical areas for niche habitats can broaden the interpretative base for characterising scatters beyond meat-fixated hunting models for the seventh to fifth millennia and an all consuming emphasis on cattle in the fourth millennium. Rather than shorthand terms with no use-value for an archaeology of practice, we need an open base for interpretation where we acknowledge the possibility of varied modes of subsistence and of engagement between or within groups. This is only tangible through theorising the introduction and persistence of situated and coeval traditions of making and using things. One area of prehistoric life in urgent need of such re-theorising is the practices surrounding the use of mortuary structures.

7.8.2 Mortuary structures in practice

Recent discussions of fourth millennium mortuary structures focus around three points, which I believe need further thought: the ‘appropriation’ of ancestral powers, the stabilisation of ‘cultural memory’, and the introduction of time depth to the timelessness of the seasonal round (Tilley 1994; Barnatt 1996; Holtorf 1999). In particular, the use of the word ‘monument’ may have unjustifiable consequences for the way we envisage time was produced, as demonstrated in the sets of quotations that follow.

“Ancestral powers in the landscape could now only be deciphered from experiencing them at the site of the tomb . . .” (Tilley 1994: 204)

“The ancestral associations and powers of such places became actively appropriated through the construction of monuments.” (Barnatt 1996: 51)

Between the dolomite ridges and at Gib Hill a number of mortuary structures are sited in the midst of earlier remains. We can speculate that these places were already named, cleared, and had ancestral associations received through stories about kin from before living memory (Sections 7.2, 7.4). The human remains in chamber tombs represent a fragment of the entire population, and even if the majority of mortal remains passed through these structures, it remains that other places, such as caves and perhaps surface structures were caught up in similar practices. Indeed these other places, about which we know little, may have been part of much older traditions of ‘ancestral appropriation’. Furthermore, the forest itself provided traces of ancestral presence, which its human inhabitants would have been adept at reading (Section 7.6.2, Gow 1995). Therefore the appropriation of ancestral powers by sectional interests is unlikely to have been either a new phenomenon or one limited to mortuary structures.

“The building of the monuments prevented the ritual and mythological significance of particular places being lost and forgotten. They stabilized both cultural memory of place and connections between places.” (Tilley 1994:204)

“Also monuments stabilised the cultural memory of places” (Barnatt 1996:51)

“Monuments were built as ‘cultural mnemonics’ and their builders hoped that they carried a particular message into the future.” (Holtorf 1999: 60)

All three researchers here acknowledge an “afterlife of monuments” (Bradley 1993) in which the original reading of monuments changes through successive dominant readings and manipulation by sectional interests (c.f. Middleton and Edwards 1990: 90). In the case of Tilley and Barnatt, this idea effectively contradicts the original statement. How, exactly, can cultural meaning be stable when it is constantly renegotiated? Holtorf is more explicit in characterising ‘monuments’ as doomed attempts by forward-thinking agencies at impressing current concerns on future generations. By analogy with Rüssen’s notion of ‘history culture’ (1994) and Nora’s idea of ‘sites of memory’ (1989), Holtorf presupposes a kind of historicity common to people in the fourth millennium, ancient Rome and modern Europe.

In Section 2.2.2.3 I posited that there was no difference between many aspects of memory work in small-scale oral communities and those of literate groups where the state apparatus extends power over time-space. In both, knowledge, values, and beliefs exist as practices whose preservation is a by-product of repeated usage, in speech and act. Both use material things as mnemonic aids in communal acts of commemoration. In both, time has a mythic quality whereby prior events can be presenced, making them ‘now’ (Jarman 1998). Therefore I intend to make no dichotomy between oral/small-scale and literate/state communities in the way their members perform individual memory work or acts of communal commemoration.

What *was* different in Roman monuments was the presence of agencies of elite power, whose power relationships with the community at large were not characterised by face-to-face interaction, but mediated through the apparatus of the state. For those agencies, monuments generated a kind of historicity that insured against forgetting and were one aspect of maintaining institutions over space-time, ultimately backed up with the threat of violence. The aesthetics of the monument itself were informed by the Graeco-Roman “art of memory”, in which Fabian (1983: 111) located an early incarnation of our modern spatialisation of time. While engagement with the Roman monument presenced

the past, prior events were intended to be understood as original *faites accomplis*, in a projected future. Of course, it was not *just* an abstract symbol: it had a real presence in space that channelled vision and movement. But the point of its presence was that, while built into the routine of the commoner's everyday life, it could be read in terms of certain sectional concerns.

For communities in which power is negotiated purely through face-to-face interaction, that power is neither centralised nor institutionalised but contextually emergent in persons (Section 7.5.4). In such situations the extension of power over space-time is much more limited (Giddens 1981), while key events and norms are transmitted in ways which are concrete rather than abstract, and conventional rather than original (Fentress and Wickham 1992: 57). No insurance against forgetting is needed, or indeed conceivable because everybody's work plays its part in commemoration. Fourth millennium mortuary activity, therefore, was locked into practices surrounding concepts of death and renewal, in which the dead were immanent (*not* imitated – *contra* Shanks and Tilley 1987a: 128). Time here was not just collapsed into places (Morphy 1995). It was produced through the temporality of seasonal movement, work and consumption which re-established communal usufruct rights, in the exchange of people and things between communities, and the way variation in forest conditions was expressed in the oral tradition. I would suggest that people used mortuary structures as only one of many arenas for their representations of the past. The sharing of memory tends to be communicated above all in the arena of the oral, through anecdote and gossip, with narrative patterns that can owe as much to the mundane as the 'ritual' sphere (Fentress and Wickham 1992: 97).

“Their chambers, containing bones and offerings to and from the ancestors, added a time depth to the timelessness of the seasonal round.” (Barnatt: 1996:51)

From what I have just written, it follows that Barnatt's last proposition is unacceptable. The introduction of new clearance practices, as well as the re-organisation of labour implicit in the introduction of domesticates, clearly underwrote new temporalities, and produced time in new ways (Section 7.6.2). But could the use of chambers really produce a depth of time beyond that which was already understood in terms of settlements rediscovered through clearance, or movements of ancestral beings as inferred from landscape features? To suppose so is to reduce the people before mortuary structures to a state of timelessness, a people without history (c.f. Section 7.2.7). And yet so many of the traditions through which they produced time became coeval with

new social logics (Section 7.4.3). Even if we posit (and there is no evidence for this) that mortuary structures were caught up in a new concern with lineage, this is not a precondition for a new experience of time, merely a new rhetoric of memory.

The term 'monument' is a neglect of the epistemological significance of time as socially produced through the rhythms of individual and communal work, and of historicity as the outcome of power relations. If we are to continue to use it, we need to make explicit how the work of memory and forgetting is organised and to what ends. Beyond the individual there is no memory, it is an individual phenomenon, and the value we place on it stems from its contribution to a person's sense of "personal identity" (Warnock 1987: vii and *passim*). However as work which presences the past, memory is group work (Halbwachs 1992; Fentress and Wickham 1992). Rhetorics of memory establish a sense of place and a coherent community identity in myth and the language in which it is articulated. They provide for forgetting as well as remembering. For people in the fourth millennium, knowledge, values, and beliefs existed not as 'information' but as practices whose preservation was a by-product of repeated usage and the projects of actors.

Understood in this context, mortuary structures must be interpreted in terms of related practices surrounding relationships with the forest, its other inhabitants, and communities beyond the regional horizon. When practices changed and when new hybrid objects were introduced then one's position with respect to these agencies changed. Mortuary structures may have been one arena for the re-negotiation of those relationships, but, to me, this implies their role as mnemonic markers was a by-product. 'Monuments', so-called, were concerned with elements of the 'now' and the projected future of *dasein* rather than the commemoration of things gone by.

This articulation of time lies at the heart of my attempt to write about a set of durable prehistoric materials. To draw a line of argument, which takes us from an understanding of *one* chronologically earlier state of affairs to *another* later, is to overlook variation in practices within both, to abstract an essence of an age, when that time was constituted by unique communal actions. The relationships between humans and humans, humans and non-humans, and both with different places, must be demonstrated through an archaeological performance that privileges work in place and movement along path as the sites of unfolding identities. Such a performance must show how the materiality of places and paths emerges through the work of bodies and artefacts; work which extends

awareness over space and time through an explosion of inter-related genealogies and biographies.

Bibliography

- Adam, B., 1990. *Time and Social Theory*. Cambridge: Polity Press.
- Adams, R., 1977. Power in Human Societies: A Synthesis. In R. Fogelson, and R. Adams (eds) *The Anthropology of Power: Ethnographic Studies from Asia, Oceania and the New World*, 387-410. New York: Academic Press.
- Allen, M., 1991. Analysing the Landscape: a geographical approach to archaeological problems. In Schofield (ed.) *Interpreting Artefact Scatters*, 39-57. Oxford: Oxbow Monographs 4.
- Anderson, P., and Shimwell, D., 1981. *Wild Flowers and other Plants of the Peak District*. Ashbourne: Moorland Publishing.
- Anderson-Gerfaud, P., 1983. A consideration of the uses of certain backed and "lusted" stone tools from the late Mesolithic and Natufian levels of Abu Hureyq and Mureybet (Syria). In M.-C. Cauvin (ed.) *Traces d'utilisation sur les outils néolithique du Proche Orient 5*, 77-105. Lyon: Maison de l'Orient.
- Appadurai, A., (ed.) 1986. *The Social life of Things*. Cambridge: Cambridge University Press.
- Appadurai, A., 1992. Putting hierarchy in its place. In G. Marcus (ed.), *Rereading Cultural Anthropology*, 34-47. Durham: Duke University Press.
- Armit, I., and Finlayson, B., 1992. Hunter-gatherers transformed: the transition to agriculture in Northern and Western Europe. *Antiquity* 66, 664-676.
- Armstrong, A., 1923. Exploration of Harborough Cave, Brassington. *Journal of the Royal Anthropological Institute* 53: 402.
- Ashbee, P., and Ashbee, R., 1981. A cairn on Hindlow, Derbyshire: excavations, 1953. *Derbyshire Archaeological Journal*. 101: 9-41.
- Ashbee, P., Smith, I. And Evans, J., 1979. Excavation of three long barrows near Avebury. *Proceedings of the Prehistoric Society* 45, 207-300.
- Atkinson, R., 1956. *Stonehenge*. Lonfon: Hamish Hamilton.
- Bahuchet, S., (ed.) no date. *The situation of indigenous peoples in tropical forests* [online]. Available: http://lucy.ukc.ac.uk/Sonja/RF/Ukpr/Report_t.htm [2000, February 9].
- Bamford, H., 1985. *Briar Hill Excavation, 1974-1978*. Northampton: Northampton Development Corporation, Archaeological Monograph 3.
- Barker, G., 1985. *Prehistoric Farming in Europe*. Cambridge: Cambridge University Press.
- Barnatt, J., 1996. Moving Beyond the Monuments: Paths and People in the Neolithic Landscapes of the Peak District. *Northern Archaeology* 13/14: 43-59.
- Barnatt, J., and Collis, J., 1996. Barrows in the Peak District: Recent Research. Sheffield: J.R. Collis Publications.
- Barnatt, J., Bevan, B., and Edmonds, M., 1997. A Prehistoric Landscape at Gardom's Edge, Derbyshire: Excavations 1997. Unpublished interim report.
- Barnatt, J., Garton, D. and A. Myers in preparation. The Systematic Collection of Lithics in the Peak District: prehistoric people in the landscape. Unpublished manuscript.
- Barnes, T., 1992. Reading the texts of theoretical economic geography: The role of physical and biological metaphors. In T. Barnes and J. Duncan, (eds.), *Writing worlds: Discourse, text and metaphor in the representation of landscape*, 118-135. London: Routledge.
- Barnes, T., and Duncan, J., (eds), 1992. *Writing Worlds: discourse, text and metaphor in the representation of landscape*. London: RKP.
- Barraud, C., Coppet, D. de, Iteanu A., and Jamous, R., 1994. *Of Relations and the Dead: Four Societies Viewed from the Angle of Their Exchanges*. Oxford: Berg.
- Barrett, J., 1988a. Fields of Discourse: reconstructing a social archacology. *Critique of Anthropology*, 7, 5-16.

Battaglia, D., 1996. *On the Bones of the Serpent: Person, Memory and Mortality in Sabarl Island Society*.
Chicago: Chicago University Press.

Baudrillard, J., 1993. *Symbolic Exchange and Death*. London: Sage.

- Barrett, J., 1988b. The living, the dead and the ancestors: Neolithic and Early Bronze Age Mortuary Practices. In J. Barrett and I. Kinnes (eds) *The Archaeology of Context in the Neolithic and Bronze Age*, 30-41. Sheffield: Department of Archaeology and Prehistory.
- Barrett, J., 1994. *Fragments from Antiquity*. Oxford: Blackwell.
- Barrett, J., 1998. The Politics of Scale and the Experience of Distance: The Bronze Age World System. *KVHAA Konferenser* 40: 13-25.
- Barrett J., and Fewster K., 1998. Analogy and Stonehenge: some responses. Stonehenge: *Is the medium the message?* *Antiquity* 72 847-52.
- Barton, C., Olszewski, D., and Coinman, N., 1996. Beyond the Graver: Reconsidering Burin Function. *Journal of Field Archaeology* 23: 111-125.
- Basso, K., 1984. "Stalking with stories": names, places, and moral narratives among the Western Apache. In E. Bruner (ed.) *Text, Play and Story: the construction and reconstruction of self and society*, 19-55. Prospect Heights, Il.: Waveland Press.
- Bateman, T., 1848. *Vestiges of the Antiquities of Derbyshire*. London: John Russell Smith.
- Bateman, T., 1861. *Ten Years Diggings in Celtic and Saxon Grave Hills in the Counties of Derby, Stafford and York*. London: John Russell Smith.
- Bawden, G., 1989. The Andean State as a State of Mind. *Journal of Anthropological Research* 45(3), 327-332.
- Bell, M., 1977. Excavations at Bishopstone, *Sussex Archaeological Collections* 115, 1-291.
- Bender, B., 1978. Gatherer-Hunter to Farmer: A Social Perspective. *World Archaeology* 10: 204-19.
- Bender, B., 1990. The dynamics of nonhierarchical societies. In Steadman and Upham (eds.) *The evolution of political systems: sociopolitics in small-scale sedentary societies*, 247-263. Cambridge: Cambridge University Press.
- Bender, B., (ed.) 1993. *Landscape: Politics and Perspectives*. Oxford: Berg.
- Benveniste, E., 1973. *Indo-European Language and Society*. London.
- Bergson, H., 1910. *Time and Free Will*. London: Swan Sonnenschein.
- Bevan, B. 1998. Upper Derwent Archaeological Survey 1994-1997. Unpublished Report for the Upper Derwent Officer Working Group. Three Volumes.
- Binford, L., 1962. Archaeology as Anthropology. *American Antiquity*, 28, 217-25.
- Binford, L., 1964. A consideration of archaeological research design. *American Antiquity*, 29, 425-41.
- Binford, L., 1965. Archaeological systematics and the study of culture process. *American Antiquity* 31: 1-12.
- Binford, L., 1968. Post-Pleistocene adaptations, S. Binford and L. Binford (eds) *New Perspectives in Archaeology*, 313-341. Chicago: Aldine Publishing.
- Binford, L., 1969. Some comments on historical versus processual archaeology. *Southwestern Journal of Anthropology*, 24: 267-75.
- Binford, L., 1972. *An Archaeological Perspective*. New York: Seminar Press.
- Binford, L., 1973. Interassemblage variability – the Mousterian and the 'functional' argument. In A.C. Renfrew (ed.) *The Explanation of Culture Change*, 227-54. London: Duckworth.
- Binford, L., 1977. General Introduction. In L. Binford (ed.) *For Theory Building in Archaeology*. London: Academic Press.
- Binford, L., 1978. *Nunamiut Ethnoarchaeology*, Academic Press, New York .
- Binford, L., 1980. Willow smoke and dog's tails: Hunter-gatherer settlement systems and archaeological site formation, *American Antiquity* 45, 4-20.
- Binford, L., and Sabloff, J., 1982. Paradigms, systematics and archaeology. *Journal of Anthropological Archaeology* 38: 157-53.
- Bird-David, N., 1990. The giving environment: another perspective on the economic system of gatherer-hunters. *Current Anthropology* 31, 189-196.

- Bird-David, N., 1992a. Beyond "The Original Affluent Society": a culturalist reformulation. *Current Anthropology* 33: 25-47.
- Bird-David, N., 1992b. Beyond "the hunting and gathering mode of subsistence": culture-sensitive observations on the Nayaka and other modern hunter-gatherers. *Man* 27: 19-44.
- Bird-David, N., 1999. "Animism" revisited: personhood, environment and relational epistemology. *Current Anthropology* 40: S67-S91.
- Birks, H., 1989. Holocene Isochrone maps and patterns of tree spreading in the British Isles. *Journal of Biogeography* 16, 503-540.
- Bloch, M., 1985. From cognition to ideology. In R. Fardon (ed.) *Power and Knowledge: Anthropological and Sociological approaches*. 21-48. Edinburgh: Scottish Academic Press.
- Boehm, C., 1993. Egalitarian behaviour and reverse dominance hierarchy (and replies). *Current Anthropology*, 34, 227-254.
- Bordes, F., 1961. *Typologie du Paleolithique Ancien et Moyen*. Bordeaux: Cahiers du Quaternaire 1, Centre National de la Recherche Scientifique, 2 Vols.
- Bordes, F., 1968. *The Old Stone Age*, McGraw Hill, New York.
- Bordes, F., 1973. On the chronology and contemporaneity of different palaeolithic cultures in France. In C. Renfrew (ed.), *The Explanation of Culture Change: Models in Prehistory*. London: Duckworth.
- Boserup, E., 1965. *The Conditions of Agricultural Growth: The Economics of Agrarian Change under Population Pressure*. Chicago: Aldine.
- Bourdieu, P., 1977. *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- Bourdieu, P., 1984. "The Aristocracy of Culture", in his *Distinction: A Social Critique of the Judgement of Taste*, pp. 44-47. London: R.K.P.
- Bourdieu, P., 1990. *The Logic of Practice*. Cambridge: Polity.
- Boyd, R., 1993. Metaphor and theory change: What is "metaphor" a metaphor for? In A. Ortony, (ed.) *Metaphor and thought*, 356-408. Cambridge, Cambridge University Press.
- Bradley, R., 1970. The excavation of a Beaker settlement at Belle Tout, East Sussex England. *Proceedings of the Prehistoric Society* 36: 312.
- Bradley, R., 1984. *The Social Foundations of Prehistoric Britain: themes and variations in the archaeology of power*. London: Longman.
- Bradley, R. 1987 "Flint Technology and the Character of Neolithic Settlement" in Brown, A. and Edmonds, M. *Lithic Analysis and Prehistory: Some Problems and Approaches*. Oxford: British Archaeological Reports (British Series) 162.
- Bradley, R., 1993. *Altering the Earth. The Origins of Monuments in Britain and Continental Europe*. Edinburgh: Society of Antiquaries of Scotland.
- Bradley, R., and Hart, C., 1983. Prehistoric Settlement in the Peak District during the Third and Second Millennia bc: A Preliminary Analysis in the Light of Recent Fieldwork. *Proceedings of the Prehistoric Society* 49, 177-193.
- Bradley, R., and Holgate, R., 1984. The Neolithic sequence in the Upper Thames Valley. In R. Bradley and J. Gardiner (eds) *Lithic Studies: a review of some current research*, 107-134. Oxford: BAR (British Series) 133.
- Bramwell, D., 1959. The excavation of Dowel Cave, Earl Sterndale, 1958-9. *Derbyshire Archaeological Journal* 79: 97-109.
- Bramwell, D., 1971. Excavation at Fox Hole Cave, High Wheeldon, 1961-1970. *Derbyshire Archaeological Journal* 91, 1-19.
- Bramwell, D., 1973. *Archaeology in the Peak District: a guide to the region's prehistory*. Leek: Hill Bros., for the Moorland Publishing Company.
- Bramwell, D., 1977. Archaeology and Palaeontology. In T. Ford (ed.) 1977, *Limestones and Caves of the Peak District*, 263-291. Norwich: Geo Abstracts Ltd./University of East Anglia.
- Bray, W., 1775. *Sketch of a Tour into Derbyshire and Yorkshire* (2 volumes). London.

- Brayshay, B., unpublished. Holocene vegetation history at Castleshaw Moor and Dean Clough, Greater Manchester. Greater Manchester Sites and Monuments Record: Manuscript.
- Braudel, F., 1980. *On History*. Chicago: University of Chicago Press.
- Brézillon, M., 1977. *La Denomination des Objets de Pierre Taillee. IVe Supplement à Gallia Préhistoire*. Paris: Centre National de la Recherche Scientifique.
- Brooks, I., 1989. The Viability of Micropalaeontology to the Sourcing of Flint. Unpublished PhD MS. Sheffield 6862.
- Brown, A., 1995. Beyond Stone Age Economics: a strategy for contextual lithic analysis. In A. Schofield (ed.) *Lithics in Context: suggestions for the future direction of Lithic Studies*, 27-36. Lithics Studies Society Occasional Paper No. 5.
- Brown, T., 1997. Clearances and clearings: deforestation in Mesolithic/Neolithic Britain. *Oxford Journal of Archaeology*, 16(2): 133-46.
- Brück, J., 1998. In the Footsteps of the Ancestors: a Review of Christopher Tilley's *A Phenomenology of Landscape: Places, Paths and Monuments*. *Archaeological Review from Cambridge* 15.1, 23-36.
- Burl, H., 1987. *The Stonehenge People*. London: Dent.
- Burton, J., 1984. Quarrying in a tribal society. *World Archaeology* 16: 234-47.
- Butler, J., 1993. *Bodies That Matter: On the discursive limits of sex*. London: Routledge.
- Butzer, K., 1982. *Archaeology as Human Ecology: method and theory for a contextual approach*. Cambridge: Cambridge University Press.
- Byrne, R., and Whiten, A., (ed) 1988. *Machiavellian intelligence*. Oxford: Oxford University Press.
- Campbell, J., 1977. *The Upper Palaeolithic of Britain*. Oxford: Clarendon Press.
- Care, V., 1982 The collection and distribution of lithic materials during the Mesolithic and Neolithic in southern England, *Oxford Journal of Archaeology* 1, 169-85.
- Case, H., 1969. Neolithic explanations. *Antiquity* 43, 176-86.
- Casimir, M., 1992. The dimensions of territoriality: An introduction. In M. Casimir and A. Rao (eds) *Mobility and territoriality. Social and spatial boundaries among foragers, fishers, pastoralists and peripatetics*, 1-26. Oxford: Berg.
- Caulfield, M., 1972. Culture and imperialism: proposing a new dialectic. In D. Hymes (ed.), *Reinventing anthropology*. New York: Random House.
- Certeau M., 1984. *The Practice of Everyday life*. Trans. Steven Rendall. London: University of California Press.
- Chadwick, A., 1998. *A Topographic Survey of multi-period features at Roystone Grange, Ballidon, Derbyshire. A Description and interpretation of the survey results and the potential for future research*. Essay submitted in part for Masters Degree in Landscape Archaeology: Sheffield University.
- Chadwick, A., and Evans, H., in prep. Landscape Survey of Roystone Grange. Forthcoming in the *Derbyshire Archaeological Journal*.
- Challis, A., and Harding, D., 1975. *Later Prehistory from the Trent to the Tyne*. Oxford: British Archaeological Reports, British Series, 20, (parts i and ii).
- Charles, R., 1997. The exploitation of carnivores and other fur-bearing mammals during the north-western European Late Upper Palaeolithic and Mesolithic, *Oxford Journal of Archaeology* 16, 3, 253-277.
- Childe, V.G., 1925. *The Dawn of European Civilisation*. London: Kegan.
- Childe, V.G., 1929. *The Danube in Prehistory*. Oxford: Oxford University Press.
- Childe, V.G., 1936. *Man Makes Himself*. London: Watts.
- Childe, V.G., 1942. *What Happened in History*. Harmondsworth: Penguin.
- Childe, V.G., 1947. *The Dawn of European Civilisation*. 4th edn, London: Kegan.

- Childe, V.G., 1949. Social worlds of knowledge. *Hobhouse Memorial Trust Lecture 19*. London: Oxford University Press.
- Childe, V.G., 1950. *Prehistoric Migrations in Europe*. Oslo: Aschehaug.
- Childe, V.G., 1979. Prehistory and Marxism. *Antiquity* 80: 93-5.
- Chisholm, M., 1962. *Rural Settlement and Land Use: An Essay in Location*. London: Hutchinson University Library.
- Chorley, R., and Haggett, P., (eds) 1967. *Models in Geography*. London: Meuthen.
- Christaller, W., 1966. *Central Places in Southern Germany*. Englewood Cliffs NJ: Prentice-Hall.
- Clark, J., 1932. *The Mesolithic Age in Britain*. Cambridge: Cambridge University Press.
- Clark, J., 1933. Classification of a microlithic culture. *Archaeological Journal* 90: 52.
- Clark, J., 1934. The classification of a microlithic culture: the Tardenoisian of Horsham. *Archaeological Journal* 91: 34-58.
- Clark, J., 1936. *The Mesolithic Settlement of Northern Europe: A Study of the Food-Gathering peoples of Northern Europe during the Early Post-Glacial period*. Cambridge: Cambridge University Press.
- Clark, J., 1942. Bees in Antiquity. *Antiquity* 16: 208-215.
- Clark, J., 1951. Folk culture and the study of European prehistory, W. F. Grimes (ed.) *Aspects of Archaeology*, Edwards, London, 49-65.
- Clark, J., 1954. *Excavations at Star Carr*. Cambridge: Cambridge University Press.
- Clark, J., 1972. *Star Carr: A Case Study in Bioarchaeology*. Reading: Addison-Wesley Modular Publications No. 10.
- Clark, J., 1977. *World Archaeology in New Perspective*. Cambridge: Cambridge University Press.
- Clark, J., 1977. *World Prehistory*. Cambridge: Cambridge University Press.
- Clark, J., 1978. Neothermal orientations, P. Mellars (ed.) *The Early Postglacial Settlement of Northern Europe*, 1-10. London: Duckworth.
- Clark, J., 1980. *Mesolithic Prelude: The Palaeolithic-Neolithic Transition in Old World Prehistory*. Edinburgh: Edinburgh University Press.
- Clark, J., Higgs, E., and Longworth, I., 1960. Excavations at the Neolithic site at Hurst Fen, Mildenhall, Suffolk, 1954, 1957 and 1958. *Proceedings of the Prehistoric Society* 26, 202-245.
- Clark, R., and Schofield, A., 1991. By experiment and calibration: an integrated approach to archaeology of the ploughsoil. In A. Schofield (ed.) *Interpreting Artefact Scatters: contributions to ploughzone archaeology*, 93-105. Oxford: Oxbow Books, Oxbow Monograph 4.
- Clarke, D., 1968. *Analytical Archaeology*. London: Meuthen.
- Clarke, D., 1972. *Models in Archaeology*. London: Meuthen.
- Clarke, D., 1976. Mesolithic Europe: The Economic Basis. In G. Sieveking, I. Longworth and K. Wilson (eds) *Problems in Economic and Social Archaeology*, 449-481. London: Duckworth.
- Clastres, P., 1977. *Society against the State*. Oxford: Blackwell.
- Clifford, J., 1988. *The Predicament of Culture: Twentieth-Century Ethnography, Literature, and Art*. Cambridge: Harvard University Press.
- Clifford, J., and Marcus, G., (eds) 1986. *Writing Culture: The Poetics and Politics of Ethnography*. Berkeley: University of California Press.
- Cohen, M., 1977. *The Food Crisis in Prehistory: Overpopulation and the Origins of Agriculture*. New Haven: Yale University Press.
- Cole, S., 1965. *The Neolithic Revolution*. London: British Museum (Natural History).
- Coles, J., 1971. The early settlement of Scotland: excavations at Morton, Fife, *Proceedings of the Prehistoric Society* 37, 284-366.

- Collis, J., 1983. *Wigber Low, Derbyshire: A Bronze Age and Anglian Burial Site in the White Peak*. Sheffield: Department of Archaeology and Prehistory.
- Collis, J., 1996. A Bronze Age Barrow at Big Lane, Hognaston, Derbyshire. In J. Barnatt and J. Collis *Barrows in the Peak District: Recent Research*, 137-169. Sheffield: Sheffield Academic Press.
- Constandse-Westermann, T. S and Newell, R. R., 1989. Social and biological aspects of Western European Mesolithic population structure: a comparison with the demography of North American Indians, C. Bonsall (ed.), *The Mesolithic in Europe*, Papers presented at the Third International Symposium, John Donald, Edinburgh, 106-15.
- Conway, V., 1947. Ringinglow Bog, Near Sheffield Part 1: Historical. *Journal of Ecology* 34: 149-181.
- Conway, V., 1954. Stratigraphy and pollen analysis of the southern Pennine blanket peats, *Journal of Ecology* 42: 117-145.
- Cosgrove, D., 1983. Towards a radical cultural geography: problems of theory. *Antipode* 15, 1-11.
- Cosgrove, D., and Daniels, S., (eds) 1988. *The Iconography of Landscape: Essays on the Symbolic Representation, Design and Use of Past Environments*. Cambridge: Cambridge University Press.
- Cresswell Heritage Trust 1999. Whitwell Cairn: updated project design research and publication. Manuscript.
- Cronon, W., 1983. *Changes in the Land - Indians, Colonists, and the Ecology of New England*. New York: Hill and Wang.
- Culler, J., 1985. *Saussure*. London: Fontana.
- Dalton, R., Fox, H., and Jones, P., 1988. *Classic Landforms of the White Peak*. Sheffield: The Geographical Association, Classic Landform Guides No. 9.
- Dalton, R., Fox, H., and Jones, P., 1990. *Classic Landforms of the Dark Peak*. Sheffield: The Geographical Association, Classic Landform Guides No. 11.
- Darvill T., 1987. *Ancient monuments in the countryside : an archaeological management review*. Historic Buildings & Monuments Commission for England: London
- Darvill, T., 1996. Neolithic buildings in England, Wales and the Isle of Man. In . Darvill and J. Thomas (eds.) *Neolithic Houses in Northwest Europe and Beyond*, 77-112. Oxford: Oxbow.
- Darvill, T., and Fulton A., 1998. *The Monuments at Risk Survey of England 1995: Main Report*. Bournemouth University and English Heritage.
- Darwin, C., 1859. *The Origin of Species :By means of Natural Selection or the Preservation of Favoured Races in the Struggle for Life*. New York: The Modern Library.
- Day, P., and Mellars, P., 1994. 'Absolute' dating of Mesolithic human activity at Star Carr, Yorkshire: new palaeological studies, and identification of the 9600BP radiocarbon 'plateau', *Proceedings of the Prehistoric Society* 60, 417-422.
- Dearne, M., 1997. Survey and excavation at Dirtlow, Bradwell Moor, 1987-1988. *Derbyshire Archaeological Journal* 117, 5-16.
- Deetz, J., 1977. *In small things forgotten. The archaeology of early American life*. New York: Anchor Press.
- Descola, P., 1994. *In the society of nature: A native ecology in Amazonia* [N. Scott, trans.]. Cambridge: Cambridge University Press.
- Descola, P., and Pálsson, G., (eds) 1996. *Nature and Society: anthropological perspectives*. London: Routledge.
- Dineley, M., 1996. Finding magic in Stone Age real ale. *British Archaeology* 19 (November) [online]. Available: <http://www.britarch.ac.uk/ba/ba19/ba19feat.html#dineley> [2000, February 9].
- Dunnell, R., 1978. Style and function: a fundamental dichotomy. *American Antiquity* 43: 192-202.
- Dunnell, R., 1982. Evolutionary Theory and Archaeology. In M. Schiffer (ed.) *Advances in Archaeological Method and Theory: Selections for Students from Volumes 1-4*, 35-99. New York: Academic Press.

Eden, R., Stevenson, I., and Edwards, W., 1957. *Geology of the Country around Sheffield*. London: HMSO.

Emery, G. 1962. Excavations in Falcon Low and Cheshire Wood Caves in the Manifold Valley. *North Staffordshire Journal of Field Studies* 2: 33-36.

- Durkheim, E., 1933. *Division of Labor in Society*. New York: Macmillan.
- Eddy, F., 1991. *Archaeology: A Cultural-Evolutionary Approach*. Second Edition, Prentice Hall, Englewood Cliffs, New Jersey
- Edmonds, M., 1987. Rocks and Risk: problems with lithic procurement strategies. In A. Brown and M. Edmonds (eds) *Lithic Analysis and Later British Prehistory*, 155-80. Oxford: British Archaeological Reports (British Series) 162.
- Edmonds, M., 1994. Review of Lemmonier 1993. *Antiquity* 68, 472-5.
- Edmonds, M., 1995. *Stone Tools and Society: Working Stone in Neolithic and Bronze Age Britain*. London: Batsford.
- Edmonds, M., 1997. Taskscape Technology and Tradition. *Analectia Praehistoria Leidensia* 29: 99-110.
- Edmonds, M., 1999a. *Ancestral Geographies of the Neolithic: Landscapes, monuments and memory*. London: Routledge.
- Edmonds, M., 1999b. Inhabiting Neolithic Landscapes. *Quaternary Proceedings* 7: 485-492.
- Edmonds, M., and Thomas, J., 1987. The Archers: an everyday story of country folk. In A. Brown and M. Edmonds (eds.) *Lithic Analysis and Later British Prehistory*, 187-199. Oxford: British Archaeological Reports (British Series) 162.
- Eliade, M., 1949. *Mythe de l'éternel retour*. Paris: Gallimard.
- Elliot, K., Elman, D., and Hodder, I., 1978. The simulation of Neolithic axe dispersal in Britain. In I. Hodder (ed.) *Simulation Studies in Archaeology*, 79-97. Cambridge: Cambridge University Press.
- Engels, F., 1934. *Dialectics of nature*. Moscow: Progress Publishers.
- Ericson, J., and Earle, T., (eds) 1982. *Contexts for Prehistoric Exchange*. New York: Academic Press.
- Evans, C., Pollard, J., and Knight M., 1999. Life in woods: tree-throws, 'settlement' and forest cognition. *Oxford Journal of Archaeology*, 18(3): 241-54.
- Evans, H., 1998. A topographic survey at Roystone Grange and analysis of the lithic material recovered from shovel-testing. Unpublished report.
- Fabian, J., 1983. *Time and the Other: How Anthropology Makes Its Object*. New York: Columbia University Press.
- Fentress, J., and Wickham, C., 1992. *Social Memory*. Oxford: Blackwell.
- Fisher, P., 1985. Soils and Past Land Use of the White Peak-East Moor Area of Derbyshire. In D. Briggs, D. Gilbertson and R. Jenkinson (eds) *Peak District and Northern Dukeries Field Guide*. Cambridge: Quaternary Research Association.
- Flannery, K., 1969. Origins and ecological effects of early domestication in Iran and the Near East. In P. Ucko and G. Dimbleby (eds) *The Domestication and Exploitation of Plants and Animals*, 73-100. Chicago: Aldine.
- Flannery K., (ed.) 1976. *The Early Mesoamerican Village*. New York: Academic Press.
- Flew, A., (ed.) 1984. *A Dictionary of Philosophy*. London: Pan.
- Foley R., 1981a. A model of regional archaeological structure. *Proceedings of the Prehistoric Society* 47, 19-40.
- Foley, R., 1981b. *Off-site archaeology and human adaption in Eastern Africa: an analysis of regional artefact density in the Amboseli, southern Kenya*. Oxford: British Archaeological Reports (International Series 97).
- Ford, S., 1987a. Chronological and Functional Aspects of Flint Assemblages. In A. Brown and M. Edmonds (eds), *Lithic Analysis and Later British Prehistory: some problems and approaches*, 67-86. Oxford: British Archaeological Reports (British Series) 162.
- Ford, S., 1987b. Flint Scatters and Prehistoric Settlement Patterns in South Oxfordshire and East Berkshire. In A. Brown and M. Edmonds (eds), *Lithic Analysis and Later British Prehistory: some problems and approaches*, 101-135. Oxford: British Archaeological Reports (British Series) 162.

Gardiner, J., and Shennan, S., 1985. The Mesolithic, Neolithic and Earlier Bronze Age. In S. Shennan (ed.) *Experiments in the Collection and Analysis of Archaeological Survey Data: the East Hampshire Survey*, 47-72. Sheffield: Department of Archaeology and Prehistory, University of Sheffield.

- Ford, S., Bradley, R., Hawkes, J., and Fisher, P., 1984. Flint working in the metal age, *Oxford Journal of Archaeology* 3, 157-173.
- Ford, T., (ed.) 1977, Limestones and Caves of the Peak District. Norwich: Geo Abstracts Ltd./University of East Anglia.
- Foucault, M., 1970. *The Order of Things*. New York: Random House.
- Foucault, M., 1972. *The Archaeology of Knowledge*. London: Routledge.
- Foucault, M., 1979. *Discipline and Punish*. Harmondsworth: Penguin.
- Foucault, M., 1981. *The History of Sexuality. Volume 1: An Introduction*. London: Pelican.
- Foucault, M., 1984. Nietzsche, genealogy, history. In P. Rabinow (ed.) *The Foucault Reader*, 32-50. Harmondsworth: Peregrine.
- Foucault, M., 1986. Of Other Spaces. *Diacritics* 16.1, 22-27.
- Fox, W., 1909. Harborough Cave near Brassington. *Derbyshire Archaeological Journal* 31, 89-114.
- Fox, W., 1910. Ravencliffe Cave. *Derbyshire Archaeological Journal* 32, 141-152.
- Fox, W., 1929. Ravencliffe Cave. *Derbyshire Archaeological Journal* 50, 71-78.
- Frankenstein, S., and Rowlands, M., 1978. The internal structure and regional context of Early Iron Age society in south-western Germany. *Bulletin of the Institute of Archaeology, London* 15: 73-112.
- Fried, M., 1967a. On the Concepts of 'Tribe' and 'Tribal Society'. In J. Helm (ed.) *Essays on the Problem of Tribe*, 3-20. Seattle: Proceedings of the American Ethnological Society.
- Fried, M., 1967b. *The Evolution of Political Society: An Essay in Political Anthropology*, New York: Random House.
- Friedman, J., and Rowlands, M., 1977. Notes towards an epigenetic model of the evolution of "civilisation". In J. Friedman and M. Rowlands (eds) *The Evolution of Social Systems*, 201-76. London: Duckworth.
- Frink, D., 1984. Artifact behaviour within the plowzone. *Journal of Field Archaeology* 11: 356-63.
- Fullagar, R., and Head, L., 1999. Exploring the prehistory of hunter-gatherer attachments to place: an example from the Keep River area, Northern Territory, Australia. In P. Ucko and R. Layton (eds), *The Archaeology and Anthropology of the Landscape: Shaping your landscape*, Proceedings, World Archaeological Congress 3, 322-335. London: Routledge.
- Gaffney, V., and Tingle, M., 1989. The Maddale Farm Project: An integrated survey of Prehistoric and Roman landscapes on the Berkshire Downs. Oxford: BAR (British Series 200).
- Gaffney G., Gaffney V. and Tingle M., 1985. Settlement, economy or behaviour? Micro-regional land-use and the interpretation of surface artefact patterns, in Haselgrove C., Millet M. and Smith I., editors, *Archaeology from the Ploughsoil: studies in the collection and interpretation of field survey data*, 95-107. Sheffield: Sheffield University Press.
- Gardiner, J., 1984. Lithic distributions and settlement patterns in central southern England. In R. Bradley and J. Gardiner (eds.) *Neolithic Studies*, 107-35. Oxford: British Archaeological Reports (British Series 133).
- Gardiner, J., 1987. Tales of the Unexpected: Approaches to the Assessment and Interpretation of Museum Flint Collections. In A. Brown and M. Edmonds (eds), *Lithic Analysis and Later British Prehistory: some problems and approaches*, 49-65. Oxford: BAR British Series 162.
- Garton, D., and Kennett, A., 1996. Evaluation of a flint-scatter by Slipper Low Farm, Brassington. *Derbyshire Archaeological Journal* 116: 5-11.
- Garton, D., 1987. A Pilot Survey of Tintwhistle Moor, North Derbyshire. *Derbyshire Archaeological Journal* 108: 5-12.
- Garton, D., 1988. A Study of used and re-worked stone axes from Derbyshire. *Derbyshire Archaeological Journal* 108: 38-47.
- Garton, D., 1991. Neolithic settlement in the Peak District : perspectives and prospects. In R. Hodges and K. Smith (eds) *Recent Developments in the Archaeology of the Peak District*, 3-21. Sheffield: University of Sheffield, Sheffield Archaeological Monographs 2.

- Garton, D., and Beswick, P., 1983. The Survey and Excavation of a Neolithic Settlement area at Mount Pleasant, Kenslow, 1980-1983. *Derbyshire Archaeological Journal* 103: 7-40.
- Garton, D., and Kennet, A., 1994. Evaluation of a flint scatter at Slipper Lowe Farm, Brassington, Derbyshire. *Derbyshire Archaeological Journal* 114: 5-11.
- Garton, D., and Malone, S., 1999. Romano-British and Prehistoric Discoveries from Test-Pitting at Lees Bottom, Taddington. *Derbyshire Archaeological Journal* 199: 194-202.
- Garton, D., in preparation. The excavation of a Mesolithic and Neolithic settlement area at Lismore Fields, Buxton, Derbyshire. Manuscript.
- Gellner E., 1988. *Plough, sword and book: the structure of human history*. London: Collins.
- Gerrish, E., 1982. Fieldwalking in the White Peak: recent results. *Derbyshire Archaeological Journal* 102: 45-48.
- Gibbon, G., 1989. *Explanation in Archaeology*. Oxford: Blackwell.
- Gibson, J., 1979. *The ecological approach to visual perception*. Boston: Houghton Mifflin.
- Giddens, A., 1976. *New rules of sociological method: a positive critique of interpretive sociologies*. London: Hutchinson.
- Giddens, A., 1979. *Central Problems in Social Theory*. London: Macmillan.
- Giddens, A., 1981a. Agency, institution, and time-space analysis. In: Knorr-Cetina & Cicourel, *Advances in social theory and methodology*, 161-74. London: Routledge and Kegan.
- Giddens, A., 1981b. *A Contemporary Critique of Historical Materialism*. London: Macmillan.
- Giddens, A., 1984. *The Constitution of Society*. Cambridge: Polity.
- Giddens, A., 1987. *Social Theory and Modern Sociology*. London: Polity.
- Gilks, J., 1990. The prehistoric pottery from Fissure Cave and New Cave, Hartle Dale, near Bradwell, Derbyshire. *Derbyshire Archaeological Journal*, 110: 6-23.
- Godelier, M., 1972. *Rationality and Irrationality in Economics*. London: New Left Books.
- Godelier, M., 1977. *Perspectives in Marxist Anthropology*. Cambridge: Cambridge University Press.
- Godelier, M., 1986. The making of great men: male domination and power among the New Guinea Buruya. Cambridge: Cambridge University Press.
- Golson, J., 1977. Simple tools and complex technology. In R. Wright (ed.), *Stone Tools as Cultural Markers: Change, Evolution and Complexity*, 154-161. Canberra: Australian Institute of Aboriginal Studies.
- Goody, J., 1961. Religion and Ritual: the definitional problem. *British Journal of Sociology* 12: 142-164.
- Goody, J., 1982. *Cooking, Cuisine and Class*. Cambridge: Cambridge University Press.
- Goody, J., 1986. *The Logic of Writing and the Organization of Society*. Cambridge: Cambridge University Press.
- Gosden, C., 1999. *Anthropology & Archaeology: a changing relationship*. London: Routledge.
- Gow, P., 1995. Land, People and Paper. In E. Hirsch and M. O'Hanlon (eds), *The Anthropology of landscape: perspectives on place and space*, 43-62. Oxford: Clarendon.
- Gras, N., 1925. *A History of Agriculture in Europe and America*. New York: Crofts.
- Green, H. S., 1980. *The Flint Arrowheads of the British Isles*, [two volumes]. Oxford: British Archaeological Reports (British Series) 75.
- Green, S., and Zvelebil M., 1990. The Mesolithic colonization and agricultural transition of south-east Ireland. *Proceedings of the Prehistoric Society* 56: 57-88.
- Gregg, S., 1988. *Foragers and Farmers: Population Interaction and Agricultural Expansion in Prehistoric Europe*. Chicago: University of Chicago Press.
- Gregory, C., 1982. *Gifts and Commodities*. London: Academic Press.
- Gregory, D., 1994. *Geographical Imaginations*. Oxford: Blackwell.

- Gudeman, S., and Rivera, A., 1990. *Conversations in Colombia: the domestic economy in life and text*. Cambridge: Cambridge University Press.
- Guenther, M., 1988. Animals in Bushman thought, myth and art. In T. Ingold, D. Riches and J. Woodburn (eds), *Hunters and Gatherers, volume two: Property, Power and Ideology*. Oxford: Berg.
- Guilbert, G., and Challis, K., 1998. Test-pitting on Bradwell Moor, 1991. *Derbyshire Archaeological Journal* 118, 65-68.
- Guilbert, G., and Garton, D., 1995. Neolithic Finds around Chelmorton Low and Calton Hill. *Derbyshire Archaeological Journal* 115, 20-25.
- Guilbert, G., Garton, D., and Malone, S., 1997. Test-pitting for artefacts near Bradwellmoor Barn, 1995. *Derbyshire Archaeological Journal* 117, 48-53.
- Guilbert, G., Taylor, C., Malone, S., and Garton, D., 1995. Excavations on the White Peak near Bradwellmoor Barn, 1990 and 1994. *Derbyshire Archaeological Journal* 115, 26-36.
- Gutting, G., 1989. *Michel Foucault's Archaeology of Scientific Reason*. Cambridge: Cambridge University Press.
- Haggett, P., 1965. *Locational Analysis in Human Geography*. London: Edward Arnould.
- Haggett, P., 1972. *Geography -- a Modern Synthesis*. Harper and Row, New York.
- Halbwachs, M., 1992. *On Collective Memory*. Chicago: University of Chicago Press
- Halstead, P., 1989. 'Like Rising Damp? An ecological approach to the spread of farming in south-east and central Europe' in A. Milles, D. Williams and N. Gardner (eds) *The Beginnings of Agriculture*, 23-53. Oxford: BAR (International Series) 496.
- Haraway, D., 1988. Situated Knowledges: The Science Question in Feminism as a Site of Discourse on the Privilege of Partial Perspective. *Feminist Studies* 14 (1988): 575-99.
- Harner, M., 1970. Population pressure and the social evolution of agriculturalists, *Southwestern Journal of Anthropology* 26, 67-86.
- Harrison, D., and Adlam, K., 1985. *Limestones of the Peak. A guide to the limestone and dolomite resources of the Peak District*. British Geological Survey Mineral Assessment Report 144. London: HMSO.
- Hart, C., 1976. *Archaeological Survey of Wormhill, a Peakland Parish under Threat*. Chesterfield: North Derbyshire Archaeological Committee internal report.
- Hart, C., 1981. *The North Derbyshire Archaeological Survey to AD 1500*. Chesterfield.
- Hart, C., 1985. Aleck Low and Upper House Farm, Derbyshire: Prehistoric Artefact Scatters. In D. Spratt and C. Burgess (eds) *Upland Settlement in Britain: The Second Millennium and after*, 51-69. Oxford: British Archaeological Reports, British Series 143.
- Hart, C., 1986. Searches for the Early Neolithic: A study of Peakland Long Cairns. In T. Manby and P. Turnbull (eds) *Archaeology in the Pennines: Studies in Honour of Arthur Raistrick*. Oxford: British Archaeological Reports, British Series 158.
- Haselgrove C., Millet M. and Smith I. (eds) 1985. *Archaeology from the Ploughsoil: studies in the collection and interpretation of field survey data*. Sheffield: Sheffield University Press
- Hassan, F., 1978. Demographic Archaeology. In M. Schiffer (ed.) *Advances in Archaeological Method and Theory*, Vol. 1, 49-103. New York: Academic Press.
- Hawkes, C., 1940. *The Prehistoric Foundations of Europe*. London: Meuthen.
- Hawke-Smith, C., 1979. *Man-Land Relations in Prehistoric Britain: the Dove-Derwent Interfluvium, Derbyshire - a study in human ecology*. Oxford: British Archaeological Reports, British Series 64.
- Head, L., 1993. Unearthing prehistoric cultural landscapes: a view from Australia. *Transactions of the Institute of British Geographers* 18: 481-99.
- Healey, E., and Robertson-Mackay, R., 1983. The lithic industries from Staines causewayed enclosure and their relationship to other Neolithic industries in Southern Britain. *Lithics* 4, 1-27.

Hodges, R., Thomas, J., and Wildgoose, M., 1989. The barrow cemetery at Roystone Grange. *Derbyshire Archaeological Journal* 109: 7-16.

- Healy, F., 1987. Prediction or prejudice? The relationship between field survey and excavation. In A. Brown and M. Edmonds (eds) *Lithic Analysis and Later British Prehistory: some problems and approaches*, 9-17. Oxford: British Archaeological Reports, BAR British Series 162.
- Healy, F., 1994. Typology: the maker's or the analyst's? In N. Ashton and A. David (eds) *Stories in Stone*, 179-181. Lithic Studies Society Occasional Paper No. 4.
- Healy, F., Heaton, M., and Lobb, S. J., 1992. Excavations of a Mesolithic site at Thatcham, Berkshire. *Proceedings of the Prehistoric Society* 58, 41-76.
- Heidegger, M., 1962. *Being and Time*. Oxford: Blackwell.
- Helms, M., 1988. *Ulysses' Sail: An ethnographic odyssey of power, knowledge, and geographical distance*. Princeton, New Jersey: Princeton University Press.
- Henderson, A., 1979. Mesolithic material from the surface of Stanage Barrows. *Transactions of the Hunter Archaeological Society* 10(5): 365-9.
- Henson, D., 1982. Flint as a Raw Material in Prehistory (Emphasis on Lincolnshire and Yorkshire). Unpublished M. Phil. MS. Sheffield 5358.
- Herne, A., 1988. A time and a place for the Grimston Bowl. In J. Barrett and I. Kinnes (eds) *The Archaeology of Context in the Neolithic and Bronze Age*, 9-29. Sheffield: Department of Archaeology and Prehistory.
- Hicks, S., 1971. Pollen-analytical evidence for the effect of prehistoric agriculture on the vegetation of North Derbyshire. *New Phytologist* 70: 647-667.
- Hicks, S., 1972. The impact of man on the East Moor of Derbyshire. *Archaeological Journal* 129: 1-20.
- Higgs, E., (ed.) 1972. *Papers in Economic Prehistory* Cambridge University
- Higgs, E., 1975. Site Catchment Analysis: a concise guide to field methods. In E. Higgs (ed.) *Palaeoeconomy*. Cambridge: Cambridge University Press
- Higgs, E., and Jarman, M., 1975. Palaeoeconomy. In E. Higgs (ed.), *Palaeoeconomy*, 1-8. Cambridge. Cambridge University Press.
- Higgs, E., and Vita-Finzi, C., 1972. Prehistoric economies: a territorial approach. In E. Higgs (ed.) *Papers in Economic Prehistory*. Cambridge: Cambridge University Press.
- Hinchcliffe, J., and Schadla-Hall, R., (eds) 1980. *The Past under the Plough*. DoE Occasional Paper 3. HMSO. London.
- Hind, D., 1995. Flint scatters and scale: A case study of a ploughzone surface assemblage from the fourth millennium BC. Unpublished MA dissertation: University of Sheffield.
- Hind, D., 1998a. Chert Use in the Mesolithic. *Assemblage* 4 [online]. Available: <http://www.shef.ac.uk/~assem/4/4hind.html> [2000, February 9].
- Hind, D., 1998b. Report on stone tools from the Henderson collection. Unpublished report prepared for the Peak District National Park Authority.
- Hodder, 1979b. Economic and social stress and material culture patterning. *American Antiquity* 44: 446-55.
- Hodder, I., 1982. *Symbols in Action, Ethnoarchaeological Studies of Material Culture*, New Studies in Archaeology, Cambridge University Press, Cambridge.
- Hodder, I., 1986. *Reading the Past: Current approaches to Interpretation in Archaeology*. Cambridge: Cambridge University Press.
- Hodder, I., 1989. This is not an article about material culture as text. *Journal of Anthropological Archaeology* 8: 250-69.
- Hodder, I., 1990. *The Domestication of Europe*. Oxford: Blackwell.
- Hodder, I., and Orton, C., 1976. *Spatial Analysis in Archaeology*. Cambridge: Cambridge University Press.
- Hodges, R., 1991. *Wall-to-Wall History. The story of Roystone Grange*. London: Ducksworth.
- Holgate R., 1985. Identifying Neolithic settlement in Britain: the role of field survey in the interpretation of lithic scatters, in Haselgrove C., Millet M. and Smith I., editors, *Archaeology from the*

Ploughsoil: studies in the collection and interpretation of field survey data, 95-107. Sheffield: Sheffield University Press.

- Holgate, R., 1988. *Neolithic settlement of the Thames Basin.* Oxford: British Archaeological Reports 194.
- Howarth, E., 1899. *Catalogue of the Bateman Collection of Antiquities in the Sheffield Public Museum.* London: Dulau and Co.
- Hugh-Jones, S., 1995. Inside-out and back-to-front, the androgynous house in Northwest Amazonia. In J Carsten and S Hugh-Jones (eds) *About the House, Lévi-Strauss and beyond.* Cambridge: Cambridge University Press.
- Humble J., 1995. Cottonhenge Raunds, Northamptonshire. Assessment and updated project design options for the future of Cottonhenge Raunds. Central Archaeological site 483: unpublished report.
- Ingold, T., 1980. *Hunters, Pastoralists and Ranchers.* Cambridge: Cambridge University Press.
- Ingold, T., 1981. The Hunter and His Spear: Notes on the Cultural Mediation of Social and Ecological Systems. In A. Sheridan and G. Bailey, (eds) *Economic Anthropology.* Oxford: British Archaeological Reports (International series) BAR 96.
- Ingold, T., 1986. *The Appropriation of Nature: essays on human ecology and social relations.* Manchester: Manchester University Press.
- Ingold, T., 1992. Culture and the perception of the environment. In E. Croll and D. Parkin (eds) *Bush Base and Forest Farm: Culture, environment and development,* 39-56. London: Routledge.
- Ingold, T., 1993a. Technology, Language, Intelligence: A reconsideration of basic concepts. In K. Gibson and T. Ingold (eds) *Tools, Language and Cognition in Human Evolution,* 449-72. Cambridge: Cambridge University Press.
- Ingold, T., 1993b. Tool-use, sociality and intelligence. In K. Gibson and T. Ingold (eds) *Tools, Language and Cognition in Human Evolution,* 429-45. Cambridge: Cambridge University Press.
- Ingold, T., 1993c. The Reindeerman's Lasso. In P. Lemmonier (ed.) *Technological Choices: Transformation in Material Cultures since the Neolithic,* 108-125. London: Routledge.
- Ingold, T., 1993d. The temporality of the landscape. *World archaeology,* 25, 152-174
- Ingold, T., 1995. Building, dwelling, living: How animals and people make themselves at home in the world. In M. Strathern (ed.) *Shifting contexts: transformations in anthropological knowledge,* 57-80. London: Routledge.
- Ingold, T., 1996a. Growing plants and raising animals: an anthropological perspective on domestication. In D. Harris (ed.), *The Origins of Agriculture and Pastoralism in Eurasia,* 12-24. Washington D.C.: Smithsonian Institution Press.
- Ingold, T., 1996b. Hunting and gathering as ways of perceiving the environment. In R. Ellen and K. Fukui (eds), *Redefining nature: ecology, culture and domestication,* 117-155. Oxford: Berg.
- Ingold, T., 1996c. Situating Action V: The History and Evolution of Bodily Skills. *Ecological Psychology* 8(2), 171-182.
- Ingold, T., 1996d. Situating Action VI: A Comment on the Distinction Between the Material and the Social. *Ecological Psychology* 8(2), 183-187.
- Ingold, T., 1997. Eight themes in the Anthropology of Technology. *Social Analysis* 41 (1), 106-138.
- Ingold, T., 1998. Culture, nature, environment: steps to an ecology of life. B. Cartledge, *Mind, Brain, and the Environment,* 158-180.
- Iversen, J., 1949. The influence of prehistoric man on vegetation, *Danmarks Geologiske Undersogelse (sog has /o) IV,* 3, 6, 6-23.
- Jacobi, R., 1973. Aspects of the 'Mesolithic Age' in Great Britain, S. Kozlowski, *The Mesolithic in Europe,* University Press, Warsaw, 237-265.
- Jacobi, R., 1976. *Aspects of the Postglacial Archaeology of England and Wales.* Unpublished PhD MS. Cambridge.
- Jacobi, R., 1978a. Northern England in the eighth millennium bc: an essay, P. Mellars (ed.), *The Early Postglacial Settlement of Northern Europe,* Duckworth, London, 295-332.

Kinnes, I., 1979. *Round Barrows and Ring Ditches in the British Neolithic*. London: British Museum
Occasional Paper 7.

- Jacobi, R., 1978b. The Mesolithic of Sussex. In P. Drewitt (ed.) *Archaeology in Sussex to A.D. 1500*, 15-22. CBA Research Report 29.
- Jacobi, R., 1979. Early Flandrian hunters in the south-west, *Proceedings of the Devon Archaeological Society* 37, 49-88.
- Jacobi, R., 1982. Later Hunters in Kent: Tasmania and the earliest Neolithic, P. E. Leach (ed.) *Archaeology in Kent to AD 1500*, Council for British Archaeology Research Report No. 48, London.
- Jacobi, R., and Tebbutt, C., 1981. A Late Mesolithic rock-shelter site at High Hurstwood, Sussex. *Sussex Archaeological Collections* 119, 1-36.
- Jacobi, R., Tallis, J., and Mellars, P., 1976. The Southern Pennine Mesolithic and the Ecological Record, *Journal of Archaeological Science* 3, 307-320.
- Jarman, M., 1972. European deer economies and the advent of the Neolithic. In E. Higgs (ed.) *Papers in Economic Prehistory*, 125-147. Cambridge: Cambridge University Press.
- Jarman, N., 1998. Materials of culture, fabric of identity. In D. Miller (ed.) *Material Cultures: Why Some Things Matter*, 121-145. London: UCL Press.
- Jenkins, R., 1998. Jets will land where man lived for 6,000 years. *The Times*, March 20 1998.
- Jochim, M., 1976. *Hunter-gatherer subsistence and settlement: A predictive model*, Academic Press, London.
- Jochim, M., 1989. Optimisation and stone-tool studies: problems and potentials, R. Torrence (ed.) *Time, Energy and Stone Tools*, Cambridge University Press, Cambridge, 106-120.
- Jones, B., 1994. *Past Imperfect: The story of rescue archaeology*. London: Heinemann.
- Jowett, A., and Charlesworth, J., 1929. The glacial geology of the Derbyshire Dome and the western slopes of the Southern Pennines. *Quarterly Journal of the Geological Society*, 85: 307-34.
- Keene, A., 1981. Prehistoric Foraging in a Temperate Forest: a linear programming model. London: Academic Press.
- Kelly, J., 1976. *The Excavation of Wetton Mill Rock Shelter, Manifold Valley, Staffs.* City of Stoke-on-Trent Museum Archaeological Society Report No. 9.
- Kelly, R., 1995. *The Foraging Spectrum: Diversity in Hunter-Gatherer Lifeways*, Smithsonian Institution
- Kinnes, I., 1985. Circumstance not context: the Neolithic of Scotland as seen from the outside. *Proceedings of the Society of Antiquaries of Scotland* 115: 115-57.
- Kinnes, I., 1988. The Cattleship Potemkin: Reflections on the First Neolithic in Britain. In J. Barrett and I. Kinnes (eds) *The Archaeology of Context in the Neolithic and Bronze Age*, 2-8. Sheffield: Department of Archaeology and Prehistory.
- Kintigh, K., 1988. The Effectiveness of Subsurface Testing: A Simulation Approach. *American Antiquity* 53 (4): 686-707.
- Kirch, P., 1984. *The Evolution of Polynesian Chiefdoms*. Cambridge: Cambridge University Press.
- Knauft B., 1991. Violence and sociality in human evolution (and replies). *Current Anthropology*, 32:391-428.
- Kopytoff, I., 1986. The cultural biography of things: commodification as process. In A. Appadurai (ed.) *The social life of things*, 64-91. Cambridge, Cambridge University Press.
- Kowalewski, S., 1990. The Evolution of Complexity in the Valley of Oaxaca. *Annual Review of Anthropology* 19, 39-58.
- Kraker, J., Shott, M., and Welsch, P., 1983. Design and Evaluation of Shovel Test Sampling in Regional Archaeological Survey. *Journal of Field Archaeology* 10: 469-480.
- Küchler, S., 1993. Landscape as Memory: the mapping of process and its representation in a Melanesian society. In B. Bender (ed.) *Landscape: Politics and Perspectives*. Oxford: Berg.
- Kuhn, T., 1970. *The Structure of Scientific Revolutions*. London: University of Chicago Press.
- Kuhn, T., 1993. Metaphor in Science. In *Metaphor and Thought*. A. Ortony. Cambridge, Cambridge University Press.

Makepeace, G., 1998. Romano-British rural settlements in the Peak District and North-East Staffordshire.
Derbyshire Archaeological Journal, 118: 95-138.

- Kuper, A., (ed.) 1992. *Conceptualizing Society*. London: Routledge.
- Lakatos, I., 1978. *The Philosophical papers of Imre Lakatos edited by John Worrall and Gregory. • Vol. I : The methodology of scientific research programmes*. Cambridge: Cambridge University Press.
- Lakoff, G. and Johnson M., 1980. *Metaphors We Live By*. Chicago: University of Chicago Press.
- Lakoff, G., 1993. The contemporary theory of metaphor. In A. Ortony, *Metaphor and Thought*. Cambridge, Cambridge University Press.
- Latour, B., 1987. *Science in Action: How to Follow Scientists and Engineers Through Society*. Milton Keynes: Open University Press, 1987.
- Latour, B., 1993. *We Have Never Been Modern*. London: Harvester Wheatsheaf.
- Legge, A., 1989. Milking the evidence: a reply to Entwistle and Grant. In A. Milles, D. Williams and N. Gardner (eds) *The beginnings of Agriculture*, 217-42. Oxford: British Archaeological Reports S496.
- Legge, A., and Rowley-Conwy, P., 1988. *Star Carr Revisited: A Re-Analysis of the Large Mammals*. London: Centre for Extra-Mural Studies, Birkbeck College, University of London.
- Legge, A., and Rowley-Conwy, P., 1989. Some Preliminary results of a re-examination of the Star Carr fauna, C. Bonsall (ed.) *The Mesolithic in Europe*, 225-230. Edinburgh: John Donald.
- Lemonnier, P., 1986. The study of material culture today: toward an anthropology of technical systems. *Journal of Anthropological Archaeology* 5: 147-86.
- Lemonnier, P., (ed.) 1993. *Technological choices: transformation in material cultures since the Neolithic*. London: Routledge.
- Leroi-Gourhan, A., 1943. *Evolution et techniques: l'homme et la matière*. Paris: Albin Michel.
- Leroi-Gourhan, A., 1945. *Evolution et techniques: milieu et technique*. Paris: Albin Michel.
- Lévi-Strauss, C., 1966. *The Savage Mind*. Chicago: University of Chicago Press.
- Lévi-Strauss, C., 1969a. *The Elementary Structures of Kinship*. London: Eyre and Spottiswoode.
- Lévi-Strauss, C., 1969b. *The Raw and the Cooked*. London: Routledge and Kegan.
- Lewarch, D., and O'Brien, M., 1981. Effects of short-term tillage on aggregate provenience surface pattern. In D. Lewarch and M. O'Brien (eds), *Advances in Archaeological Method and Theory* 4: 7-49.
- Lewis, H., and Ferguson, T., 1988. Yards, corridors and mosaics: how to burn a boreal forest. *Human Ecology* 16: 57-77.
- Lightfoot, K., 1988. Regional Surveys in the Eastern United States: Strengths and Weaknesses of implementing Subsurface Testing Programs. *American Antiquity* 51 (3) 484-504.
- Lubbock, J., 1865. *Prehistoric Times*. London: Williams and Norgate.
- Luhmann, N., 1978. Temporalization of complexity. In R. Geyer and J. van der Zouwen (eds), *Sociocybernetics: an actor-oriented approach*. London: Martinus Nijhoff, 92-113.
- Luhmann, N., 1982. *The Differentiation of Society*. Trans. S. Holmes and C. Larmore. New York: Columbia University Press.
- Mabey, R., 1975. *Food for Free*. London: Fontana.
- MacNeish, S., 1977. The beginning of agriculture in Peru, C. A. Reed (ed.) *Origins of Agriculture*, Mouton, The Hague, 753-802.
- Makepeace, G., and Shimwell, D., 1997. A Resurvey of the Ringbanks on Parwich Moor and the excavation of four ringbanks at Parwich, Derbyshire. *Derbyshire Archaeological Journal* 117, 17-25.
- Maltby, M., 1983. Animal Bones. In J. Collis (ed.) *Wigber Low, Derbyshire: A Bronze Age and Anglian Burial Site in the White Peak*, 47-50. Sheffield: Department of Archaeology, University of Sheffield.
- Manby, T., 1958. Chambered Tombs of Derbyshire. *Derbyshire Archaeological Journal* 79, 25-39.

Marsden, B., 1982. The excavation of Roystone Grange round cairn (Ballidon 12), Ballidon, Derbyshire. *Derbyshire Archaeological Journal* 102: 23-32.

McBryde, I., 1984. Kulin greenstone quarries: the social contexts of production and distribution for the Mt William site. *World Archaeology* 16 (2): 267-285.

- Manby, T., 1963. Some Mesolithic sites in the Peak District and the Trent Basin. *Derbyshire Archaeological Journal* 83, 10-23).
- Manby, T., 1965. The excavation of Green Low chambered tomb. *Derbyshire Archaeological Journal*, 85: 1-24.
- Manby, T., 1976. The excavation of Kilham Long Barrow, East Riding of Yorkshire. *Proceedings of the Prehistoric Society* 42: 111-60.
- Manby, T., 1983. The Pottery. In J. Collis *Wigber Low, Derbyshire: A Bronze Age and Anglian Burial Site in the White Peak*, 53-60. Sheffield: Department of Archaeology and Prehistory.
- Manby, T., 1996. The Pottery. Description. In J. Barnatt and J. Collis *Barrows in the Peak District: Recent Research*, 160-163. Sheffield: Sheffield Academic Press.
- Marsden, B., 1988. *The Barrow Knight: Thomas Bateman – pioneer archaeologist*. K. M. Publications (Privately Published).
- Marx, K., 1964. *Pre-capitalist economic formations*. London: Lawrence and Wishart.
- Marx, K., 1971 [1859]. *Preface and introduction to A Contribution to a Critique of Political Economy*. London: Lawrence and Wishart.
- Marx, K., 1973 [1857]. *Grundrisse*. Trans. Martin Nicolaus. New York: Vintage.
- Marx, K., 1977 [1867]. *Capital*, Vol. I. New York: Random House (Vintage).
- Marx, K., and Engels, F., 1974 [1845]. *The German Ideology*. London: Lawrence and Wishart.
- Matthews, K., no date 1. Carden Park, Cheshire: The Mesolithic occupation [online]. Available: <http://www.setea.freereserve.co.uk/carden3.html> [2000, February 9].
- Matthews, K., no date 2. The Early Neolithic of the Carden region (c. 4300-3000 BC) [online]. Available: <http://www.setea.freereserve.co.uk/neo.html> [2000, February 9].
- Mauss, M., 1979a. Real and practical relations between psychology and sociology. In *Sociology and Psychology: Essays*, 1-33. London: Routledge and Kegan Paul.
- Mauss, M., 1979b. Body Techniques. In *Sociology and Psychology: Essays*, 95-123. London: Routledge and Kegan Paul.
- May, J., 1971. A Neolithic site at Astonhill, near Minninglow, Derbyshire. *Derbyshire Archaeological Journal* 91: 31-36.
- McAvoy F., 1996. Owmbly-by-Spital, Lincolnshire. *CAS News* 6 (Winter 1996).
- McAvoy F., no date. Fieldwork at Owmbly, Lincolnshire. Central Archaeological Service, unpublished report.
- McElearney, G., 1992. Roystone Grange Archaeology Project 1991: Minninglow Car Park Test Pit Survey. Unpublished manuscript at the Peak District National Park Authority.
- McNaughten, P., and Urry, J., 1997. *Contested Natures*. London: Routledge.
- McTaggart, J., 1927. *The Nature of Existence*, Vol. II, Book 5. Cambridge: Cambridge University Press.
- Mead, G., 1977. The process of the mind in nature. In A. Strauss (ed.) *George Herbert Mead on Social Psychology*. Chicago: Chicago University Press.
- Megaw, J. and Simpson, D., 1979. *An Introduction to British Prehistory*. Leicester: Leicester University Press.
- Meiklejohn, C., 1978. Ecological aspects of population size and growth in late-glacial and early postglacial Europe, P. A. Mellars (ed.) *The Early Postglacial Settlement of Northern Europe*, Duckworth, London, 65-77.
- Mellars, P., 1976a. Fire ecology, animal populations and man: A study of some ecological relationships in prehistory, *Proceedings of the Prehistoric Society* 42, 15-45.
- Mellars, P., 1976b. Settlement patterns and industrial variability in the British Mesolithic. In G. de G. Sieveking, I. H. Longworth and K. E. Wilson (eds), *Problems in Economic and Social Archaeology*, 375-99. London: Duckworth.
- Mellars, P., 1981. Towards a definition of the Mesolithic. *Mesolithic Miscellany* 2 (2): 13-16.

Millward, R., and Robinson, A., 1975. *The Peak District*. London: Eyre Methuen.

- Mercer, R., 1981. Introduction. In R. Mercer (ed.) *Farming Practice in British Prehistory*, ix-xxvi. Edinburgh: Edinburgh University Press.
- Merleau-Ponty, 1962. *The Phenomenology of Perception* (London: Routledge and Kegan).
- Mertens, S., 1986. The groove and splinter techniques: A re-evaluation. Unpublished M.A. Thesis. University of London.
- Middleton, D., and Edwards, D., (eds) 1990. *Collective Remembering*. London: SAGE Publications.
- Millett, M., 1985. Field survey calibration: a contribution. In C. Haselgrove, M. Millett and I. Smith (eds) *Archaeology from the Ploughsoil: studies in the collection and interpretation of field survey data*, 31-37. Sheffield: Department of Archaeology and Prehistory, University of Sheffield.
- Mitcham, C., 1978. Types of Technology. *Research in Philosophy and Technology* 1: 229-94.
- Mithen, S., 1987. Prehistoric red deer hunting: a cost-risk-benefit analysis with reference to Upper Palaeolithic Spain and Mesolithic Denmark In P. Rowley-Conwy, M. Zvelebil and H. Blankholm (eds.) *Mesolithic Northwest Europe: Recent Trends*, 93-108. Sheffield: Department of Archaeology and Prehistory.
- Mithen, S., 1989. Modeling hunter-gatherer decision making: complementing optimal foraging theory. *Journal of Human Ecology* 17, 1, 53-89.
- Mithen, S., 1990. *Thoughtful Foragers: A Study of Prehistoric Decision Making*. Cambridge University Press, Cambridge.
- Mithen, S., 1994. The Mesolithic Age, B. Cunliffe (ed.) *The Oxford Illustrated Prehistory of Europe*, 79-135. Oxford: Oxford University Press.
- Mol, A., and Law, J., 1994. Regions, networks and fluids: anaemia and social topology. *Social Studies of Science*, 24: 641-71.
- Moore, H., 1986. *Space, text and gender: an anthropological study of the Marakwet of Kenya*. Cambridge: Cambridge University Press.
- Moore, H., 1996. The changing nature of anthropological knowledge: An introduction. In H. Moore (ed.) *The Future of Anthropological Knowledge*, 1-15. London: Routledge.
- Moore, J., 1997. The infernal cycle of fire ecology. In P. Topping (ed.), *Neolithic Landscapes* (Neolithic Studies Group Seminar Papers 2) 33-40. Oxford: Oxbow Books, Oxbow Monograph 86.
- Morgan, L., 1985 [1877]. *Ancient Society*. Tucson: University of Arizona Press.
- Morphy, H., 1993. Colonialism, History and the Construction of Place: the politics of landscape in Northern Australia. In B. Bender (ed.) *Landscape: Politics and Perspectives*, 205-243. Oxford: Berg.
- Morphy, H., 1995. Landscape and the Reproduction of the Ancestral Past. In E. Hirsch and M. O'Hanlon (eds) *The Anthropology of Landscape: Perspectives on Place and Space*, 185-209. Oxford: Clarendon Press.
- Murray, T., 1993. Archaeology and the Threat of the Past: Sir Henry Rider Haggard and the Acquisition of Time. *World Archaeology* 25.
- Myers, A., 1986. *The Organisation and Structural Dimensions of Lithic Technology: theoretical perspectives from ethnography and ethnoarchaeology as applied to the Mesolithic of Mainland Britain with a case study from northern England*, Unpublished PhD MS. Sheffield. .
- Myers, A., 1987. All shot to pieces? Inter-assemblage variability, lithic analysis and Mesolithic assemblage types: some preliminary observations, A. Brown and M. Edmonds (ed.) *Lithic Analysis and Later British Prehistory*, 137-153. Oxford: British Archaeological Reports, British Series 162.
- Myers, A., 1989. Reliable and maintainable technological strategies in the Mesolithic of mainland Britain. In R. Torrence, (ed.), *Time, Energy and Stone Tools*, 78-91. Cambridge: Cambridge University Press.
- Myers, A., 1992. Roystone: An analysis of worked lithic artefacts from area excavations and one test-pitting project. Unpublished manuscript at the Peak District National Park Authority.

Paton, R., 1994. Speaking through stones: A study from northern Australia. *World Archaeology* 26(2): 172-184.

- Myers, F., 1986. *Pintupi Country, Pintupi Self: sentiment, place and politics among Western Desert Aborigines*. Berkley: University of California Press
- Nance, J., 1979. Regional Subsampling and Statistical Inference in Forested Habitats. *American Antiquity* 44: 172-176.
- Needham, S. and Evans, J. 1987 Honey and Dripping: Neolithic Food Residues from Runnymede Bridge. *Oxford Journal of Archaeology* 6, 21-8.
- Neich, R., 1996. Wood-carving. In D. C. Starzecka (ed.) *Maori art and culture*. London: British Museum Press.
- Netboy, A., 1968. *The Atlantic Salmon: A Vanishing Species?*, Faber and Faber, London.
- Newell, R., and Constandse-Westermann, T., 1986a. Testing an ethnographic analogue of Mesolithic social structure and the archaeological resolution of Mesolithic ethnic groups and breeding populations, *Proceedings of the Royal Academy of Sciences, Amsterdam* 89, 243-400.
- Newell, R., and Constandse-Westermann, T., 1986b. Population growth, density and technology in the western European Mesolithic: Lessons from analogous historical contexts, *Paleohistoria* 26, 1-18.
- Newell, R., 1973. The Postglacial adaptations of the indigenous population of the Northwest European Plain. In S. Kozłowski (ed.) *The Mesolithic in Europe*, 399-440. Warsaw: Warsaw University Press.
- Nietzsche, F., 1979. *Philosophy and Truth: Selections from Nietzsche's Notebooks of the Early 1870's*, D. Breazeale, ed., Atlantic Highlands, NJ, Humanities Press.
- Nietzsche, F., 1989 [1887]. *On the genealogy of morals*. New York: Vintage Books.
- Ong, W., 1982. *Orality and Literacy: the Technologizing of the Word*. London: Methuen.
- Parry, W., and Kelly, R., 1987. Expedient Core Technology and Sedentism. In J. Johnson and C. Morrow, (eds), *The Organization of Core Technology*, 285-304. Boulder, Colorado: Westview Press.
- Paynter, R., 1989. The Archaeology of Equality and Inequality. *Annual Review of Anthropology* 18, 369-399.
- Pelegrin, J., 1990. Prehistoric lithic technology: some aspects of research. *Archaeological Review from Cambridge* 9.1: 116-125.
- Pennington, R., 1874. Notes on barrow opening near Castleton. *Reliquary* 14: 85-8.
- Pennington, R., 1877. *Notes on the Barrows and Bone Caves of Derbyshire*. London.
- Peterson, J., 1978. Hunter-Gatherer/Farmer Exchange. *American Anthropologist* 80:335-351.
- Pfaffenberger, B., 1988. Fetishized objects and humanised nature: Towards an anthropology of technology. *Man(N.S.)*, 23, 236-252.
- Pfaffenberger, B., 1992. Social Anthropology of Technology. *Annual Review of Anthropology* 21: 491-516.
- Phillips, J., Yalden, D., and Tallis, J., 1981. *Peak District Moorland Erosion Study; Phase 1 Report*, Peak Park Joint Planning Board, Derbyshire.
- Phillips, P., 1983. *The Flint and Chert Industry*. In J. Collis (ed.) *Wigber Low, Derbyshire: A Bronze Age and Anglian Burial Site in the White Peak*, 61-66. Sheffield: Department of Archaeology, University of Sheffield.
- Pierpoint, S., 1980. *Social Patterns in Yorkshire Prehistory*. Oxford: British Archaeological Reports, BAR British Series 74.
- Piggott, C., 1962. Soil formation and development on the carboniferous limestone of Derbyshire. I. Parent material. *Journal of Ecology* 50: 145-56.
- Piggott, S., 1953. Secondary Neolithic burials at Church Dale, near Monyash, Derbyshire, 1937-39. *Proceedings of the Prehistoric Society* 19: 228-30.
- Piggott, S., 1954. *Neolithic Cultures of the British Isles*. Cambridge: Cambridge University Press.
- Piggott, S., 1965. *Ancient Europe*. Edinburgh: Edinburgh University Press.

- Pitts, M. and Jacobi, R., 1979. Some aspects of change in flaked stone industries of the Mesolithic and Neolithic of Southern Britain. *Journal of Archaeological Science* 6, 163-77.
- Planning Policy Guidance Note 15: Planning and the historic environment*, paragraphs 2.26, 6.22, 6.40.
- Pluciennik, M., 1994. Holocene hunter-gatherers in Italy. In R. Skeates and R. Whitehouse (eds), *Radiocarbon Dating and Italy*, 45-59. London: Accordia/British School at Rome.
- Pluciennik, M., 1998. Deconstructing the Mesolithic-Neolithic Transition. In M. Edmonds and C. Richards, *Understanding the Neolithic of North-Western Europe*. Glasgow: Cruithne Press.
- Pollard, J., 1999. 'These places have their moments': thoughts on settlement practices in the British Neolithic. In M. Goodman and J. Bruck (eds) *Making Places in the Prehistoric World*, 76-93. London: UCL.
- Popper, K., 1992 [1959]. *The logic of scientific discovery*. London: Routledge.
- Poole, S., 1986. A Late Mesolithic and Early Bronze Age Site at Piethorn Brook, Milnrow. *The Greater Manchester Archaeological Journal* 2, 11-30.
- Price, T., 1973. A proposed model for procurement systems in the Mesolithic of Northwestern Europe. In S. Kozłowski (ed.) *The Mesolithic in Europe*, 455-474. Warsaw: Warsaw University Press.
- Price, T., 1978. Mesolithic settlement systems in the Netherlands, P. Mellars (ed.) *The Early Postglacial Settlement of Northern Europe*, 81-103. London: Duckworth.
- Price, T., 1980. Regional approaches to human adaptation in the Mesolithic of the North European Plain. B. Gramsch (ed.) *Mesolithicum in Europa*, 2nd International Symposium, Potsdam, 3-8 April 1978, 217-234. Potsdam: Veröffentlichungen des Museums für Ur- und Frühgeschichte, 14/15.
- Price, T., 1983. The European Mesolithic. *American Antiquity* 48: 4.
- Pryor, F., 1978. *Excavations at Fengate, Peterborough, England: the second report*. Toronto: Royal Ontario Museum Archaeology Monograph 5.
- Radcliffe-Brown, A., 1952. *Structure and Function in Primitive Society*. New York: The Free Press.
- Radley, J., 1963. Recent Prehistoric finds in the Peak District. *Derbyshire Archaeological Journal* 83, 96-100.
- Radley, J., 1966. Fifty arrowheads from the Gritstone moors of the Southern Pennines, with a consideration of other arrowheads from the Peak District. *Transactions of the Hunter Archaeological Society* 9(2), 110-4.
- Radley, J., 1968a. A Mesolithic structure at Sheldon. With a note on chert as a raw material in the Southern Pennines. *Derbyshire Archaeological Journal* 88: 26-36.
- Radley, J., 1968b. The origins of the Arbor Low monument. *Derbyshire Archaeological Journal* 88: 100-103.
- Radley, J., and Cooper, L., 1968. A Neolithic Site at Elton: An Experiment in Field Recording. *Derbyshire Archaeological Journal* 88, 37-46.
- Radley, J., and Marshall, G., 1963. Mesolithic sites in South-west Yorkshire, *Yorkshire Archaeological Journal* 41, 81-97.
- Radley, J., and Plant, M., 1967. Two Neolithic sites at Taddington. *Derbyshire Archaeological Journal*, 87, 149-54.
- Reaney, D. 1966 A Beaker burial at Aston on Trent.
- Renfrew, C., 1972. *The Emergence of Civilization: the Cyclades and the Aegean in the Third Millennium BC*. London: Meuthen.
- Renfrew, C., 1973a. Monuments, mobilisation and social organisation in Neolithic Wessex. In C. Renfrew (ed.) *The Explanation of Culture Change*, 539-58. London: Duckworth.
- Renfrew, C., 1973b. *Before Civilization: The Radiocarbon Revolution and Prehistoric Europe*. Harmondsworth: Penguin.
- Renfrew, C., 1976. Megaliths, territories and populations. In S. de Laet (ed.) *Acculturation and Continuity in Atlantic Europe*, 98-220. Bruges: de Tempel.

Rhodes, E., 1818. *Peak Scenery* (Part 1). London.

- Renfrew, C., 1977. Space, Time and Polity, in J. Friedman and M. Rowlands (eds) *The Evolution of Social Systems*, 89-112. London: Duckworth.
- Renfrew, C., 1979a. *Investigations in Orkney*. London: Society of Antiquaries.
- Renfrew, C., 1979b. Transformations, in C. Renfrew and K. Cooke (eds) *Transformations: Mathematical approaches to culture change*, 3-44. London: Academic Press.
- Renfrew, C., 1982. Explanation revisited, in C. Renfrew, M. Rowlands and B. Seagrave (eds) *Theory and Explanation in Archaeology*, 5-23. London: Academic Press.
- Renfrew, C., 1984. *Approaches to Social Archaeology*. Edinburgh: Edinburgh University Press.
- Renouf, M., 1989. Prehistoric hunter-fishers of Varangerfjord, Northeastern Norway: reconstruction of settlement and subsistence during the Younger Stone Age, *British Archaeological Reports International Series 487*, Oxford.
- Reynolds P., 1978. Archaeology by experiment: a research tool for tomorrow. In T. Darvill, M. Parker Pearson R. Smith and R. Thomas (eds) *New Approaches to Our Past: an archaeological forum*, 139-155. Southampton: Southampton University Press.
- Richards, J., 1984. The development of the Neolithic landscape in the environs of Stonehenge. In R. Bradley and J. Gardiner (eds) *Neolithic Studies*, 177-88. Oxford: British Archaeological Reports (British Series) 133.
- Richards, J., 1990. The Stonehenge Environs Project. London: Historic Buildings and Monuments Commission for England.
- Ricoeur, P., 1981. *Hermeneutics and the human sciences*. Cambridge: Cambridge University Press.
- Riley, D., 1962. A group of flint arrowheads from Ughill Moor, near Sheffield. *Transactions of the Hunter Archaeological Society*, 8(4): 236-7.
- Robertson-Mackay, M., 1980. A 'Head and Hooves' Burial beneath a Round Barrow, with other Neolithic and Bronze Age Sites, on Hemp Knoll, near Avebury, Wiltshire, *Proceedings of the Prehistoric Society* 46: 123-76.
- Roper, D., 1979. The Method and Theory of Site Catchment Analysis: A Review. *Advances in Archaeological Method and Theory*, Volume 2. New York: Academic Press.
- Rosaldo, R., 1989. *Culture and truth: The remaking of social analysis*. Boston: Beacon Press.
- Rowlands, M., 1987. Centre and Periphery: a review of a concept. In M. Rowlands, M. Larsen and K. Kristiansen (eds), *Centre and Periphery in the Ancient World*, 1-11. Cambridge: Cambridge University Press.
- Rowley-Conwy, P., 1983. Sedentary hunters: the Ertebølle example. In G. Bailey (ed.) *Hunter-Gatherer Economy in Prehistory: A European Perspective*, 111-126. Cambridge: Cambridge University Press.
- Rowley-Conwy, P., 1986. Between cave painters and crop planters: Aspects of the temperate European Mesolithic, M. Zvelebil (ed.) *Hunters in Transition: Mesolithic Societies of Temperate Eurasia and their Transition to Farming*, 17-31. Cambridge: Cambridge University Press.
- Rowley-Conwy, P. and Zvelebil, M., 1989. Saving it for later: storage by prehistoric hunter-gatherers in Europe. In P. Halstead and J. O'Shea (eds.) *Bad Year Economics: Cultural Responses to Risk and Uncertainty*, 40-56. Cambridge: Cambridge University Press.
- Russell, B., 1995. *History of Western Philosophy*. London: Routledge.
- Sackett, J., 1982. Approaches to style in lithic archaeology, *Journal of Anthropological Archaeology* 1: 59-112.
- Sackett, J., 1990. Style and Ethnicity in Archaeology: The Case for Isochrestism. In M. Conkey and C. Hastorf, (eds) *The Uses of Style in Archaeology*, 32-43. Cambridge: Cambridge University Press.
- Sahlins, M., 1960. Evolution: specific and general. In M. Sahlins and E. Service (eds) *Evolution and Culture*, 12-44. Ann Arbor: University of Michigan Press.
- Sahlins, M., 1968. *Tribesmen*. Englewood Cliffs: Prentice-Hall.
- Sahlins, M., 1972. *Stone Age Economics*. New York: Aldine.

- Sahlins, M., 1976. *Culture and Practical Reason*. Chicago: Chicago University Press.
- Sahlins, M., 1985. *Islands of History*. Chicago: Chicago University Press.
- Sahlins, M. and Service, E., 1960. *Evolution and Culture*, Ann Arbor: University of Michigan Press.
- Said, E., 1995. *Orientalism*. London: Penguin.
- Saville, A., 1981. Grimes Graves, Norfolk. Excavations 1971-72. Vol. 2: The Flint Assemblage. London: HMSO.
- Schofield, A., 1991a. Interpreting artefact scatters: an introduction. In A. Schofield (ed.) *Interpreting Artefact Scatters: contributions to ploughzone archaeology*, 3-8. Oxford: Oxbow Books, Oxbow Monograph 4.
- Schofield, A., 1991b. Artefact distributions as activity areas: examples from south-east Hampshire. In A. Schofield (ed.) *Interpreting Artefact Scatters: contributions to ploughzone archaeology*, 117-28. Oxford: Oxbow Books, Oxbow Monograph 4.
- Schofield, A., (ed.) 1991. *Interpreting Artefact Scatters: contributions to ploughzone archaeology*. Oxford: Oxbow Books, Oxbow Monograph 4.
- Schofield, A., 1994. Looking back with regret: looking forward with optimism: making more of surface lithic scatter sites. In N. Ashton and A. David (eds) *Stories in Stone*. Lithic Studies Society Occasional Paper No. 4.
- Schofield, A., 1995a. Artefacts mean nothing. In A. Schofield (ed.) *Lithics in Context: suggestions for the future direction of Lithic Studies*, 3-8. Lithics Studies Society Occasional Paper No. 5.
- Schofield, A., 1995b. Settlement Mobility and la Longue Durée towards a context for surface lithic material. In A. Schofield (ed.) *Lithics in Context: suggestions for the future direction of Lithic Studies*, 105-113. Lithics Studies Society Occasional Paper No. 5.
- Service, E., 1962. *Primitive Social Organization*. New York: Random House.
- Service, E., 1975. *Origins of the State and Civilisation*. New York: Norton.
- Shanks, M., and Tilley, C., 1982. Ideology, symbolic power and ritual communication: a reinterpretation of Neolithic mortuary practice. In I. Hodder (ed.) *Symbolic and Structural Archaeology*, 129-54. Cambridge: Cambridge University Press.
- Shanks, M., and Tilley, C., 1987a. *Social Theory and Archaeology*. Cambridge: Polity Press.
- Shanks, M., and Tilley, C., 1987b. *Re-constructing archaeology: theory and practice*. Cambridge: Cambridge University Press.
- Shennan, S., 1985. *Experiments in the collection and analysis of archaeological survey data: the East Hampshire Survey*. Sheffield: University of Sheffield, Department of Archaeology and Prehistory.
- Shott, M., 1985. Shovel Test Sampling as a Site Discovery Technique: A Case Study from Michigan. *Journal of Field Archaeology* 12: 457-468.
- Sigaut, F., 1994. Technology. In Tim Ingold (ed.) *Companion encyclopedia of anthropology*, 420-459. London: Routledge.
- Simmons, I., 1975. The Ecological setting of Mesolithic man in the highland zone. In J. Evans et al (eds.) *The Effect of Man on the Landscape: the Highland Zone*, 57-63. Council for British Archaeology Research Report No. 11.
- Simmons, I., 1979. Late Mesolithic societies and the environment of the uplands of England and Wales. *University of London, Institute of Archaeology Bulletin* 16, 111-129.
- Simmons, I., 1996. *The Environmental Impact of Later Mesolithic Cultures: The Creation of a Moorland Landscape in England and Wales*, Edinburgh, Edinburgh University Press.
- Simmons, I., Atherden, M., Cloutman, E., Cundill, P., Innes, J., and Jones, R., 1993. Prehistoric Environments, Spratt, R., (ed.) *Prehistoric and Roman Archaeology of North-East Yorkshire*, 15-50. Council for British Archaeology Research Report no. 87.
- Simmons, I., Dimpleby, G., and Grigson, C., 1981. The Mesolithic. In I. Simmons and M. Tooley (eds) *The Environment in British Prehistory*, 82-124. London: Duckworth.

Spratt, D., 1982. *Prehistoric and Roman Archaeology of North-East Yorkshire* BAR British Series 104.

- Simmons, I., 1996. *The Environmental Impact of Later Mesolithic Cultures: The Creation of a Moorland Landscape in England and Wales*. Edinburgh: Edinburgh University Press.
- Smith, C., 1990. *Late Stone Age Hunters of the British Isles*. London: Routledge.
- Smith, C., 1992. The population of Late Upper Palaeolithic and Mesolithic Britain. *Proceedings of the Prehistoric Society* 58: 37-40.
- Smith, C., 1999. Ancestors, place and people: social landscapes in Aboriginal Australia. In P. Ucko and R. Layton (eds) *The Archaeology and Anthropology of the Landscape: Shaping your landscape*, Proceedings, World Archaeological Congress 3, 189-205. London: Routledge.
- Smith, I., 1965. *Windmill Hill and Avebury*. Oxford: Clarendon Press.
- Smith, P., and Young, T., 1972. The evolution of early agriculture and culture in Greater Mesopotamia: a trial model. B. Spooner (ed.) *Population Growth: Anthropological Implications*, 1-59. Cambridge, Massachusetts: MIT Press.
- Sorel, G., 1961. *Social Evolution and States*. Cambridge: Cambridge University Press.
- Spencer, H., 1852. A theory of population deduced from the general principles of animal fertility. *Westminster* 57: 468-501.
- Spencer, H., 1897. *The Principles of Sociology*. New York: D. Appleton.
- Spielmann, K., 1986. Interdependence among egalitarian societies. *Journal of Anthropological Archaeology* 5: 297-312.
- Spikins, P., 1994. West Yorkshire Mesolithic Project Site Report, 1993 season, *West Yorkshire Archaeology Service* for English Heritage and the National Trust.
- Spikins, P., 1995a. West Yorkshire Mesolithic Project Lithics Report, West Yorkshire Mesolithic Project Site Report *West Yorkshire Archaeology Service* for English Heritage and the National Trust.
- Spikins, P., 1995b. West Yorkshire Mesolithic Project Site Report 1994 season, *West Yorkshire Archaeology Service* for English Heritage and the National Trust.
- Spikins, P., 1995c. 'Virtual Landscapes' - GIS and Lithic Scatters. In A. Schofield (ed.) *Lithics in Context: suggestions for the future direction of Lithic Studies*, 95-104. Lithics Studies Society Occasional Paper No. 5.
- Spikins, P., 1996. West Yorkshire Mesolithic Project Site Report 1995 season, *West Yorkshire Archaeology Service* for English Heritage and the National Trust.
- Spikins, P., 1998. *Re-Thinking the Mesolithic of Northern England: A Re-Evaluation of Changes in Environment, Population and Settlement*. Unpublished Ph.D. thesis: Cambridge University.
- Spratt, R., 1993. The Mesolithic. In R. Spratt (ed.) *Prehistoric and Roman Archaeology of North-East Yorkshire*. Council for British Archaeology Research Report no. 87.
- Stephens, D., and Krebs, J., 1986. *Foraging Theory*. Princeton: Princeton University Press.
- Steward, J., 1955. *The Theory of Culture Change*. London: University of Illinois Press.
- Stonehouse, W., 1990. Some Mesolithic sites in the central Pennines: comments on 23 years of fieldwork, *Manchester Archaeological Bulletin* 5: 58-64.
- Storrs Fox, W., 1911. Derbyshire cave-men of the Roman Period. *Derbyshire Archaeological Journal* 33: 115-26.
- Strathern, M., 1980. No nature, no culture: the Hagen case. In C. MacCormack and M. Strathern (eds) *Nature, Culture and Gender*, 174-222. Cambridge: Cambridge University Press.
- Strathern, M., 1988. *The Gender of the Gift: problems with women and problems with society in Melanesia*. Berkeley: University of California Press.
- Strathern, M., 1991. *Partial Connections*. Maryland: Rowman and Little.
- Straw, A., and Lewis, G., 1962. Glacial drift in the area around Bakewell, Derbyshire. *East Midland Geographer* 3: 72-80.
- Switsur, V., and Jacobi, R., 1975. Radiocarbon dates for the Pennine Mesolithic. *Nature* 256, 32-34.

- Switsur, V., and Jacobi, R., 1979. A radio-carbon chronology for the early post-glacial stone industries of England and Wales, R. Berger and H. Suess (eds) *Radiocarbon dating*, 41-68. Berkeley and Los Angeles: University of California Press.
- Taçon, P., 1991. The power of stone: symbolic aspects of stone use and tool development in western Arnhem Land, Australia. *Antiquity* 65: 192-207.
- Tallis, J., 1964a. Studies on Southern Pennine peats 1. The general pollen record. *Journal of Ecology* 52: 323-344.
- Tallis, J., 1964b. The pre-peat vegetation of the Southern Pennines. *New Phytologist* 63: 363-372.
- Tallis, J., 1991. Forest and moorland in the southern Pennine uplands in the mid-Flandrian period. III. The spread of moorland – local, regional and national. *Journal of Ecology* 79: 401-15.
- Tallis, J., and Switsur, V., 1973. Studies on South Pennine peats: VI: A ¹⁴C dated profile from Featherbed Moss, Derbyshire. *Journal of Ecology* 61.1: 743-751.
- Tanner, A., 1979. *Bringing Home Animals: religious ideology and mode of production of the Mistassini Cree Hunters*. London: C. Hurst.
- Taylor, D., Griffiths, H., Pedley, H., and Prince, I., 1994. Radiocarbon-dated Holocene pollen and ostracod sequences from barrage tufa-dammed fluvial systems in the White Peak, Derbyshire, UK. *The Holocene*, 4(4): 356-64.
- Te Awekotuku, N., 1996. Maori: People and Culture. In D. Starzecka (ed.) *Maori art and culture*. London: British Museum Press.
- Testart, A., 1982. The significance of food storage among hunter-gatherers: residence patterns, population densities and social inequalities, *Current Anthropology* 23, 523-537.
- Thomas, J., 1987. Relations of Production and social change in the Neolithic of north-west Europe. *Man* 22, 405-30.
- Thomas, J., 1988. Neolithic explanations revisited: the Mesolithic-Neolithic transition in Britain and south Scandinavia. *Proceedings of the Prehistoric Society* 54: 59-66.
- Thomas, J., 1991. *Rethinking the Neolithic*. Cambridge: Cambridge University Press.
- Thomas, J., 1993. Discourse, Totalization and 'the Neolithic'. In C. Tilley (ed.) *Interpretative Archaeology*, 357-394. Oxford: Berg.
- Thomas, J., 1996a. *Time, culture and identity: an interpretive archaeology*. London: Routledge.
- Thomas, J., 1996b. Neolithic houses in mainland Britain and Ireland – A sceptical view. In T. Darvill and J. Thomas, *Neolithic Houses in Northwest Europe and Beyond*, 1-12. Neolithic Studies Group Seminar Papers 1. Oxford: Oxbow Monograph 57.
- Thomas, J., 1998. Towards a Regional Geography of the Neolithic. In M. Edmonds and C. Richards, *Understanding the Neolithic of North-Western Europe*. Glasgow: Cruithne Press.
- Thomas, J., 1999. *Understanding the Neolithic*. London: Routledge.
- Thomas, K., 1963. History and Anthropology. *Past and Present* 24: 3-27.
- Thomas, N., 1991. *Entangled Objects: Exchange, Material Culture and Colonialism in the Pacific*. Cambridge, Massachusetts: Harvard University Press.
- Thomas, N., 1992. Politicised values: the cultural dynamics of peripheral exchange. In C. Humphrey and S. Hugh-Jones, *Barter, Exchange and Value: an anthropological approach*, 21-41. Cambridge: Cambridge University Press.
- Thompson, R., 1956. The subjective element in archaeological inference. *Southwestern Journal of Anthropology* 12: 327-332.
- Thornton, T., 1997. Know your place: the organisation of Tlingit geographic knowledge. *Ethnology* 36(4): 295-307.
- Thorpe, I. and Richards, C., 1984. The decline of ritual authority and the introduction of Beakers into Britain. In R. Bradley and J. Gardiner (eds.) *Neolithic Studies*, 67-84. Oxford: British Archaeological Reports (British Series) 133.
- Tilley, C., 1979. Post-Glacial Communities in the Cambridge Region: some theoretical approaches to settlement and subsistence. Oxford: British Archaeological Reports (British Series) 66.

- Tilley, C., 1991. *Material culture and text: the art of ambiguity*. London: Routledge.
- Tilley, C., 1994. *A Phenomenology of Landscape: places, paths and monuments*. Oxford: Berg.
- Tingle, M., 1987. Inferential Limits and Surface Scatters: The case of the Maddle Farm and Vale of White Horse Fieldwalking Survey. In A. Brown and M. Edmonds (eds), *Lithic Analysis and Later British Prehistory: some problems and approaches*, 87-100. Oxford: British Archaeological Reports (British Series) 162.
- Torrence, R., and Edmonds, M., 1988. Lost in space. Unpublished paper presented to the annual meeting of the Society of American Archaeologists.
- Torrence, R., and van der Leeuw, S., (eds) 1989. *What's New?* London: Unwin Hyman.
- Trigger, B., 1989. *A History of Archaeological Thought*. Cambridge: Cambridge University Press.
- Trinh T. Minh Ha, 1991, *When the Moon Waxes Red: Representation, Gender, and Cultural Politics*. London: Routledge.
- Tuan, Y., 1974. *Topophilia*. Englewood Cliffs: Prentice-Hall.
- Turner, J., 1987. *Rediscovering the social group: A self-categorization theory*. Oxford, England: Blackwell.
- Turner, V., 1985. On the Edge of the Bush. In E. Turner (ed), *Anthropology of Experience*. Tucson: University of Arizona P.
- Tylor, E., 1924. [1871]. *Primitive Culture*. 2 vols. 7th ed. New York: Brentano.
- Tylor, E., 1964. [1865]. *Researches into the Early History of Mankind and the Development of Civilization*. Paul Bohannan. ed. Chicago: University of Chicago Press.
- Urry, J., 1996. How societies remember the past. In S. Macdonald and G. Fyfe, (eds) *Theorizing Museums*, 45-65. Oxford: Blackwell.
- Urry, J., 2000. Mobile Sociology. *British Journal of Sociology* 51(1): 185-203.
- Van Gijn, A. and Zvelebil, M., 1997. Stone Age Ideology and scaling the ladder of inference. *Analectia Praehistoria Leidensia* 29: 3-11.
- Vang Petersen, P., 1984. Chronological and Regional Variation in the Late Mesolithic of Eastern Denmark. *Journal of Danish Archaeology* 3: 7-18.
- Vernant, J., 1983. *Myth and thought among the Greeks*. London: Routledge & Kegan.
- Vyner, B., 1984. The excavation of a Neolithic cairn at Street House, Loftus, Cleveland. *Proceedings of the Prehistoric Society* 50: 151-96.
- Von Thünen, J., 1966. *Von Thünen's Isolated State*. London: Pergamon Press.
- Wainwright, G., and Longworth, I., 1971. *Durrington Walls: Excavations 1966-1968*. London: Society of Antiquaries (Research Report 29).
- Wallerstein, I., 1974. *The Modern World-System*. London.
- Ward, J., 1889. On Rains Cave, Longcliffe, Derbyshire. *Derbyshire Archaeological Journal*, 11: 31-45.
- Ward, J., 1890. On some diggings near Brassington, Derbyshire. . *Derbyshire Archaeological Journal*, 12: 108-138.
- Ward, J., 1892. On Rains Cave, Longcliffe, Derbyshire. *Derbyshire Archaeological Journal*, 14: 228-250.
- Ward, J., 1893. On Rains Cave, Longcliffe, Derbyshire. *Derbyshire Archaeological Journal*, 15: 161-176.
- Ward, J., 1908. Notes on some Derbyshire antiquities from Samuel Mitchell's memoranda. *Derbyshire Archaeological Journal* 30: 155-172.
- Warnock, M., 1987. *Memory*. London: Faber and Faber.
- Westropp, H., 1872. *Pre-Historic Phases; or, Introductory Essays on Prehistoric Archaeology*. London: Bell and Daldy.
- White, L., 1959. *The Evolution of Culture*. New York: McGraw-Hill.
- Whitelaw, T., 1983. People and space in hunter-gatherer camps: a generalising approach in ethnoarchaeology. *Archaeological Review from Cambridge* 2.2, 48-66.

Woodward, P., 1991. *The South Dorset Ridgeway Survey and Excavations 1977-84*. Bridport: Dorset Natural History and Archaeological Society, Monograph Series No. 8.

- Whittle 1996. *Europe in the Neolithic: the creation of new worlds*. Cambridge: Cambridge University Press.
- Whittle, A., 1997. Moving on and moving around: Neolithic settlement mobility. In P. Topping (ed.), *Neolithic Landscapes* (Neolithic Studies Group Seminar Papers 2) 15-22. Oxford: Oxbow Books, Oxbow Monograph 86.
- Wiessner, P., 1982. Risk, reciprocity and social influences on !Kung San economics. In E. Leacock and R. Lee, (eds) *Politics and history in band societies*, 61-84. Cambridge: Cambridge University Press.
- Wiessner, P., 1983. Style and social information in Kalahari San projectile points, *American Antiquity* 4: 253-76.
- Williams, R., 1976. *Keywords*. London: Croom Helm.
- Williams, C., 1985. *Mesolithic Exploitation Patterns in the Central Pennines: a palynological study of Soyland Moor*. Oxford: British Archaeological Reports (British Series) 139.
- Wiltshire, P., and Edwards, K., 1993. Mesolithic, early Neolithic and later prehistoric impacts on a vegetation at a riverine site in Derbyshire, England. In F. Chambers (ed.) *Climate Change and Human Impact on the Landscape*, 157-168. London: Chapman and Hall.
- Windell, D., 1989. A late Neolithic 'ritual focus' at West Cotton, Northamptonshire. In A. Gibson (ed.) *Midlands Prehistory*, 85-94. Oxford: British Archaeological Reports (British Series) 204.
- Winner, L., 1977. *Autonomous Technology: Technics-out- of-Control as a Theme in Political Thought*. Cambridge, Massachusetts: MIT Press.
- Winterhalder, B., and Smith E., 1981. *Hunter-gatherer Foraging Strategies: Ethnographic and Archaeological Analyses*. Chicago: Chicago University Press.
- Wobst, H., 1974. Boundary conditions for Palaeolithic social systems. *American Antiquity* 39: 147-78.
- Wobst, H., 1976. Locational relationships in Palaeolithic society. *Journal of Human Evolution* 5: 49-58.
- Wobst, H., 1978. The archaeo-ethnology of hunter-gatherers or the tyranny of the ethnographic record in archaeology. *American Antiquity* 43: 303-9.
- Woodburn J., 1982. Egalitarian societies. *Man* 17, 431-451.
- Woodward, P., 1978. A problem oriented approach to the recovery of knapped flint debris: a fieldwalking strategy for answering questions posed by site distributions and excavation. In C. Cherry, C. Gamble and S. Shennan (eds) *Sampling in Contemporary British Archaeology* 121-127. Oxford: British Archaeological Reports (British Series) 50.
- Wylie, A. 1985. The Reaction Against Analogy. In M. Schiffer (ed.) *Advances in Archaeological Method and Theory*, Volume 8: 63-111. New York: Academic Press.
- Wymer, J., 1977. *Gazetteer of Mesolithic Sites in England and Wales, with a Gazetteer of Upper Palaeolithic Sites in England and Wales*. London: Council for British Archaeology Research Report 22.
- Yellen, J., 1977. *Archaeological Approaches to the Present: Models for Reconstructing the Past*. New York: Academic Press.
- Young, R., 1998. No carefree life for Mesolithic people. *British Archaeology*, 33 (April) [online]. Available: <http://www.britarch.ac.uk/ba/ba33/ba33feat.html> [2000, February 9].
- Zvelebil, M., 1986. Mesolithic prelude and Neolithic revolution, M. Zvelebil (ed.), *Hunters in Transition: Mesolithic Societies and their Transition to Farming*, 5-15. Cambridge: Cambridge University Press.
- Zvelebil, M., 1994. Plant Use in the Mesolithic and its role in the transition to farming, *Proceedings of the Prehistoric Society* 60, 35-74.
- Zvelebil, M., 1998. What's in a name: The Mesolithic, the Neolithic and Social change at the Mesolithic-Neolithic transition. In M. Edmonds and C. Richards, *Understanding the Neolithic of North-Western Europe*, 1-36. Glasgow: Cruithne Press.
- Zvelebil, M., and Rowley-Conwy, P., 1984. Transition to farming in northern Europe: A hunter-gatherer perspective. *Norwegian Archaeological Review* 17: 104-128.

Zvelebil, M., and Rowley-Conwy, P., 1986. Foragers and farmers in Atlantic Europe. In M. Zvelebil (ed.) *Hunters in Transition: Mesolithic Societies of Temperate Eurasia and Their Transition to Farming*, 67-93. Cambridge: Cambridge University Press.