

Chapter 1

Investigating Archaeological Cultures: Material Culture, Variability, and Transmission

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*Homo sapiens are about pattern recognition. Both a gift
and a trap*

William Gibson, *Pattern Recognition* (2003, 22)

Introduction

The concept of an archaeological culture rarely features in any surveys of the literature of modern archaeology, especially in the Anglo-American world. When it does appear, “cultures” are treated as an anachronism – a remnant of an archaic and long-dismissed stage of the discipline. Kent Flannery’s *Parable of the Golden Marshalltown* provides an exemplary formulation of the unfashionable status of the archaeological culture, when the Old Timer archaeologist was sacked by his own department for his continued but apparently outdated belief in this concept (Flannery 1982). Both introductory textbooks (e.g. Johnson 1999; Hodder and Hutson 2003; Renfrew and Bahn 2008) and theoretical compilations (e.g. Preucel and Hodder 1996; Hodder 2001; Van Pool and Van Pool 2003; Funari et al. 2005; Meskell and Preucel 2006) communicate the same message: the concept of archaeological cultures is deeply flawed and, as a consequence, should no longer be applied or even discussed.

The purpose of this volume is to re-ignite the debate concerning the analysis of archaeological cultures. The reason is that archaeological cultures continue to be employed by prehistorians throughout the world. They are used in order to make sense of potentially coherent assemblages of artefacts, from the Lower Palaeolithic to the onset of reflective literacy. This continuing practical reliance upon a theoretically moribund concept occurs even though the majority of archaeological cultures were

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defined during the first half of the twentieth century. The basic classification of archaeological data into broad spatially and temporally coherent blocks does not only encompass archaeological cultures but also includes other categories, such as “civilisations” (e.g. Demoule 2008), “traditions” (Osborne 2008), “groups”, “horizons” (e.g. Phillips and Willey 1953; Willey and Phillips 1958), “techno-complexes” (e.g. Bar-Yosef and Zilhão 2006) and “style zones” (Cunliffe 2005). Whatever they are called, heuristic devices such as archaeological cultures appear to be embedded in the intellectual fabric of the archaeological discipline and provide one of the main characters in prehistoric narratives (Pluciennik 1999). This implies that for many archaeologists, the “culture” concept retains a validity that is independent of the extensive critiques, albeit only as an unwelcome but necessary methodological tool.

Despite the lingering “reality” of archaeological cultures, what this term might represent to modern archaeologists has not been reassessed, even in traditions where they remain widely in use. Such a consideration is often seen as either a retrograde step by more theoretically inclined archaeologists or as more unnecessary theorising by more empirically orientated colleagues. Nevertheless, the resilience of archaeological cultures implies that either a new device for grouping archaeological data needs to be found, or we must explore how patterns in the archaeological record designated as archaeological cultures are perceived, classified and accepted. It is therefore essential that applications of the archaeological cultures are re-examined. After all, culture history has had a far longer gestation period, and remains far more influential and widely used as an archaeological paradigm, than either processualism or post-processualism. In a way, archaeological cultures are the archaeological concept *par excellence*.

The Rise and Fall of Archaeological Cultures

The definition of an archaeological culture remains Childe’s iconic formulation of “certain types of remains – pots, implements, ornaments, burial sites, house forms, constantly recurring together” (Childe 1929, v–vi; see Harris 1994). The primary inspiration for this scheme which incorporates both time and space was the ideas and approach advocated in Kossinna’s *Siedlungsarcheologie Methode* (settlement method) (Kossinna 1911, 1926; see Veit 1989). Kossinna held that “Sharply defined culture areas correspond unquestionably with the areas of particular peoples or tribes” (Kossinna 1911, 3; Veit 1989, 37, Veit’s translation). Though frequently heralded as the founding fathers of the archaeological culture concept, neither their ideas nor their approach were original. The independent identification of cultural sequences based on the careful excavation of sites in the Southwestern North America (Kidder 1924) led to a florescence of approaches that analysed the inter-relationships between archaeological assemblages (e.g. Gladwin and Gladwin 1934; McKern 1939; see Lyman et al. 1997; Chap. 4). This classification of the archaeological record as a mosaic of “cultures representing peoples” reflected the late nineteenth century’s growing fascination with contemporary and historical

ethnic and national identities. It was from this cultural substrate that cultural histories grew, leading archaeologists and anthropologists of the period throughout northern and central Europe to refer to distinctive assemblages as “cultures”. They consequently influenced subsequent generations of archaeologists on either side of the Atlantic (Trigger 2006, 232–235). The culture history approach, and especially the European version, provided a theoretical and methodological framework for the emerging national archaeologies throughout Asia, Africa, Central and South America and Oceania (Trigger 1990; Evans 1996; Murray 2001; Politis 2003; Trigger 2006, 261–278).

Critics of archaeological cultures emphasise that particular types of material culture do not equal groups or societies, thereby denying the validity of archaeological cultures as historical actors (e.g. Clarke 1968; Renfrew 1977; Hodder 1978a, b). The complexities bound up in ideas of ethnicity and identity strongly undermine any straightforward labelling of peoples from archaeological cultures, especially based upon single types of ceramics, houses or burials (e.g. Wolf 1984; Shennan 1989a; Jones 1997; Díaz-Andreu et al. 2005; Insoll 2007). The consequence is that any simple equation of data from other disciplines, such as linguistics or genetics, with an archaeological culture, in lieu of a prehistoric population, should be read with extreme caution (see MacEachern 2000; Thornton and Schurr 2004a).

Critics of the culture history approach further stress that mapping archaeological cultures yields misleading representations of spatial variation in the archaeological record which can be created through a wide variety of different natural and human factors, rather than simply as a result of the appearance of new peoples or external ideas (Taylor 1948; Binford 1965; Hodder and Orton 1976; Schiffer 1976). Archaeological cultures serve to mask variation in the material record by creating coherent entities where changes are highlighted only at spatial and temporal boundaries, a point already recognised and admitted by its leading practitioner (see Childe 1956, 124). Further doubts regarding the validity of archaeological cultures are based in the nationalist origins of many culture histories (see contributions in Kohl and Fawcett 1995; Díaz-Andreu and Champion 1996; Graves-Brown et al. 1996; Meskell 1998; Kohl and Pérez Gollan 2002; Kane 2003). All in all, the last 50 years of analytical onslaughts by theoretically inclined archaeologists have seen archaeological cultures rejected, deconstructed and subsequently ignored.

Pattern of the Past

The identification of archaeological cultures constitutes the recognition (empirically more than systematically) of interconnections in material culture through space and time whose implications are not well understood. It is assumed that studying these interconnections can provide one of the richest sources of information for reconstructing the past, especially for those periods where there is little or no written record. In this perspective, archaeological cultures are also needed given the

genuine challenge raised by the rapid growth in the scale and complexity of relevant and accessible data, whether through the vast increase in the number of excavations due to developer-led archaeology throughout the world (Murray 2001), in America (e.g. Green and Doershuk 1998), Britain and Ireland (e.g. Bradley 2007) or Japan (Tsude 1995), or due to the application of new scientific techniques (Collins 2006). An alternative temptation in the current intellectual climate is to narrow the range and focus of research in order to maintain the increasingly contextual (and frequently micro-scale) archaeological practice advocated by new theoretical paradigms, such as “agency” (see Dobres and Robb 2000, 2005; Gardner 2004).

The problem with these new approaches lies not in their ability to shift to smaller ethnographic-inspired scales, but to continue addressing the larger scales. Seeking to unravel the potential multiple meanings of material culture through ever-more detailed analyses is entirely possible, provided that there is no need to move beyond the scale of the locale or its place in a thematic discussion. This could lead to a potential cul-de-sac that means involuntarily learning more and more about less and less. New data would rarely be applied to re-examining broader interconnections, such as those articulated by archaeological cultures. It is perhaps not surprising that there is a parallel development in anthropology:

One of the worrying consequences of exponential growth in the volume of research and publication during the latter part of this century is that we know more and more about less and less. It is hard enough for any scholar to keep abreast of developments within a relatively narrow field, let alone to follow what is going on in even closely related specialisms. What is lost in the process is an awareness of the interconnectedness of phenomena, of their positioning within wider fields of relationships. Knowledge is fragmented, its objects treated in isolation from the contexts in which they occur (Ingold 1994, xx).

The application of radiocarbon dating shattered the carefully constructed edifices of cultural interrelationships. This can be seen most clearly when comparing the chronological framework of Stuart Piggott’s *Ancient Europe* (Piggott 1965) to that of Colin Renfrew’s *Before Civilization* (Renfrew 1973) less than a decade later. Yet radiocarbon dating did not provide a replacement model for understanding material culture through time and space, especially one that is able to shift from the micro- to the macro-scale and remain empirically grounded. Instead, this lacuna was not filled by any methodological innovation developed from the archaeological record, but by the borrowing of various broad intellectual templates. These included those of the Annales school (e.g. Bintliff 1991; Bernard-Knapp 1992), World Systems theory (e.g. Kohl 1978; 1989; Sherratt 1993; Algaze 1993), Peer Polity Interaction (e.g. Renfrew and Cherry 1986) and Interaction Spheres (Caldwell 1964; Wright 2002).

This absence of methodological replacement explains why archaeological cultures still form the basic blocks from which to create larger syntheses. Indeed, they provide a widely understood descriptive shorthand for scholars discussing broader patterns of material culture, whatever their theoretical stripes, whether in Europe (see Renfrew 1987; Hodder 1990; Whittle 1996), the Middle East (Algaze 1993; Breniquet 2006), South America (Bruhns 1994), Africa (de Maret 1990), Asia (Chang 1987; Liu 2005) or elsewhere. There is no ultimate definition of what an archaeological culture is that is either shared by the various contributors, or put

forward by the authors of this introduction. The reasons for this lack of definition are twofold. First, it is the outcome of the theoretical openness for which we have opted in the constitution of this volume. Second, we do not believe that the advantages of any approach lie in its apparent intellectual totality and closeness, but rather in the multiplicity of the perspectives it creates.

Modern Uses and Abuses of Archaeological Cultures

The global acceptance of the archaeological culture concept was due to its ability to provide a clear and empirically based framework within which to place new data from excavations and surveys (e.g. Klejn 1982; Adams and Adams 1991, 214–232). The concept was widely employed in the early development of global archaeology by the leading practitioners, with a consequence that it became institutionalised through the earliest publications and teaching (Ucko 1995). It is not that the complexities of correlating ancient peoples with archaeological cultures remain unrecognised. Indeed, the problems inherent to “equating pots with people” are clearly outlined in reviews of national and regional archaeologies across the world (e.g. Trigger 1990; Hodder 1991; Ucko 1995; Koryakova 2002; Politis 2003). Neither can it be argued that modern theoretical perspectives have either failed to penetrate beyond the Anglo-American sphere or been rejected elsewhere (e.g. Eggert 2001; Biehl et al. 2002; Funari et al. 2005; Demoule et al. 2005). There is simply a widespread belief that archaeological cultures enable patterns of similarities and differences in the archaeological record to be identified and discussed, and no other framework has supplanted them in this regard.

However, it would be a mistake to assume archaeological cultures to be uniformly applied or perceived, in spite of their reputation as an empirically orientated and atheoretical approach (e.g. compare Chaps. 2, 3 and 4). Particular circumstances can lead to peculiar consequences. For example, scholarly rivalry can lead to a high inflation rate in the identification of archaeological cultures, as evidenced by the (frankly terrifying) number of Bronze Age cultures across the Eurasian steppes (Kohl 2007, 16–17). Alternatively, a massive accumulation of archaeological data can lead to the formulation of seemingly endless cultural sub-groups, as has occurred within the pottery of the Jomon culture in Japan (Habu 2004). The main variations in the global use of archaeological cultures can generally be ascribed to how closely related the archaeological assemblage is to an ancient or modern population group defined by other factors, such as linguistics or genetics, and the influence of past and contemporary politics on their interpretation.

The assigning of an archaeological culture to a specific people or group, whether historically documented or not, tends to relate to the appearance, distinctiveness and distribution of the archaeological culture. The relatively sudden appearance of new settlements, burial practices or material assemblages indicates to many scholars the arrival of a migrating people, subsequently labelled as a coherent entity (e.g. Neustupný 1982; Rouse 1986; Anthony 1990; Cameron 1995; Chapman and Hamerow 1997;

Burmeister 2000; Lightfoot 2008). There is also a greater tendency to attribute ethnic labels to archaeological cultures when there is a strong proto-historical and historical record for the continuous movement of peoples throughout a region, such as the Eurasian steppes stretching from eastern Europe to western China (e.g. Chapman 1997; Koryakova and Epimakhov 2007).

To some extent, the integration of archaeological cultures with genetic and linguistic data is predicated upon the same lines, and is driven primarily by specialists outside of archaeology who wish to explore the relationships between genes, culture and language (Sergent 1995; Chikhi et al. 2002; Oppenheimer 2006). The patterns revealed in the analysis of linguistic or genetic data are unable to be independently dated beyond broad ranges of probability inferred from general transmission processes (Dixon 1997; Richards 2003). The consequence is that some linguists and geneticists have sought patterns in the archaeological record that resemble the dating, distribution and direction of particular traits and groups of “languages” or genes, such as the equation of painted Neolithic pottery and ceramic figurines with Y-chromosome lineages across the Levant, Anatolia and parts of eastern and central Europe (King and Underhill 2002).

For these specialists, archaeological cultures would seem to provide sufficient evidence for shared underlying behaviour as well as a relatively accurate map of a population’s presence in space and time. Archaeological culture is thus analysed and discussed as a single entity – the material remnant of an exclusive group defined by their ethnicity, language and culture – and frequently with a minimal consideration of the complexities and problems of the archaeological data (MacEachern 2000; Thornton and Schurr 2004b). The interdisciplinary use of archaeological cultures, whether taken at face value or from a more nuanced perspective, is concentrated in periods and regions where major transitions are thought to have occurred, such as the arrival of new populations, language families or ways of life. As demonstrated by research exploring the proposed global dispersal of languages and peoples through the spread of agriculture (see papers in Bellwood and Renfrew 2002; see Chap. 16), there is immense potential in such collaborative projects; yet, there remains a very real need to be cautious in making assumptions concerning archaeological cultures.

The political atmosphere within which archaeologists practice can strongly effect their methods and interpretations. The adoption of archaeological cultures is frequently associated with the growth of nationalism and its search for antecedents in the distant past, especially if such “predecessors” seem to demonstrate the desired longevity, exclusivity or creativity of the resident population or politically dominant group (e.g. Kohl and Fawcett 1995; Díaz-Andreu and Champion 1996; Graves-Brown et al. 1996; Meskell 1998; Kane 2003). However, to view archaeological cultures as only promoting the modern nation-state is to miss the varied and changing perceptions of these entities whose interpretation is also shaped by other forms of identity politics. For example, the European Union has been actively seeking to use widespread archaeological phenomena, such as Bronze Age or the Iron Age “Celtic” culture, in order to overcome nationalist perspectives on cultural heritage (e.g. Moscati 1991; Demakopoulou et al. 1999) – an approach that has been

subsequently criticised (e.g. Fitzpatrick 1996; Collis 2003; Kristiansen 2008 and replies). In contrast, archaeological cultures throughout the former Soviet Union have been used to enhance claims over disputed territories between individual ethnic groups, including those currently lacking a representative nation-state (Kohl 1993; Dolukhanov 1995).

Yet, it is within this region that, due to the influence of Marxism rather than nationalism, pan-cultural frameworks, encompassing numerous archaeological cultures, have been most extensively developed. These broader units include “cultural inter-community”, whereby spatial stability in successive archaeological cultures is achieved due to the influence of ecological conditions; the “family of cultures”, whereby the interrelationships of archaeological cultures through time allow for a genealogical model to be formulated; or the “cultural world”, which denotes a structural unity throughout archaeological cultures as a consequence of social development in comparable social, political and economic conditions (Koryakova 2002; Koryakova and Epimakhov 2007, 18–21; see also in a related Anglo-American perspective Kohl 2008). There are also broad technologically orientated concepts concerning material production and consumption, such as “metallurgical provinces” (Chernykh 1992). The influence of Marxist thought on the interpretation of archaeological cultures is also manifest in China in the *quxi leixing* model, where archaeological cultures developed in parallel in different regions (Falkenhausen 1995; Wang 1997).

Even when the identity of a nation-state is concerned, the situation is rarely straightforward with regards to archaeological cultures. In Japan, culture history has not, in recent decades, emphasised ethnicity. As a result, it has been argued that more ethnicity-orientated debate is required in order to challenge the ideas of an eternal and coherent Japanese identity (Hudson 2006). In contrast, India has recently seen a rejection of archaeological debates on ethnicity, a move being fuelled by a resurgent nationalism (Chakrabarti 2003). In Poland, the strength of an ethnicity-oriented culture-historical approach has meant that, despite an awareness of the multiple problems of such interpretations, it is hard to supplant their role in analysis and discussion (Wyszomirska-Werbart and Barford 1996). In Germany, the repulsive political legacy of Kossinna’s (1911, 1926) proposals of racially superior Northern European cultures has led to several generations of scholars who eschew debates on ethnicity (Veit 1989) yet remain enthusiastic adherents to the archaeological culture concept. Therefore, political agendas and patronage are extremely consequential to the encouragement or diminution of ethnic interpretations of archaeological cultures. If archaeological cultures are accepted as coherent “actors” in the past, then they will have a political dimension which may well have been instrumental to their success (Shennan 1989a; Pluciennik 1999). It is necessary to be aware of these political dimensions and the limits in ascribing identity within the archaeological culture concept (see Shennan 1989a; Jones 1997), but it is argued that these drawbacks are not sufficient to dismiss the concept as a potentially useful analytical tool for addressing interconnections. Nor can it be convincingly argued that archaeological cultures are so institutionalised in narratives of the past that it is impossible to remove them. Concepts, such as “race” and “hyper-diffusion”, were widely employed archaeological concepts with both theoretical and practical

efficacy before they were discredited and discarded (Wolf 1994; Orser 2003; Feder 2007). Thus it seems that archaeological cultures have not been cast aside as intellectual refuse because, in certain ways, they remain useful to scholars of the past. If they retain a use, whether it is implicitly or explicitly acknowledged, then archaeological cultures must be shown (rather than assumed) to possess validity with regards to the analysis of the archaeological record. Only if their validity in these contexts can be demonstrated can archaeological cultures be regarded as analytical units rather than as anachronisms. Doing so requires understanding the mechanisms that were involved in the reproduction of objects and practices whose apparent similarities attract the designation of archaeological culture.

Archaeological Redemption

The long-term persistence over time and space of archaeological cultures is related to the fact that they represent patterns in the archaeological record whose significance, if any, remains obscure to archaeologists. Although a general history of spatial patterning in archaeology is outside the scope of this introduction, we consider that there is much to gain by approaching archaeological cultures from this particular angle. For this purpose, we only refer to the Anglo-American development of the concept, as this particular tradition has undoubtedly spent the most energy in creating, defending and then criticising archaeological cultures. Within these debates, it is possible to trace the problem of variation in material culture being addressed using archaeological cultures, then subsequently using artefacts and finally using people. We argue that despite achieving a greater understanding of the many mechanisms at play in shaping material variation at the level of the individual and the object, we still lack the ability to address the existence of broader units, such as archaeological cultures.

Despite being based, at least in theory, on the integration of several congruent types of data, archaeological cultures were often defined on the basis of a single category of evidence, most especially lithics for early prehistory and ceramics for later prehistory. This methodological weakness, coupled with the excess of ethnic or migrationist explanations, was instrumental in the birth of processual archaeology. In order to achieve his ambitious goal of making archaeology a proper scientific discipline, Binford (1965, 1972) focused most of his attention upon material patterning, arguing that patterns observed in the archaeological record had to be interpreted in behavioural (rather than cultural) terms. On the other side of the Atlantic, Clarke (1968) pursued a similarly scientific vision of archaeology, but he explored the constitution of archaeological cultures in a systematic way, crafting a rigorous hierarchy of concepts and accompanying nomenclature.

In a related attempt at objectifying material patterning, Hodder and Orton (1976) opposed the continued use of random association groups, proposing instead that non-random association groups should be the focus of archaeologists interested in spatial patterning. This last opposition eventually provided the starting point

for Hodder's (1982) seminal *Symbols in Action*, which explicitly grew out of his disillusionment with the spatial patterning of archaeological cultures. His original purpose was to understand, through ethnoarchaeological fieldwork, the potential factors responsible for the non-random association groups that he had defined in his earlier work. However, rather than elevating spatial patterning and archaeological cultures to a new level of analytical sophistication, this work led to a more anthropological tone – a “contextual” archaeology (later branded “post-processual” archaeology). This new approach concentrated on the “wholeness” of cultures through the interconnectedness of material culture. Hodder wrote:

Each aspect of the material culture data, whether burial, settlement pattern, wall design or refuse pit distribution, can be interpreted in terms of common underlying schemes. These structures of meaning permeate all aspects of archaeological evidence. [...] This is not to say that the patterns in different types of data are always direct mirror images of each other. [...] The structures behind the patterning in one type of data must be interpreted by reference to other structures in other categories of information (Hodder 1982, 212).

The dissatisfaction with the concept of archaeological cultures, and especially the type of spatial patterning it encapsulated, led to the dismissal of this concept. Furthermore, it contributed to the growing realisation that spatial patterning did not necessarily have to be approached at the scale of the entire assemblage, but could be tackled at the scale of the artefact itself. This approach is probably best observed in the well-known debate on style (Wiessner 1983, 1984, 1985, 1990; Sackett 1982, 1985; Conkey and Hastorf 1990; see also Plog 1983; Hegmon 1992 for reviews). An implicit consensus within the debate was reached with the realisation that style in artefacts should be modelled using several non-exclusive factors, such as the expression of individual identity, collective cultural norms, or elaboration in terms of functional fitness.

Due to the consequential role played by ethnoarchaeology in the debate on the constitution of style, theories were frequently accompanied by discussions concerning the role of people in the construction and use of material culture. The desire to identify the actions of the individual eventually supplanted the desire to contextualise artefacts, resulting in the development of studies on cultural transmission (e.g. Shennan 1989b; Stark 1998; Bettinger and Eerkens 1999) and agency (e.g. Barrett 1994; Dobres and Robb 2000; Dornan 2002) in the mid-late 1990s. This research explored the processes at play in shaping style, or any other forms of material patterning, at the level of the corresponding human agents (see Schiffer and Skibo 1997; Stark 1998; Dietler and Herbich 1998; Dobres and Robb 2000, 2005; Eerkens and Lipo 2007; O'Brien 2008; Stark et al. 2008; VanPool 2008). These current debates over spatial patterning are not substantially different to the old-fashioned question of what constitutes an archaeological culture.

The connection between modern theory and the established concept of archaeological cultures is probably most evident in (neo-) Darwinian or Evolutionary archaeology (e.g. Eerkens and Lipo 2007; O'Brien 2008; O'Brien and Shennan 2009). While agency theory and ethnoarchaeology stress the variety and social context of cultural transmission, Darwinian archaeologists reduce this potential variation to the sole concepts of vertical (from parents to offspring), horizontal

(between members of similar or different groups) and oblique (from any member of the older generation to the younger generation) transmission (Cavalli-Sforza and Feldman 1981; Shennan 1989b; Eerkens and Lipo 2005, 2007). It is considered that these concepts provide the clearest insights into archaeological patterning. For instance, in analysing Early Neolithic ceramic style in central Europe (ceramics traditionally classified in the Linearbandkeramik Culture), it was argued that the stylistic coherence of this pottery cannot be explained in neutral terms. Instead, they must rather be understood as a strong bias by the craftsmen against novelty, at least during the initial stages of settlement (Shennan and Wilkinson 2001). Similar results have been reached on the cereal assemblages of this archaeological culture (Colledge et al. 2005; Conolly et al. 2008). This purported bias against novelty, and the concomitant preference for “locked-in” inheritance systems and vertical transmission, is thus observed in at least two different components of the archaeological record. Despite the conceptual gulf between culture-historical and Darwinian archaeologies, there is, however, an intriguing convergence in the results of these two studies and the traditional definition of an archaeological culture. This could suggest that the Linearbandkeramik culture was a form of prehistoric reality (but see Chap. 9). Furthermore, and regardless of one’s position towards the (neo-) Darwinian approaches, the methodological rigour found in these studies has to be acknowledged, as it constitutes an attractive alternative to the instinctive culture-historical empiricism.

The Structure of This Volume

Ideas of cultural transmission have had a long gestation, but only recent years have seen a multiplicity of reviews and edited volumes, often with a specific, theoretical perspective being thoroughly explored (Eerkens and Lipo 2007; O’Brien 2008; Stark et al. 2008). The present book takes a different stance by seeking to address cultural transmission from many different theoretical backgrounds, requesting that the contributors explore cultural transmission through the lens of archaeological cultures (or vice versa). The contributions span Europe, Africa, Asia, North and South America, and range in time throughout all periods of prehistory. The decision to concentrate exclusively on prehistory is not due to a lack of awareness of comparable debates within proto-historic and historic periods (Izzet 2007; Hakenbeck 2007; O’Brien and Lyman 2009) or a desire to ignore them. Rather, it is due to the recognition that prehistoric archaeology originally inspired the archaeological culture concept, and that an understanding of what archaeological cultures represent and how they could be approached analytically is required more urgently where there is no recourse to written texts.

Alongside this theoretical openness, we have also opted for a strong empiricism. Archaeological cultures were born out of the increasing need to classify and interpret a growing mass of data, and, now more than ever, the same challenge is upon us. The emphasis of the papers is thus as much methodological as it is theoretical, with many applying their approach to substantial archaeological datasets. Few contributors use

social anthropology or ethnography in order to ground their concept of culture, as it remains under debate within these disciplines as well (e.g. Clifford 1988; Brumann 1999; Poutignat and Streiff-Fenart 1999). This is perhaps an advantage. Neither social anthropology nor ethnography has to analyse the sheer scale of datasets found in archaeology. Analysing the archaeological record on its own terms enables a more honest appreciation of the limitations of archaeology, especially when seeking to integrate different forms of archaeological and non-archaeological data. The versatility of archaeological cultures allows analysis at different scales within the same framework, and therefore shows how different scales can shed light on each other.

The contributions in this volume (beyond the first historiographical section) have been grouped into a series of sections which mirror the progressive and integrative capabilities of the archaeological culture concept. Papers in the second section concentrate on a single material or artefact category, either through necessity (as in the Palaeolithic, where flint provides the main surviving data source) or by choice when investigating the transmission of a given technology. Papers in the third section share as a starting point the assumption of the existence of archaeological cultures, and subsequently refute or expand upon their existence in order to address material expressions of identity. The fourth section comprises papers which analyse data in order to model archaeological cultures, and which explore the integration of archaeological cultures with other disciplines, such as linguistics and/or genetics. In terms of spatial scale, each section follows a scalar organisation, with papers ranging between the regional, supra-regional and even pan-continental.

Historiographies

The variety of approaches present in this volume illustrate that there is currently no consensus concerning either cultural transmission or archaeological cultures. This situation is perhaps not so surprising given the varied definitions and development of culture history and archaeological cultures in different regions and periods. Striking divergences in the nature and role of archaeological cultures can be observed even between neighbouring countries, such as Britain and France. Contemporary archaeologists in Britain reject the existence of virtually all archaeological cultures within national boundaries, yet reference them across the Channel where they are a widely accepted classificatory tool – albeit one that has been neutered (Chap. 2). The archaeological research traditions in each country also demonstrate how a scholarly emphasis on different periods strongly influences the approaches to archaeological cultures. By tracing the attitudes of specific senior figures about archaeological cultures, it is possible to explain how archaeological cultures arrived at their current status in both countries.

These intellectual biographies are especially important for exploring the *Kulturkreislehre* or “theory of cultural circles” which not only continues to influence the structure and interpretation of the archaeological record in Central Europe (Chap. 3) but also played a formative role in North American anthropology and

archaeology (e.g. Kluckhohn 1936). While there are undoubtedly overlapping themes, the *Kulturkreislehre* is a distinct approach from the better known *Siedlungsarchäologie Methode* (Kossinna 1911, 1926), in that it seeks to emphasise the multiplicity of culture histories rather than their homogeneity. In North America, a similar debate centred upon the role of innovation in culture change. Here, the work of Kroeber (1923, 1935, 1940), who sought to define cultural innovation and the spread of cultural traits using quantitative methods, is fundamental (Chap. 4). By framing the debate on cultural units and cultural transmission for the subsequent decades, Kroeber created a tradition of rigorous analysis concerning cultural variation and change that can be traced up to the recent computer simulations of cultural transmission (e.g. Mesoudi and O'Brien 2008a, b).

Cultural Technology

The exclusive reliance upon a single category of data in defining an archaeological culture has often been heralded as one of the main failures of this approach. However, the modern investigation of a single technology, with its emphasis on the production, use, distribution and deposition of objects in relation to social behaviour, provides a dataset with the ability to reshape or understanding of the broader archaeological record. The delineation of archaeological cultures in the Lower Palaeolithic of Britain represents a far greater challenge than in later periods due to increased surviving evidence, chronological resolution and the issue of multiple human species potentially being responsible for the same assemblages (Chap. 5). The analysis of the flint assemblages illustrates that variation can demonstrate not only structural elements through vast time depths, but also adaptations.

Many of these issues are addressed in a far larger macro-scale perspective by Rabett (Chap. 6), who explores how the systematic investigation of a given techno-complex can reveal different behavioural trajectories amidst adaptations to new environments. The appearance of a new technology within a region is still heralded as a consequential event that potentially reshapes the societies involved. The earliest presence of copper in Eurasia provokes a shift in the scholarly perception from stone- to metal-using cultures, regardless of the quantities of objects involved or the scale of their impact (Chap. 7). The relationship between the earliest metal-using cultures and archaeological cultures reveals that metal is simply one material that is reshaped according to the expectations and desires of the communities involved. Such comparisons demonstrate the influence of cultural norms, even in the face of a potentially disruptive technology. In a similar vein, the rates and mechanisms of the dispersal of technical innovations in ceramics can provide the foundations for a broader discussion on the role of cultural innovation (Chap. 8). In a long-term investigation of ceramic technology in Iran, Petrie focuses upon the interplay between the transmission of knowledge and the practices of craftspeople, the structure of the communities in which they work, and the geographical location of production sites with respect to trade networks.

Culture Histories

Doubtless, the era has passed where archaeological cultures could be regarded as historical actors and conveniently labelled as a particular ethnic group. However, the issue of “finding identities” in the archaeological record remains present. In exploring the variation within the burial rites of a single (apparently uniform) culture, different local practices are demonstrated and the idea of a broader identity for the Linearbandkeramik culture in Central and Western Europe is rejected (Chap. 9). Drawing on Bourdieu’s (1977) notion of *habitus* and the community traditions emanating out of past remembrance, the authors stress the need to anchor archaeological cultures, such as these earliest farming communities, in the local scale to prevent variations from being ignored.

In a short, provocative essay drawing upon a recent reformulation of European Bronze Age societies (Kristiansen and Larsson 2005), the materialisation of institutions through specific object types is addressed (Chap. 10). This approach allows interpretation of elite identities in the Northern European Bronze Age to be discussed. This issue of identity is also explicitly tackled through wide-ranging ethnoarchaeological research in Sub-Saharan Africa, demonstrating the limits of equating technology, in this case making pots, with languages and ethnicity (Chap. 11). Instead, the argument is made for concentrating on the context and process of knowledge acquisition, such as apprenticeships, and the craftspeople’s conditions of adoption and practice.

Modelling Cultures

The analysis and explicit modelling of interrelationships between multiple archaeological cultures and/or forms of evidence also provide invaluable insights into the underlying mechanisms of cultural transmission. The issue of irregularity in the adoption of an innovation is one that is found throughout the human past. The role of population density and movement in the process of innovation has been discussed before (e.g. Shennan 2000), though it can now be placed theoretically within an ecological perspective – meta-population ecologies (Chap. 12). It is through this lens that the success or failure of wider cultural transmission can be explained, rather than through assumptions regarding the cognitive capacities required and/or materialised by each new technology. Similarly, the phylogenetic method is applied to lithic assemblages of the Late Glacial of Southern Scandinavia (Chap. 13). This work builds upon individual actions in order to redefine top-down interpretations of technological change and archaeological cultures.

A very different bottom-up approach can be seen in the creation of maps of individual cultural traits relating to the Neolithic of the Near East (Chap. 14). The mapping of prehistoric cultures has tended to be the result of analysis rather than the actual analytical process. Here, the authors overlay maps derived for each

separate trait and, on this basis, to explore the possibilities of cultural boundaries and cultural territories. While they do not use the word, their approach to archaeological cultures is undoubtedly a polythetic one – a perspective that runs throughout the analysis of the earliest Neolithic in northwest Europe (Chap. 15). Vander Linden aims to show that the available evidence neither supports a homogeneous vision of the Neolithisation process in this region, nor should it be viewed as a series of locales. Concentrating on the archaeological cultures concerned in the introduction of the Neolithic in northwest Europe, he suggests that there are a series of recurrent mechanisms at play in the constitution of this cultural mosaic.

The importance of addressing archaeological cultures as potential units of analysis can be seen in the multidisciplinary contributions in this volume. Archaeological, genetic and linguistic evidence relating to the origins and migrations of Austronesian-speaking peoples enable not only a review of the potentials and problems of integrating these forms of data, but also shed further light on human population flows (Chap. 16). The authors' suggestion that there is a high correlation between genes, culture and language during periods of large-scale movement has great relevance to our discussion of archaeological cultures vis-à-vis identities in the past. A different perspective on interdisciplinary research is offered by the final paper in this volume, in which linguistic patterns provided the inspiration to review the archaeology of Middle Horizon Peru (Chap. 17). Macro-processes are identified by considering the chronology, geography and causation of the evidence, showing two cultural expansions in the archaeological record that coincide with two major linguistic changes.

Conclusion

There is a wide range of areas, theoretical orientations and topics throughout the volume, although it could never hope to be exhaustive within this context. For instance, the role of the environment in patterns of cultural transmission is only briefly touched upon by Hopkinson, Petrie and Vander Linden (Chap. 8, 12 and 15). Within this perspective, the use of Geographic Information Systems (e.g. Wheatley and Gillings 2002; Conolly and Lake 2006) as well as mathematical and computer modelling (see Kohler and vander Leeuw 2007; Mesoudi and O'Brien 2008a, b) could be used to disentangle random and non-random patterning in relation to landscape features, among other issues. In a related vein, quantitative approaches, with the noticeable exception of Riede's contribution, are less evident here than might be expected or desired (see O'Brien 2008). From a more theoretical point of view, questions of style, boundaries and identity are natural extensions of the archaeological culture concept which, although present in various fashions in several papers, would probably merit further theoretical elaboration. It goes without saying that any scholar will have their own list of topics and issues deemed of crucial importance.

Archaeological cultures came out of the need to connect together different elements of the archaeological record. We feel that the diversity of approaches

represented in this volume demonstrates that, beyond theoretical self-imposed labels, archaeological cultures can still operate in a similar way. This is not simply because of their strong empirical content, but more fundamentally by gathering together scholars with diverse interests around that same old question of spatial patterning. We do not – and refuse to – claim that archaeological cultures are the new *big thing* for archaeology: we happily leave this fashionable task to other colleagues. We do, however, suggest that because of their analytical requirement, in terms of extensive datasets and explicitly considering of questions of scale and patterning, archaeological cultures constitute an invaluable (if ill-defined) tool for the discipline. As the stubborn persistence of archaeological cultures through time and paradigms eloquently shows, archaeological cultures were instrumental in shaping the archaeology of the twentieth century and will surely remain as influential in the future.

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References

- Adams, W.Y. and Adams, E.W. (1991). *Archaeological Typology and Practical Reality: a dialectical approach to artefact classification and sorting*, Cambridge University Press, Cambridge.
- Algaze, G. (1993). *The Uruk World System: The Dynamics of Expansion of Early Mesopotamian Civilization*, University of Chicago Press, Chicago.
- Anthony, D. (1990). Migration in Archaeology: the Baby and the Bathwater. *American Anthropologist* 92 (4): 23–42.
- Barrett, J.C. (1994). *Fragments from Antiquity: archaeology of social life in Britain 2900-1200 BC*, Blackwell, London.
- Bar-Yosef, O. and Zilhão, J. (eds.) (2006). Towards a definition of the Aurignacian. *Trabalhos de Arqueologia* 45.
- Bellwood, P. and Renfrew, A.C. (eds.) (2002). *Examining the farming/language dispersal hypothesis*, McDonald Institute for Archaeological Research, Cambridge.
- Bernard-Knapp, A. (1992). *Archaeology, Annales, and Ethnohistory*, Cambridge University Press, Cambridge.
- Bettinger, R.L. and Eerkens, J.W. (1999). Point typologies, cultural transmission and the spread of bow-and-arrow technology in the prehistoric Great Basin. *American Antiquity* 64: 231–242.
- Biehl, P.F., Gramsch, A. and Marciniak, A. (eds.) (2002). *Archäologien Europas. Geschichte, Methoden und Theorien*, Waxmann, Münster.
- Binford, L.R. (1965). Archaeological systematics and the study of culture process. *American Antiquity* 31: 203–10.
- Binford, L.R. (1972). *An Archaeological Perspective*, Seminar Press, New York.
- Bintliff, J.L. (ed.) (1991). *The Annales School and Archaeology*, Leicester University Press, Leicester.
- Bourdieu, P. (1977). *Outline of a Theory of Practice*, Cambridge University Press, Cambridge.

- Bradley, R.J. (2007). *The prehistory of Britain and Ireland*, Cambridge University Press, Cambridge.
- Breniquet, C. (2006). *La disparition de la culture de Halaf: les origines de la culture de Obeid dans le nord de la Mésopotamie*, Etudes et Recherche sur les Civilisations, Paris.
- Bruhns, K.O. (1994). *Ancient South America*, Cambridge University Press, Cambridge.
- Brumann, C. (1999). Writing for culture: Why a successful concept should not be discarded. *Current Anthropology* 40: 1–27.
- Burmeister, S. (2000). Archaeology and Migration: approaches to an archaeological proof of migration. *Current Anthropology* 41 (4): 539–67.
- Caldwell, J.R. (1964). Interaction spheres in prehistory. In J.R. Caldwell and R.L. Hall (eds.) *Hopewellian studies*, Illinois State Museum Papers 12, Springfield, pp. 133–43.
- Cameron, C. (ed.) (1995). Migration and the movement of southwestern peoples. *Journal of Anthropological Archaeology* 14 (2).
- Cavalli-Sforza, L. and Feldman, M.W. (1981). *Cultural Transmission and Evolution: a quantitative approach*, Princeton University Press, Princeton.
- Chakrabarti, D. (2003). *Archaeology in the Third World: A History of Indian Archaeology since 1947*, D.K. Printworld, New Delhi.
- Chang, K.C. (1987). *The Archaeology of Ancient China*, 4th edition, Yale University Press, New Haven.
- Chapman, J. (1997). The impact of modern invasions and migrations on archaeological explanation. In J. Chapman and H. Hamerow, (eds.) *Migrations and Invasions in Archaeological Explanation*, British Archaeological Reports International Series 664, Oxford, pp. 11–20.
- Chapman, J. and Hamerow, H. (ed.) (1997). *Migrations and Invasions in Archaeological Explanation*. British Archaeological Reports (International Series) 664, Oxford.
- Chernykh, E.N. (1992). *Ancient Metallurgy in the USSR: the Early Metal Age*, Cambridge University Press, Cambridge.
- Childe, V.G. (1929). *The Danube in Prehistory*, Oxford University Press, Oxford.
- Childe, V.G. (1956). *Piecing together the Past*, Routledge and Kegan, Paul London.
- Chikhi, L., Nichols, R.A., Barbujani, G. & Beaumont, M.A. (2002). Y genetic data support the Neolithic demic diffusion model. *Proceedings of the National Academy of Sciences* 99: 11008–13.
- Clarke, D.L. (1968). *Analytical Archaeology*, Methuen, London.
- Clifford, J. (1988). *The Predicament of Culture: Twentieth-Century Ethnography, Literature, and Art*, Cambridge University Press, Cambridge, MA.
- Colledge, S., Conolly, J. and Shennan, S. (2005). The Evolution of Neolithic Farming from SW Asian Origins to NW European limits. *European Journal of Archaeology* 8(2): 137–156.
- Collins, M. (2006). *Archaeology and the biomolecular 'revolution': too much of the wrong kind of data*. Reuvenleszing 18, Stichting voor de Nederlandse Archeologie, Amsterdam.
- Collis, J. (2003). *The Celts: Origins, Myths and Inventions*, Tempus, Stroud.
- Conkey, M. and Hastorf, C.A. (eds.) (1990). *The Uses of Style in Archaeology*, Cambridge University Press, Cambridge.
- Conolly, J. and Lake, M. (2006). *Geographical Information Systems in Archaeology*, Cambridge University Press, Cambridge.
- Conolly, J., Colledge, S. and Shennan, S. (2008). Founder effect, drift, and adaptive change in domestic crop use in early Neolithic Europe. *Journal of Archaeological Science* 35(10): 2797–2804.
- Cunliffe, B. (2005). *Iron Age Communities in Britain: an account of England, Scotland and Wales from the Seventh Century BC until the Roman Conquest*. 4th edition, Routledge, London.
- de Maret, P. (1990). Phases and facies in the archaeology of central Africa. In P. Robertshaw, (ed.) *A History of African Archaeology*, James Currey, London, pp. 109–134.
- Demoule, J.-P., Giligny, F., Lehoërf, A. and Schnapp, A. (2005). *Guide des méthodes de l'archéologie*, La Découverte, Paris.
- Demoule, J.-P. (2008). *Les origines de la culture: la révolution néolithique*, Editions, Le Pommier Paris.
- Demakopoulou, K., Eluère, C., Jensen, J., Jockenhovel, A. and Mohen, J.-P. (1999). *Gods and Heroes of the European Bronze Age*, Thames and Hudson, London.

- Díaz-Andreu, M. and Champion, T. (1996). *Nationalism and Archaeology in Europe*, UCL Press, London.
- Díaz-Andreu, M., Lucy, S., Babic, S. and Edwards, D. (2005). *The Archaeology of Identity. Approaches to gender, age, ethnicity, status and religion*, Routledge, London.
- Dietler, M. and Herbich, I. (1998). Habitus, techniques, style: an integrated approach to the social understanding of material culture and boundaries. In M.T. Stark (ed.) *The archaeology of social boundaries*, Smithsonian Institution Press, Washington, pp. 232–263.
- Dixon, R.M.W. (1997). *The rise and fall of languages*, Cambridge University Press, Cambridge.
- Dobres, M.-A. and Robb, J.E. (2000). *Agency in Archaeology*, Routledge, London.
- Dobres, M.-A. and J. Robb (2005). “Doing” Agency: Introductory Remarks on Methodology, *Journal of Archaeological Method and Theory* 12(3): 159–166.
- Dolukhanov, P. (1995). Archaeology in Russia and archaeological theory. In Ucko, P.J. (ed.) *Theory in Archaeology: A World Perspective*, Routledge, London, pp. 327–342.
- Dorman, J.L. (2002). Agency and Archaeology: past, present and future directions. *Journal of Archaeological Method and Theory* 9 (4): 303–329.
- Eerkens, J.W. and Lipo, C.P. (2005). Cultural transmission, copying errors, and the general variation in material culture and the archaeological record. *Journal of Anthropological Archaeology* 24: 316–334.
- Eerkens, J.W. and Lipo, C.P. (2007). Cultural Transmission Theory and the archaeological record: providing context to understanding variation and temporal changes in material culture. *Journal of Archaeological Research* 15: 239–274.
- Eggert, M.K.H. (2001). *Prähistorische Archäologie. Konzepte und Methoden*, A. Francke Verlag, Tübingen.
- Evans, C. (1996). Archaeology against the state: the roots of internationalism. In Graves-Brown, P., Jones, S., and Gamble, C. (eds.) *Cultural identity and archaeology: the construction of European communities*, Routledge, London, pp. 312–326.
- Falkenhausen, L. von. (1995). The regionalist paradigm in Chinese archaeology. In P.L. Kohl and C. Fawcett (eds.) *Nationalism, Politics, and the Practice of Archaeology*, Cambridge University Press, Cambridge, 198–217.
- Feder, K.L. (2007). *Frauds, Myths, and Mysteries: Science and Pseudoscience in Archaeology*, McGraw-Hill, New York.
- Fitzpatrick, A. (1996). ‘Celtic’ Iron Age Europe: the theoretical basis. In Graves-Brown, P., Jones, S., and Gamble, C. (eds.) *Cultural identity and archaeology: the construction of European communities*, Routledge, London, 238–255.
- Flannery, K.V. (1982). The Golden Marshalltown: A Parable for the Archeology of the 1980s. *American Anthropologist* 84 (2): 265–278.
- Funari, P.P., Zarankin, A. and Stovel, E. (eds.) (2005). *Global Archaeological Theory: contextual voices and contemporary thoughts*, Kluwer/Plenum, New York.
- Gardner, A. (2004). *Agency Uncovered: Archaeological Perspectives on Social Agency, Power, and Being Human*, UCL Press, London.
- Gibson, W. (2003). *Pattern Recognition*, Penguin, London.
- Gladwin, W. and Gladwin, H.S. (1934). *A Method for Designation of Cultures and their Variations*, Medallion Papers 15, Globe.
- Graves-Brown, P., Jones, S. and Gamble, C. (1996). *Cultural identity and archaeology: the construction of European communities*, Routledge, London.
- Green, W. and Doershuk, J.F. (1998). Cultural Resource Management and American Archaeology. *Journal of Archaeological Research* 6 (2): 121–67.
- Habu, J. (2004). *Ancient Jomon of Japan*, Cambridge University Press, Cambridge.
- Hakenbeck, S.E. (2007). Situational ethnicity and nested identities: New approaches to an old problem. *Anglo-Saxon Studies in Archaeology and History* 14: 21–29.
- Harris, D.R. (1994). *The Archaeology of V. Gordon Childe: contemporary perspectives*, University of Chicago Press, Chicago.
- Hegmon, M. (1992). Archaeological Research on Style. *Annual Review of Anthropology* 21: 517–536.

- Hodder, I. (1978a). Spatial correlations between material culture and society: a review. In I. Hodder (ed.) *The Spatial Organisation of Culture*, Duckworth, London, pp. 3–24.
- Hodder, I. (1978b). The spatial structure of material ‘cultures’: a review of some of the evidence. In I. Hodder (ed.) *The Spatial Organisation of Culture*, Duckworth, London, pp. 93–111.
- Hodder, I. (1982). Symbols in action. *Ethnoarchaeological Studies of Material Culture*, Cambridge University Press, Cambridge.
- Hodder, I. (1990). *The Domestication of Europe*, Blackwell, Oxford.
- Hodder, I. (ed.) (1991). *Archaeological theory in Europe: the last three decades*, Routledge, London.
- Hodder, I. (2001). *Archaeological Theory Today*, Polity Press, London.
- Hodder, I. and Hutson, S. (2003). *Reading the past: current approaches to interpretation in archaeology*, Cambridge University Press, Cambridge.
- Hodder, I. and Orton, C. (1976). *Spatial analysis in archaeology*, Cambridge University Press, Cambridge.
- Hudson, M.J. (2006). Pots not People. *Critique of Anthropology* 26 (4): 411–434.
- Ingold, T. (1994). Preface. In T. Ingold (ed.) *Companion encyclopaedia of anthropology: humanity, culture and social life*, xiii–xxii, Routledge, London.
- Insoll, T. (2007). *The Archaeology of Identities: a reader*, Routledge, London.
- Izzet, V. (2007). *The Archaeology of Etruscan society*, Cambridge University Press, Cambridge.
- Johnson, M. (1999). *Archaeological Theory: an introduction*, WileyBlackwell, Oxford.
- Jones, S. (1997). *The Archaeology of Ethnicity: Constructing Identities in the Past and Present*, Routledge, London.
- Kane, S. (ed.) (2003). *The Politics of Archaeology and Identity in a Global Context*, Archaeological Institute of America, Boston.
- Kidder, A. (1924). *An Introduction to the Study of Southwestern Archaeology, with a Preliminary Account of the Excavations at Pecos*, Yale University Press, New Haven.
- King, R. and Underhill, P.A. (2002). Congruent distribution of Neolithic painted pottery and ceramic figurines with Y-chromosome lineages. *Antiquity* 76: 707–14.
- Klejn, L. (1982). *Archaeological Typology*, British Archaeological Reports 153, Oxford.
- Kluckhohn, C. (1936). Some reflections on the method and theory of the Kulturkreislehre. *American Anthropologist* 38(2): 157–196.
- Kohl, P.L. (1978). The balance of trade in Southwestern Asia during the mid-third millennium BC. *Current Anthropology* 19: 463–92.
- Kohl, P.L. (1989). The Use and Abuse of World Systems Theory: The Case of the ‘Pristine’ West Asian State. In C.C. Lamberg-Karlovsky (ed.) *Archaeological Thought in America*, Cambridge University Press, Cambridge, pp. 218–240.
- Kohl, P.L. (1993). Nationalism, politics and the practice of archaeology in Soviet Transcaucasia. *Journal of European Archaeology* 1 (2): 181–90.
- Kohl, P.L. (2007). *The Making of Bronze Age Eurasia*, Cambridge University Press, Cambridge.
- Kohl, P.L. (2008). Shared social fields: evolutionary convergence in prehistory and contemporary practice. *American Anthropologist* 110 (4): 495–506.
- Kohl, P.L. and Fawcett, C. (eds.) (1995). *Nationalism, Politics, and the Practice of Archaeology*, Cambridge University Press, Cambridge.
- Kohl, P.L. and Pérez Gollan, J.A. (2002). Religion, politics and prehistory: reassessing the lingering legacy of Oswald Menghin. *Current Anthropology* 43 (4): 561–586.
- Kohler, T.A. and van der Leeuw, S.E. (eds.) (2007). *The Model-Based Archaeology of Socio-natural Systems*, SAR Press, Santa Fe.
- Koryakova, L. (2002). Present day Russian archaeology and the outside world. In Biehl, P.F., Gramsch, A. and Marciniak, A. (eds.) *Archäologien Europas. Geschichte, Methoden und Theorien*, Waxmann, Münster, pp. 239–254.
- Koryakova, L.N. and Epimakhov, A.V. (2007). *The Urals and Western Siberia in the Bronze and Iron Ages*, Cambridge University Press, Cambridge.
- Kossinna, G. (1911). *Die Herkunft der Germanen. Zur Methode der Siedlungsarchäologie*, Kabitzsch, Würzburg.

- Kossinna, G. (1926). *Ursprung und Verbreitung der Germanen in vor- und frühgeschichtlicher Zeit*, Kabitzsch, Würzburg.
- Kristiansen, K. (2008). Does the 'archaeology of Europe' exist? *Archaeological Dialogues* 15 (1): 5–24.
- Kristiansen, K. and Larsson, T.L. (2005). *The Rise of Bronze Age Society: travels, transmissions and transformations*, Cambridge University Press, Cambridge.
- Kroeber, A.L. (1923). *Anthropology*, Harcourt, Brace New York.
- Kroeber, A.L. (1935). Preface. *University of California Publications in American Archaeology and Ethnology* 37: 1–11.
- Kroeber, A.L. (1940). Stimulus diffusion. *American Anthropologist* 42: 1–20.
- Lightfoot, E. (ed.) (2008). Movement, Mobility and Migration. *Archaeological Review from Cambridge* 23 (2).
- Liu, L. (2005). *The Chinese Neolithic: Trajectories to Early States*, Cambridge University Press, Cambridge.
- Lyman, R.L., O'Brien, M.J. and Dunnell, R.C. (1997). *The Rise and Fall of Culture History*, Springer, New York.
- MacEachern, S. (2000). Genes, Tribes and African History. *Current Anthropology* 41(3): 357–384.
- McKern, W.C. (1939). The Midwestern Taxonomic Method as an aid to archaeological culture study. *American Antiquity* 4: 301–13.
- Meskill, L. (1998). *Archaeology under Fire: Nationalism, Politics and Heritage in the Eastern Mediterranean and Middle East*, Routledge, London.
- Meskill, L. and Preucel, R.W. (eds.) (2006). *A Companion to Social Archaeology*, WileyBlackwell, Oxford.
- Mesoudi, A. and M. J. O'Brien (2008a). The cultural transmission of Great Basin projectile point technology I: an experimental simulation. *American Antiquity* 73: 3–28.
- Mesoudi, A., and M. J. O'Brien (2008b). The cultural transmission of Great Basin projectile-point technology II: an agent-based computer simulation. *American Antiquity* 73: 627–644.
- Moscatti, S. (1991). *The Celts*, Bompiani, Milan.
- Murray, T. (ed.) (2001). *The Encyclopedia of Archaeology: History and Discoveries*, ABC/CLIO, Santa Barbara.
- Neustupný, E. (1982). Prehistoric migrations by infiltration. *Archeologické Rozhledy* 34: 278–93.
- O'Brien, M.J. (2008). *Cultural Transmission and Archaeology*, Society for American Archaeology Press, Washington D.C.
- O'Brien, M.J. and Lyman, R.L. (2009). Darwin and Historical Archaeology. In D. Gaimster and T. Majewski (eds). *International Handbook of Historical Archaeology*, Springer, New York, pp. 227–52.
- O'Brien, M.J. and Shennan, S.J. (eds.) (2009). *Innovation in Cultural Systems Contributions from Evolutionary Anthropology*. MIT Press, Cambridge, MA.
- Oppenheimer, S. 2006. *The Origins of the British*, Robinson, London.
- Orser, C.E. (2003). *Race and Practice in Archaeological Interpretation*, University of Pennsylvania Press, Philadelphia.
- Osborne, R. (ed.) (2008). Tradition. *World Archaeology* 40 (3).
- Phillips, P. and G. R. Willey. (1953). Method and theory in American archaeology: An operational basis for culture-historical integration. *American Anthropologist* 55(5): 615–633.
- Piggott, S. (1965). *Ancient Europe from the beginnings of agriculture to classical antiquity*, Edinburgh University Press, Edinburgh.
- Plog, S. (1983). Analysis of style of artefacts. *Annual Review of Anthropology* 12: 125–142.
- Pluciennik, M. (1999). Archaeological narratives and other ways of telling. *Current Anthropology* 40: 653–678.
- Politis, G. (2003). The theoretical landscape and the methodological developments of archaeology in Latin American, *American Antiquity* 68 (2): 247–272.
- Poutignat, P. and Streiff-Fenart, J. (1999). *Théories de l'ethnicité*, Presses Universitaires de France, Paris.
- Preucel, R.W. and Hodder, I. (1996). *Contemporary Archaeology in Theory: a reader*, Wiley, London.

- Renfrew, A.C. (1973). *Before Civilization: The Radiocarbon Revolution and Prehistoric Europe*, Pelican, London.
- Renfrew, A.C. (1977). Space, Time and Polity. In M.J. Rowlands and J. Friedman (eds.) *The Evolution of Social Systems*, Duckworth, London, pp. 89–114.
- Renfrew, A.C. (1987). *Archaeology and Language: The Puzzle of Indo-European Origins*, Pimlico, London.
- Renfrew, A.C. and Bahn, P. (2008). *Archaeology: Theories, Method and Practice*, 5th edition, Thames and Hudson, London.
- Renfrew, A.C. and Cherry, J.F. (1986). *Peer polity interaction and socio-political change*, Cambridge University Press, Cambridge.
- Richards, M. (2003). The Neolithic invasion of Europe. *Annual Review of Anthropology* 32: 135–62.
- Rouse, I.B. (1986). *Migrations in Prehistory*, Yale University Press, New Haven.
- Sackett, J.R. (1982). Approaches to Style in Lithic Archaeology. *Journal of Anthropological Archaeology* 1: 59–112.
- Sackett, J.R. (1985). Style and Ethnicity in the Kalahari: A Reply to Wiessner. *American Antiquity* 50: 154–9.
- Schiffer, M.B. (1976). *Behavioural Archaeology*, Academic Press, New York.
- Schiffer, M.B. and Skibo, J.M. (1997). The Explanation of Artifact Variability. *American Antiquity* 62: 27–50.
- Sergent, B. (1995). *Les Indo-Européens. Histoire, langues, mythes*, Payot, Paris.
- Shennan, S. (1989a). Introduction. In S. Shennan (ed.) *Archaeological Approaches to Cultural Identity*, Unwin-Hyman, London, pp. 1–32.
- Shennan, S. (1989b). Cultural transmission and culture change. In van der Leeuw, S.E. and Torrence, R. (eds.), *What's new? A closer look at the process of innovation*, One World Archaeology 14, Unwin Hyman, London, pp. 330–346.
- Shennan, S. (2000). Population, Culture History and the Dynamics of Culture Change. *Current Anthropology* 41: 811–835.
- Shennan, S.J. and Wilkinson, J.R. (2001). Ceramic style change and neutral evolution: A case study from Neolithic Europe. *American Antiquity* 66 (4): 577–593.
- Sherratt, A.G. (1993). What would a Bronze Age world system look like? Relations between temperate Europe and the Mediterranean in later prehistory. *Journal of European Archaeology* 1 (2): 1–57.
- Stark, M.T. (1998). Introduction. In M.T. Stark (ed.) *The Archaeology of Social Boundaries*, Smithsonian Institution Press, Washington, pp. 1–11.
- Stark, M.T., Horne, L. and Bowser, B.J. (eds.) (2008). *Cultural Transmission and Material Culture: Breaking Down Boundaries*, University of Arizona Press, Tucson.
- Taylor, W. (1948). *A Study of Archaeology*, Southern Illinois University Press, Carbondale.
- Thornton, C. P. and Schurr, T.G. (2004a). Genes, Language, and Culture: An Example from the Tarim Basin. *Oxford Journal of Archaeology* 23(1): 83–106.
- Thornton, C.P. and Schurr, T.G. (2004b). Prehistoric 'Europeans' in Xinjiang?: A case for multiple interpretations. In H. Bolin (ed.) *The Interplay of Past and Present*, Södertörn Archaeological Studies 1, Stockholm, pp. 85–98.
- Trigger, B. (1990). The history of African archaeology in world perspective. In P. Robertshaw, (ed.), *A History of African Archaeology*, James Currey, London, pp. 309–319.
- Trigger, B. (2006). *A History of Archaeological Thought*. 2nd edition, Cambridge University Press, Cambridge.
- Tsude, H. (1995). Archaeological theory in Japan. In Ucko, P.J. (ed.) *Theory in Archaeology: A World Perspective*, Routledge, London, pp. 298–311.
- Ucko, P. (ed.) (1995). *Theory in Archaeology: A World Perspective*, Routledge, London.
- Van Pool, T.L. and Van Pool, C.S. (2003). *Essential Tensions in Archaeological Method and Theory*, University of Utah Press, Salt Lake City.
- Van Pool, C.S. (2008). Agents and Cultural Transmission. In M.J. O'Brien (ed.) *Cultural Transmission and Archaeology: Some Fundamental Issues*, Society for American Archaeology, Washington, D.C., pp. 189–199.

- Veit, U. (1989). Ethnic Concepts in German Prehistory: A Case Study on the Relationship between Cultural Identity and Archaeological Objectivity. In S. Shennan (ed.), *Archaeological Approaches to Cultural Identity*, Unwin-Hyman, London, pp. 35–56.
- Wang, T. (1997). Su Bingqi and contemporary Chinese archaeology, with an annotated translation of Su's paper "Hua people - descendants of the dragon - Chinese: an archaeological seeking for roots". *Antiquity* 71: 31–9.
- Wheatley, D. and Gillings, M. (2002). *Spatial technology and archaeology: the archaeological applications of GIS*, Taylor and Francis, London.
- Whittle, A. (1996). *Europe in the Neolithic: the Creation of New Worlds*, Cambridge University Press, Cambridge.
- Wiessner, P. (1983). Style and social information in Kalahari San projectile points. *American Antiquity* 48: 253–276.
- Wiessner, P. (1984). Reconsidering the behavioural basis for style: a case study among the Kalahari San. *Journal of Anthropological Archaeology* 3: 190–234.
- Wiessner, P. (1985). Style or isochrestic variation? A reply to Sackett. *American Antiquity* 50 (1): 160–66.
- Wiessner, P. (1990). Is there unity to style? In M. Conkey and C. Hastorf (eds.) *The Uses of Style in Archaeology*, Cambridge University Press, Cambridge, 105–112.
- Willey, G.R. and Phillips, P. (1958). *Method and theory in American archaeology*, University of Chicago Press, Chicago.
- Wolf, E.R. (1984). Culture: Panacea or Problem? *American Antiquity* 49 (2): 393–400.
- Wolf, E.R. (1994). Perilous Ideas: Race, Culture and People. *Current Anthropology*, 35(1): 1–12.
- Wright, R. (2002). Revisiting Interaction Spheres: Social Boundaries and Technologies on Inner and Outermost Frontiers. *Iranica Antiqua* 37: 403–417.
- Wyszomirska-Werbart, B. and Barford, P. (eds.) (1996). The concept of archaeological cultures. *Archaeologia Polona* 34.