
1. Introduction: Culture, Chronology and the Chalcolithic

Yorke M. Rowan and Jaimie L. Lovell

... an archaeological culture is an arbitrary division of the space-time-cultural continuum defined by reference to its imperishable content and whatever of 'common social tradition' can be inferred therefrom. (Phillips and Willey 1953, 617)

Introduction

The Near East constitutes a core region for understanding fundamental changes in human existence such as the domestication of plants and animals, the formation of hierarchical social organization and the rise of urbanism and city states. The long history of archaeological research in the region has been both enriched and coloured by these research interests. Those working in later prehistoric periods, which appear to bridge deep prehistory and 'history', often find themselves operating with perspectives vastly different from one another. Scholars of all periods will recognize parallel issues in their own fields of research. This volume challenges entrenched models and hopes to highlight new directions for research.

One of the greatest frustrations with Near Eastern archaeology is the plethora of chronological divisions and sometimes contradictory terminology developed over the course of two centuries of exploration and engagement. These form roadblocks to discussions of people and their lives in the past. We want to understand and describe more about people than the wiggly lines on their pots, but somehow existing paradigms have roped us into the accepted order of progressive changes in material culture. In the southern Levant (Israel, Palestine and Jordan) the Chalcolithic period (4700/4500–3700/3600 cal BC) is a particularly good example of this because it falls between two major traditions in scholarship: the archaeology of the biblical world and the fundamental prehistoric shifts in human adaption. To some, the Chalcolithic, as the first period with metallurgy, large sprawling villages, rich mortuary offerings and cult centres, represents a

developmental stage on the road to the urban Bronze Age, the 'dawn of history' (Bar-Adon 1980, preface). Others have called it 'the end of prehistory' (Joffe *et al.* 2001). More recent scholarship has focused upon the diversification of economy, elaborated craft production and expanded networks for resource acquisition. For general syntheses of the Chalcolithic see Levy (1998, for Israel), Bourke (2001, for Jordan) and Rowan and Golden (2009).

The Chalcolithic period encompasses some of the most remarkable and visually striking discoveries made to date in the region – the Nahal Mishmar hoard, the Nahal Qanah gold rings, Peqi'in cave, the Teleilat Ghassul wall paintings – partially animating this last period of prehistory and leaving one with the sense that the ancient inhabitants themselves are within reach. But this in itself does not explain the continual search for discrete prehistoric cultural groups in the record. Explicit engagement with and critique of culture history has been a long time coming in the scholarship of the southern Levant (but see Sharon 2001; Whiting 2007 for studies of the Iron Age, where ethnicity and culture are perhaps more obviously pressing concerns); there is still a vast swathe of research in the region that completely ignores these issues and considers theory to be irrelevant. One has the impression that the political realities of the region (including a predilection for biblical archaeology) have left a large proportion of archaeologists in the region, including prehistorians, lost without a map. Today's Chalcolithic specialists were in many cases taught by biblical archaeologists such that the culture history paradigm remains deeply embedded. Students and scholars of the Chalcolithic will therefore

find this volume a useful guide to the ugly academic facts behind the more synthetic representations of the late prehistoric Levant.

The advent of radiocarbon dating promised resolution of many chronological problems (Willey and Phillips 1958, 46). Even the wealth of assays generated in the heady days of the 1980s and 1990s, however, have not brought about consensus. At the beginning of the 21st century differences of opinion concerning southern Levantine prehistory lie just as often with divergent perspectives as with disparate datasets. It is clear, in trying to unravel the origins of these conflicting viewpoints, that many scholars view cultural interactions in late prehistory from distinct and different theoretical perspectives.

Despite intensive research and excavation of the Chalcolithic (Figure 1.1), its internal sequencing, particularly the initial and final phases, remains contentious. In archaeology ‘transitions’ between periods are often quite arbitrary divisions between implicitly defined sets of material culture which shift up and down absolute radiocarbon scales as an increasing number of samples are submitted to labs across the globe. However, just as scholars are prisoners of their conceptual frameworks, outmoded datasets still hold sway, preserving models which are often reliant upon fairly gross fluctuations in type fossils, in turn generated by the same ‘legacy data’. It seems to be extremely difficult for archaeologists to disengage from templates that derive from old excavations.

In the southern Levant this problem is perhaps more acute because of the intensity of archaeological investigations since the 18th century. Many of those excavations were conducted for reasons that would be judged as outmoded and even unethical in today’s scientific and research-focused environment, but they nonetheless generated data that continue to shape and colour current archaeological frames of reference. The few Chalcolithic assemblages that exist from tell sites unfortunately often derive from an early period of archaeological field research, when methods were coarse and horizontal exposure of basal [prehistoric] layers was minimal. Other sequences come from short-lived single-period sites with few radiocarbon dates. The combined effect is one of a poor understanding of regional and site-based data which has led to scholarly debate on the precise ordering of and relationships between these assemblages. More recent excavation has improved our resolution, but the sequencing of the Early Chalcolithic remains deeply problematic. For summaries of the Late Neolithic see Gopher (1998, for Israel) and Rollefson (2001, for Jordan).

To some the Late Chalcolithic appears to end abruptly. Considerable scholarship has been expended on identifying the elusive ‘missing link’ between a potential terminal Chalcolithic phase and the first period of the Early Bronze Age. Since this lacuna was first widely discussed (Braun 1989; 2000; Hanbury-Tenison 1986) there have been advances, but the rarity of transitional sites demonstrates that the problem is not just a conceptual one.

Culture as an archaeological and anthropological construct

Culture is a primary concept for this volume because almost all scholars use the term, although sometimes in highly variable ways. The reason that this concept is of such relevance to the papers contained herein is that they deal with periods for which there are no written records, and for which anthropology and ethnography are powerful disciplinary and explanatory platforms. The place of culture within anthropological scholarship has shifted and evolved (Kuper 1999), and became the central concern of American anthropologists only in the 1940s (Kroeber and Kluckhohn 1952). Just as there are a multitude of definitions and uses of the term ‘culture’ within anthropological literature (for a recent review see Brumann 2002), there are also a number of ways in which the term is pressed into service by archaeologists (Parkinson 2006), who seem to see it as an expedient abstraction. Meanwhile, anthropology is grappling with the very real possibility of discarding the culture concept altogether, such that hard questions are being asked: ‘Is anthropology sustainable without it – or, for that matter, would anthropology have been better all along without it?’ (Fox 1999). Archaeologists may not readily recognize the relevance of such statements to their own discipline, but if some anthropologists doubt the utility of the concept, then the ontological basis for much of archaeological description rests on some potential minefields:

... the more one considers the best modern work on culture by anthropologists, the more advisable it must appear to avoid the hyper-referential word altogether, and to talk more precisely of knowledge, or belief, or art, or technology, or tradition, or even ideology (though similar problems are raised by that multivalent concept). There are fundamental epistemological problems, and these cannot be solved by tiptoeing around the notion of culture, or by refining definitions. The difficulties become most acute when (after all the protestations to the contrary have been made) culture shifts from something to be described, interpreted, and even perhaps explained, and is treated as a source of explanation in itself. (Kuper 1999, x–xi)

Ultimately archaeologists may define the term culture to serve their own analytical and narrative purposes, but if we do not push towards consensus then we will be talking past one another. If archaeologists employ the concept differently from anthropologists, how might this bear upon different perspectives and reconstructions of the past? Despite denials and qualifications, researchers often employ an implicit equation of material culture and cultural complexes (pots = people), although numerous cautionary tales (*e.g.*, Hodder 1978; 1982; Moore and Romney 1994) demonstrate that archaeologists are generally aware that a 1:1 correspondence between material culture and self-identified ethnic groups is rare in the present or ethnographic past (Renfrew 1987; Shennan 1989; 1991; Ucko 1969). Cultural anthropologists also maintain that the relationships between cultural practices, material culture



Figure 1.1 Map of all sites relevant to all chapters

and language are neither direct nor simple. Studies indicate that geographic propinquity often plays a fundamental role in village assemblages of material culture (Gosselain 2000; Welsch *et al.* 1992), sometimes with little correlation to language (*cf.* Moore and Romney 1994).

Indeed, culture may be the single most criticized concept within contemporary archaeology (Miller 2005, 8) and archaeologists of various theoretical stripes express doubts that cultures constitute useful units of study (Hodder 1982; Renfrew 1978; Shennan 1978; Trigger 1968; 2003). However, the widespread faith that ‘complexes’, ‘cultures’ or ‘phases’ accurately represent ancient entities belies a continued empirical belief in a ‘true’ classification. Debates concerning classification (or ‘taxonomy’, to some) have occupied archaeological discussions for decades and sometimes appear to be intractable problems. In effect, classification is devised according to analytical goals and is only as good as its ability to meet those objectives (Adams and Adams 1991, 4–5) – and it remains an artificial construct, a tool, not an ‘objective’ reflection of reality (see discussions of empirical versus cultural types in Phillips *et al.* 1951).

Culture: materialization and identification

The fact that culture is so often defined by ceramic groupings which are divorced from their rich material-culture context is a difficult problem to overcome given the strength of archaeology’s relationship with the sherd. One could argue that the emphasis on ceramic studies is partly due to the fact that ‘ceramic production is an additive process, a pot embodies many of the choices made in the production sequence’ (Chilton 1999, 2), choices that are ‘elected in a rich context of tradition, value, alternatives, and compromises’ (Rice 1996, 140). Nevertheless, all too frequently in our region ceramics are viewed as the best indicators for ancient groups, via more superficial studies of vessel morphology, shape and decoration, the latter serving as a source of ‘social information’. Ethnoarchaeological research indicates that pots and their decoration *may* express cosmological or religious ideas and thus contain connections between style and cultural perceptions (David *et al.* 1988). When studying ancient groupings archaeologists often preference decorative techniques on ceramics because they are thought to be temporally sensitive and also to form straightforward subjects for quantitative studies. However, superficial and easily imitated decorative techniques may spread quickly regardless of culture, ethnicity or language. Such techniques are highly receptive to borrowing and, as a consequence, fluctuate through time and space, reflecting the more situational and temporary aspects of identity (Gosselain 2000, 209). This predilection for studies of decoration is not confined to culture historians (Chilton 1999, 45), but is, at least implicitly, shared by processual archaeologists as well (*e.g.*, Binford 1965, 208). As a result, at times archaeologists consider stylistic boundaries the equivalent of ethnic boundaries (Stark 1999, 25–6).

By contrast, ‘roughing out’ (Courty and Roux 1995) or ‘fashioning techniques’ (Gosselain 2000) are arguably more resistant to change because they depend upon motor habits acquired through repeated practice. These techniques are deeply ingrained early on, and therefore do not change with the same ease as decorative schemes. Gosselain (2000) argues that some manufacturing techniques, such as coiling, correspond to social boundaries defined by cultural closeness and affiliation that supersede geographical proximity. The nature of stylistic variation and its relationship to social boundaries is complex and therefore long debated (Conkey 1990; Sackett 1977; 1982; 1985; 1986; 1991; Wiessner 1983; 1984; 1985; Wobst 1977; 1999). Arguments have particularly concentrated on the merits of grouping variables versus objects (Cowgill 1982; Doran and Hodson 1975; Hodson 1982). The proliferation of such studies suggests that much of archaeological intuition concerning style is wrongheaded (Wobst 1999, 119). Thus ethnoarchaeological studies have moved the discussion beyond cautionary tales and highlighted the fact that the dichotomies between style and function are blurred and, in fact, style and function are intertwined (Stark 1999, 42).

Approaching the Chalcolithic data

Intractable problems are not new to archaeology. Conflicts between anthropological and culture historical approaches confront archaeologists in many regions. Prehistoric archaeology is also not immune, and is perhaps more insidiously affected. This is an old argument that will be all too familiar to anthropologists. However, archaeologists working in the southern Levant have been slower than their European or North American counterparts to grapple with the problematic, intertwined aspects of cultural change, chronology and geographic variability and have commonly generated a series of conflicting models without explicit reference to theory. Instead, scholarly discussion has often prioritized the definition and redefinition of ‘archaeological cultures’, and matters of chronology and terminology.

This edited volume grew out of a similarly titled workshop held at 5ICAANE in Madrid (2006). We realized that it would be fruitless to expect a single workshop to resolve complex chronological issues, so our goal with this volume was to invert the problem by encouraging researchers to engage with their underlying conceptual assumptions. In thinking about how different material culture related in time and space across the landscape, scholars need to be clear about how they envisage material culture operating, and how it is described in their analyses and reports.

We see this volume as an opportunity to ask key scholars to engage with their material while explaining their data in terms of broader and more current theoretical and pragmatic concerns. This is a particularly timely challenge, as previous researchers have been reflexive about the difficulties faced in setting up frames of reference

(e.g., Gopher and Gophna 1993, 303, 339). There has been, however, a general lack of engagement with some theoretical concepts. Terminology is often at the heart of disagreements, yet different terminology may belie vast gulfs between theoretical perspectives and classification schemes. In addition, we each approach the problem, seated like yogis, on different datasets, making discussions of apples and apples quite unachievable.

In the workshop we asked participants to explore archaeological ‘culture’ in the light of their data, and challenged them to consider how their concept of archaeological culture is situated within archaeological theory. Each scholar had a different emphasis, and we do not seek to iron out the differences here, but rather to expose and explore the various different ways of approaching data and interpretation. This also allows us to elucidate important divergences which fuel deep disagreements about datasets.

At times traditions of scholarship are divorced from theoretical debate, and it is uncommon for individual scholars to acknowledge their own theoretical background. Because theoretical discourse is undervalued, incorporation of theoretical concerns from the global discourse is minimized. Furthermore, this lack of theoretical engagement has produced an almost active pride of place for the status quo. In contrast to Euro-western traditions, it is rare to find a post-processualist in the southern Levant; and true processualists are by no means the majority. Instead, the majority are culture historians operationalizing their archaeology (purportedly) through an atheoretical lens.

Dominant paradigms

Acceptable field work can perhaps be done in a theoretical vacuum, but integration and interpretation without theory are inconceivable. (Willey and Phillips 1958, 1)

Culture history formed the dominant paradigm for archaeological analyses throughout much of the world during the 20th century. The culture concept, initiated in part to describe spatial variation, was particularly strong in North American anthropology and archaeology, inspired by Franz Boas as part of the rejection of unilinear evolution and the effort to trace historical movements of tribes (Jones 1996; Trigger 2003). In Europe an emphasis on identifying ethnic groups reflected growing nationalism and, in turn, a focus upon geographical and chronological variation of the archaeological data (Trigger 2003, 53). Yet perceptions of archaeological cultures soon diverged: Trigger (2003, 54) suggests that in North America regional cultural chronologies cross-cut geographical variation, whereas in Europe geographical variability of cultures supplemented developed cultural sequences. A series of regional cultural chronologies produced for North America remained dependent on stereotypes of Native Americans formulated in an earlier time that considered most change as the result of diffusion and migration. Such

explanations were ill-equipped to explain cultural change and development (Willey and Sabloff 1974, 133–4), and much of archaeology in North America concentrated on taxonomic debates with little connection to the people who produced the material culture.

Even with processual approaches, which eschewed the emphasis on descriptive historical reconstructions in favour of delineating law-like generalizations about processes, the importance of culture chronologies was maintained. The traditional culture unit survived among processual archaeologists as a necessary empirically descriptive convenience, without which social explanations and interpretation would not be possible (Renfrew 1972, 17; Jones 1996, 1998, 27–8). Dobres notes that our notions of seeing the archaeological record are taught skills and that the ‘culture history emphasis on building up regional-scale spatio-temporal frameworks from site specific findings’ characterizes much of archaeology today, where the goal is ‘identifying, describing, and tracking both regional and extra regional culture complexes through typological studies’ (Dobres 1999, 11–12).

One of the primary critiques of culture history is based upon how (and, often, whether) we are able to differentiate functional variations in archaeological assemblages from non-functional (ethnic, cultural) variation (Jones 1998, 107). Within processual approaches, only some facets of artefact variability are considered to be related to cultural or ethnic identity. Jones (1998, 111–12) notes that although studies of ethnicity were not typically the focus of processual studies, the distinction between style and function remained similar to that found in culture historical models.

Although ethnicity is a separate phenomenon that most contributors to this volume do not explicitly consider central to their case studies, the analytical units for examining such a concept are similar and present similar obstacles and challenges of interpretation to the archaeologists. Just as processual archaeologists were reacting against the standard assumption among traditional culture history proponents that material culture reflected social norms and could be equated with ethnic groups, so post-processualists objected to the processualist interpretations that emphasized the functional role of culture as an adaptive mechanism (Hodder 1982, 4–5). Rejection of the neo-evolutionary models and environmental determinism that were so fundamental to the formation and growth of New Archaeology did not necessarily lead to a cohesive new paradigm or unified theory (for critiques of processual archaeology see Trigger 1989, 294–328; Willey and Sabloff 1993, 214–311). In fact, post-processualists include those who question the modern socio-political construction of ethnic and national identity (Trigger 1984), thereby challenging the empirical basis of interpretations regarding ethnicity, cultures and identity formation.

Even where identifying ethnicity is not the express goal, many an archaeologist is satisfied with referencing Clarke’s definition and relying on the vague distinction of an archaeological culture rather than culture *per se*.

Culture: Specific cultural assemblage; an archaeological culture is a polythetic set of specific and comprehensive artifact-type categories which consistently recur together in assemblages within a limited geographical area.

Entity: An integrated ensemble of attributes forming a complex but coherent and unitary whole at a specific level of complexity. A special class of system. (Clarke 1968, 666)

This seminal definition of archaeological cultures is frequently cited by archaeologists, as noted above (although Phillips and Willey (1953, 617) had defined archaeological culture in a similar fashion), but Clarke too argued that culture-history frames of reference are inadequate because of the need to understand the functional elements of archaeological assemblages; archaeological distributions, he argued, cannot be easily equated to ethnic groups because functional variations might be misunderstood as ethnic differences (Jones 1998, 107). Clarke also decried the misuse of the archaeological culture concept based on, for example, ‘So-called cultures composed almost entirely from single aspects of material culture’ (Clarke 1968, 232).

Gopher and Gophna (1993) approach the Neolithic–Chalcolithic transition by borrowing Clarke’s view of an archaeological culture ‘based on the assumption that repetitiveness and similarities of assemblages largely represent group identity and that we are dealing with social units’ (Gopher and Gophna 1993, 340). Their seriation study led them to propose a chrono-cultural framework built on a variety of ‘local adaptations’ (Gopher and Gophna 1993, fig. 17) (despite the concept of adaptation, this still sits within a culture-historical framework). In building a culture-historical framework for the Beer Sheva basin, Gilead also references Clarke’s definition of archaeological cultures (Gilead 1990). Despite repeated reference to Clarke’s seminal work, however, southern Levantine scholarship remains firmly entrenched in the culture-historical mould. Right up to the present, the focus has been on refining regional chronological schemes without significant challenge to the culture-historical base (Garfinkel 1999).

The impact of the New Archaeology has been widely felt, and most archaeologists in the southern Levant have been quick to see the value of new scientific techniques. In particular, radiocarbon dates offered potential resolution to chronological sequencing – a particular concern for cultural historians. This has been particularly true in the case of the Late Neolithic–Chalcolithic transition, where radiocarbon dates promised further refinements (Blackham 2002; Joffe and Dessel 1995; Lovell 2001; Burton and Levy 2000). Even with improved and diverse datasets, there continues to be strong disagreement over chronological issues. Blackham’s statistical study was based upon a combination of legacy data and small-scale excavations (Blackham 2002); and, while Joffe and Dessel (1995) and Burton and Levy (2000) were widely discussed, they were ultimately unable to provide the necessary contextual linkages between different sequences. The revision of radiometric

data from better-stratified sequences has had wider impact, but arguments continue and real engagement with the new data is only just beginning (Banning 2002; Bourke and Lovell 2004; Banning 2007; Lovell *et al.* 2007).

Tom Levy exploded the anthropological bomb on Chalcolithic archaeology. Drawing upon survey and excavations in the northern Negev in the 1980s, Levy developed a model of chiefdoms which challenged earlier conceptions of Chalcolithic life. Through a series of articles (Levy 1983; 1992) he posits that hierarchically arranged, ranked societies (chiefdoms) were first organized in response to the need for risk management of increasingly scarce resources, particularly with regard to the conflicting needs of specialized transhumant pastoralists and settled agriculturalists. Like many processualist models, Levy’s emphasized the adaptive role of culture in response to environmental conditions, and focused on functional and evolutionary interests rather than building chronological sequences. This shift in interests resulted in conflict between cultural historians and processualists that mirrors similar conflict elsewhere (*e.g.*, Dobres 1999 on the Magdalenian).

Strangely, Levy’s processualist challenge does not seem to have encouraged others. Many have taken up the chiefdom model, but those that do subscribe to it largely on the basis of impressive objects rather than demonstrable broader patterns of socio-economic relationships (Gal *et al.* 1999, 14*; Gopher and Tsuk 1996, 234).

Just as processual archaeology had minimal impact on late prehistoric archaeology in the southern Levant, post-processualism has also failed to take hold in Chalcolithic discourse. Kerner’s work on differential frequencies of ceramic decorative schemes fits more within the processual school than with any cognitive approach (Kerner 2001). Even discussions of symbolism have been firmly rooted in art-historical traditions (Elliott 1978; Epstein 1978; Fox 1995; Merhav 1993). The constant cycling back through the culture-historical foundation no doubt reflects important discrepancies in datasets, but it also results in stasis – where the same arguments are constantly recycled. In order to avoid this we wanted participants in this volume to engage more directly with their theoretical base while presenting their data. We felt this was more likely to encourage fresh approaches.

Current context: political confines and professional constraints

The impact of the current political situation on archaeology in the southern Levant deserves some further comment. The political and economic fractures through the region inhibit (if not totally prevent) regular and free contact across the region – especially between local archaeologists. Given the continuing tragic situation in the occupied Palestinian territories it is extraordinary that any new archaeology has been carried out at all. Certainly, renewed foreign excavations in Gaza have been very much curtailed in the

last few years (for the most recent excavations, see Humbert 2000; de Miroschedji and Sadeq 2001; Steel *et al.* 2004). While there has been more research in the Palestinian Autonomous (PA) areas (*e.g.*, Nigro and Marchetti 1998) there have been few legal excavations, so in this respect we are pleased that this volume includes a contribution from the Palestinian–Norwegian team recently working near Jericho in the PA (Anfinset *et al.*, this volume). Fresh contributions are emerging from a new generation of Palestinian scholars, but the political realities of the region mean that these scholars frequently receive training in foreign universities and consequently their datasets are sometimes limited to Jordan (Ali 2005; Hourani 2002; Sayej 2004).

Compounding the difficulties presented by different traditions, national approaches and political and economic realities, there is also a disparity between research-driven programmes and rescue excavations. Much current archaeology in the region is practised in the context of ‘rescue’ from development. In Israel and the occupied territories this is especially true and is reflected in a number of contributions to this volume (*e.g.*, Golani *et al.*, this volume). Basic procedural decisions regarding, for example, the processing of material and broad versus deep exposures in this context will be necessarily different to those taken by archaeologists operating in a research-driven project (*e.g.*, Banning *et al.*, this volume), although some of the same pressures can still exist. The fact that archaeologists working for government agencies manage to do any research at all is a minor miracle, but many of these excavations are the ones that will, in the end, contribute the most to our understanding of the basic character of the periods under consideration, and some will form the lynchpins of future work (van den Brink, this volume).

Contributions to this volume

Our backgrounds are influenced by different traditions, national perspectives and schools of archaeology. As editors neither of us view ourselves as one type of archaeologist or another (processualist or culture historian, for example). Perhaps in the sense that we are both open to a variety of theoretical perspectives, we might be considered post-processualist. We suspect that many of our contributors would feel a similar reluctance to be cast as one ‘type’ of archaeologist. Perhaps this reluctance reflects the general low level of theoretical engagement in the region for late prehistory.

It was for this reason that we see our role as provocateurs, to kick-start a dialogue about how to move beyond culture history and chronology in order to re-engage with larger theoretical discourses. Theory is not interesting simply for its own sake – there is a danger of continually adding new sites and assemblages to the culture-history list without engaging with the ancient social landscape, which is what gives our discipline relevance to the scientific community and indeed the general public. Culture history is fundamental to the

discipline, but in other parts of the world social processes are approached from more recent theoretical standpoints that possess greater explanatory potential. If we wish to avoid relegation to the position of stamp collectors of southern Levantine late prehistory, then demonstrating how and why ‘site X’ contributes to our knowledge of how people in the past interacted becomes critical.

Contributors to this volume all agree that culture history is the platform upon which current archaeological research is discussed, but differ in the degree of emphasis that they place on previously defined entities/phases/‘chrono-cultural’ blocs. Delineating levels of difference and similarity between temporal boundaries is critical in this process. Readers of this volume will detect contrasting approaches reflected in the structure of individual papers: some discuss their data in strictly sequential (vertical), chronological order, while others emphasize more horizontal, cultural entities supported by radiometric dates. At the transition between periods different, and sometimes conflicting, points are emphasized.

Differences in interpretation are not solely confined to cultural facies but also extend to the tin tacks of the data themselves. Analysing and understanding radiocarbon data has become more complicated rather than less, and it is clear that not all practitioners understand good practice to mean the same thing – some argue that one must average dates, others that it is sacrilege to do so. All participants of the workshop were asked to carefully consider and present their radiocarbon data and the context from which it came. Precise radiocarbon data is important because the Late Neolithic–Chalcolithic and the Chalcolithic–Early Bronze Age transitions are imprecisely dated and both are critical to the understanding of cultural and socio-economic change in late prehistory.

The most eloquent proponent of a continued culture history approach, Gilead, argues in Clarkeian terms in favour of cultural entities. He argues for retaining taxonomic definitions for regional and temporal groupings – *e.g.*, the Ghassulian, the Besorian and so on – on the basis that their use ‘simplifies complex archaeological expressions’ (p. 13). Further, he notes that using period definitions in preference to cultural entities can be equally problematic and reminds us that accurate dating of sites is a prerequisite for discussions of inter-site interaction.

Banning, Gibbs and Kadowaki argue for a gradual transition from the Late Neolithic to the Chalcolithic based upon detailed elaboration of stratified ceramic and lithic data from Tabaqat al-Bûma (Wadi Ziqlab). Their radiocarbon dates support continuity in ceramic and lithic traditions over the course of approximately 1400 years. In the context of the current debate on the Wadi Rabah horizon the paper offers a well-dated assemblage from the northern Jordan Valley which fleshes out our understanding of the geographic spread and temporal extent of a particular subset of material culture.

Today’s research-driven agenda is producing more and more data of higher and higher quality, and this

in turn drives newer questions. It is axiomatic that yesterday's datasets will not be sufficient for today's investigations and the contributions in this book highlight the difficulties involved with integrating legacy data and newly excavated sequences. Exemplifying this, Kafafi attempts to contextualize legacy data from Mellaart's excavations at Ghрубba with his more recently excavated sequences at Abu Thawwab and Abu Hamid.

Anfinset, Taha, al-Zawahra and Yasmine acknowledge that the culture concept has a long history in anthropology, but argue that archaeology has developed its own distinct definition. However, they point out that archaeologists' use of the concept remains static and unrelated to social processes. It is for this reason that they prefer the term 'society' over that of 'culture'. They contend that multiple scales of analysis will make social aspects more accessible.

Rosen's terminology (preferring the terms 'complexes' or 'units' to 'cultures') reflects his grounding in processual archaeology. He makes the point that, despite the considerable influence of post-processualism elsewhere, 'culture systematics' remain fundamentally important to the discipline. What is clear, when we are dealing with transitions, is that our understanding of how Timnian pastoralists in arid zones managed and responded to significant shifts in lifeways is dependent upon our understanding of how material culture and culture itself are interrelated and connected. Rosen accepts the environment as a major force for cultural difference but stresses that the maintenance of separate identities over the long term is culturally driven. To him the interplay between geography and culture is an issue that applies even where environmental contrasts are less striking.

New excavations often promise overhauls of ingrained constructs. This is particularly true of the extensive rescue excavations at Modi'in (central Israel), where there is a rare continuous stratigraphic sequence from the Late Chalcolithic to the Early Bronze Age. Van den Brink contextualizes this sequence and builds a picture of continuity that challenges arguments for a dramatic break in settlement at the end of the Chalcolithic.

Braun revisits his previous research on the 'missing link' (1989; 2000) in this volume. He too stresses continuity and seeks to redress an 'imbalance in comprehension of the archaeological record' (p. 160). With the additional data available to him today from the excavations in the Shephelah (e.g., Modi'in) and Ashkelon/Afridar he confidently closes the perceived gap between the Late Chalcolithic and the Early Bronze Age I (hereafter EB I). For Braun, the reason that a transitional phase is apparently not widespread is because scholars have not yet developed the tools and/or the assemblages to detect such rapid change.

Golani and Nagar explore the possibility that Chalcolithic traditions of burial continued into the Early Bronze Age. Their data comes from a cist grave cemetery west of the EB I site of Ashkelon Barnea. They argue that the presence of intramural child burials at the site of Ashkelon

Barnea itself is an indication of a Chalcolithic tradition carried through into the EB I. By contrast, the cemetery contained no child burials, but does have Chalcolithic building techniques, as seen at Palmahim. The authors acknowledge the problematic nature of their data, and one may dispute the dating of the various elements. Their reconstruction of the Chalcolithic–Early Bronze Age shift envisages archaeological artefacts as reflecting two or more *ethnic* groups.

New ways of working with material evidence following the French school and the *chaîne opératoire* approach are featured here by Roux, Courty, Dollfus and Lovell. They find that social groups may be better identified via differential techniques of manufacture. Skills required to maintain a traditional practice are less resistant to change and act as 'fixers' of culture. Such a study shows the efficacy of combining technological techniques with more traditional typological approaches. In the final analysis, local studies of fashioning techniques provide broader relevance when they are integrated with statistical data based on multiple assemblages.

Shugar and Gohm also combine techniques from material sciences with seriated radiometric assays to investigate the dating of metallurgical techniques. By moving metallurgical studies beyond issues of specialization and exchange, they challenge the intuitive notion that the use of native copper preceded that of complex metals. As copper is the defining material for the period, understanding the development of its technology is particularly pertinent to reconstructing cultural change.

This theme is also picked up by Milevski, Fabian and Marder, who make the case for greater flexibility in temporal frames applied to type fossils. They illustrate the difficulty of disengaging sequences, local or regional, from the hegemony of the type fossil. They treat Canaanite technology as a mode of production, the nascent phase of which probably pre-dates the Early Bronze Age.

Several contributors in this volume see the Chalcolithic and the EB I as temporally overlapping. Yet radiocarbon data does not support this argument. Burton and Levy note that rigid conceptualization of chrono-cultural entities serves to solidify our own taxonomic frameworks of spatial and temporal boundaries, thereby undermining our reconstruction of socio-economic changes. Instead, they propose methodical examination of the degree of connectedness between Chalcolithic and EB I sites and regions in order to better understand periods of transition. Their innovative paper illustrates that the necessary challenge to culture-history approaches proves most effective when analysis is data driven.

Concluding remarks

The strength of this volume lies in its recognition that the 'data ladder', constructed by generations of culture historians, continues to form the core that all scholars in the region work with. The two themes of this volume

– culture and chronology – combine the need for theoretical engagement with the establishment of broader and more precise empirical data using explicit classificatory schemes. These might appear to be contradictory aims, but this is, essentially, the rock and the hard place where much archaeological debate is centred and as such the volume will have resonance for scholars of other periods and regions.

There is, of course, more than one way to do archaeology in the 21st century. With that in mind, and with an awareness that there continues to be disagreement among our colleagues and friends on how to resolve conflicting models for understanding the 5th to 4th millennia BC in the southern Levant, this volume cannot insist upon a single programmatic statement. Rather, there is a need for reflexive culture history (as a platform for more diverse and multi-faceted theoretical approaches), if only because so much field archaeology in the region is data driven and descriptive, rather than connected to the problematization of broader social issues. With this in mind, we asked Graham Philip to offer some thoughts on the issues and approaches raised by the contributions here and how we might consider new directions in research in late prehistoric archaeology in the region.

This volume does not seek to cover all of the issues pertinent to current research in the Chalcolithic. Instead, it is our abiding interest to push research forward in a more theoretically reflexive way. Transitions are difficult. They require energy and new perspectives. Chalcolithic archaeology is in a good position – there is a wealth of securely dated, well-excavated material – but significant and meaningful progress will only result if practitioners are willing to rework and reframe their data. We trust that readers will find within this volume the basis for new directions in research.

Acknowledgements

We would also like to thank Ian Kuijt and an anonymous reviewer for insightful critical comments.

References

- Adams, W. Y. and Adams, E. W. (1991) *Archaeological Typology and Practical Reality*. Cambridge: Cambridge University Press.
- Ali, N. (2005) *The Development of Pottery Technology from the Late Sixth to the fifth millennium BC in Northern Jordan. Ethno- and Archaeological Studies: Abu Hamid as a Key Site*. Oxford: BAR Int. Ser. 1422.
- Banning, E. B. (2002) Consensus and debate on the Late Neolithic and Chalcolithic of the southern Levant. *Paléorient* 28/2, 148–55.
- Banning, E. B. (2007) Introduction: Time and tradition, problems of chronology in the 6th–4th millennia in the Levant and Greater Mesopotamia. *Paléorient* 33/1, 11–14.
- Bar-Adon, P. (1980) *The Cave of the Treasure. The Finds from the Caves in Nahal Mishmar*. Judean Desert Studies. Jerusalem: IES.
- Binford, L. R. (1965) Archaeological systematics and the study of culture process. *American Antiquity* 31, 203–10.
- Blackham, M. (2002) *Modeling Time and Transition in Prehistory: The Jordan Valley in the Chalcolithic (5500–3500 BC)*. Oxford: BAR Int. Ser. 1027.
- Bourke, S. J. (2001) The Chalcolithic period. Pp. 107–62 in B. MacDonald, R. Adams and P. Bienkowski (eds), *The Archaeology of Jordan*. Sheffield: Sheffield Academic Press.
- Bourke, S. J. and Lovell, J. L. (2004) Ghassul, chronology and cultural sequencing. *Paléorient* 30/1, 179–82.
- Braun, E. (1989) The transition from the Chalcolithic to the Early Bronze Age in northern Israel and Transjordan. Is there a missing link? Pp. 7–28 in P. de Miroschedji (ed.), *L'urbanisation de la Palestine à l'âge du Bronze ancien: bilan et perspectives des recherches actuelles* (Actes du Colloque d'Emmaüs, 20–24 octobre 1986). Oxford: BAR Int. Ser. 527 {1}.
- Braun, E. (2000) Area G at Afridar, Palmahim Quarry 3 and the earliest pottery of Early Bronze I. Part of the missing link. Pp. 113–28 in G. Philip and D. Baird (eds), *Breaking with the Past. Ceramics and Change in the Early Bronze Age of the Southern Levant*. Sheffield: Sheffield Academic Press.
- Brumann, C. (2002) On culture and symbols. *Current Anthropology* 43/3, 509–10.
- Burton, M. and Levy, T. E. (2000) The Chalcolithic radiocarbon record and its use in southern Levantine archaeology. *Radiocarbon* 43/3, 1223–46.
- Chilton, E. S. (1999) One size fits all. Typology and alternatives for ceramic research. Pp. 44–60 in E. S. Chilton (ed.), *Material Meanings: Critical Approaches to the Interpretation of Material Culture*. Salt Lake City: University of Utah Press.
- Clarke, D. (1978) [1968] *Analytical Archaeology*. London: Methuen.
- Conkey, M. W. (1990) Experimenting with style in archaeology: some historical and theoretical issues. Pp. 5–17 in M. W. Conkey and C. A. Hastorf (eds), *The Uses of Style in Archaeology*. Cambridge: Cambridge University Press.
- Courty, M.-A. and Roux, V. (1995) Identification of wheel throwing on the basis of ceramic surface features and microfabrics. *Journal of Archaeological Science* 22/1, 1–29.
- Cowgill, G. (1982) Clusters of objects and associations between variables: two approaches to archaeological classification. In E. S. Chilton (ed.), *Material Meanings: Critical Approaches to the Interpretation of Material Culture*. Salt Lake City: University of Utah Press.
- David, N., Sterner, J. and Gavua, K. (1988) Why pots are decorated. *Current Anthropology* 29/3, 365–89.
- Dobres, M.-A. (1999) Of paradigms and ways of seeing: artifact variability as if people mattered. Pp. 7–23 in E. S. Chilton (ed.), *Material Meanings: Critical Approaches to the Interpretation of Material Culture*. Salt Lake City: University of Utah Press.
- Doran, J. E. and Hodson, F. R. (1975) *Mathematics and Computers in Archaeology*. Cambridge, MA: Harvard University Press.
- Elliott, C. (1978) The Ghassulian culture in Palestine. Origins, influences and abandonment. *Levant* 10, 37–54.
- Epstein, C. (1978) Aspects of symbolism in Chalcolithic Palestine. In R. Moorey and P. Parr (eds), *Archaeology in the Levant: Essays for Kathleen Kenyon*. Warminster: Aris and Phillips.
- Fox, N. S. (1995) The Striped Goddess from Gilat: Implications

- for the Chalcolithic Cult. *Israel Exploration Journal* 45, 212–25.
- Fox, R. G. (1999) Editorial: culture – a second chance? *Current Anthropology* 40/S1, Si–Sii.
- Gal, Z., Smithline, H. and Shalem, D. (1999) New iconographic aspects of Chalcolithic art: preliminary observations on finds from the Peqi'in cave. *Atiqot* 37, 1–16.
- Garfinkel, Y. (1999) *Neolithic and Chalcolithic Pottery of the Southern Levant*. Qedem 39, Jerusalem Institute of Archaeology, The Hebrew University of Jerusalem.
- Gilead, I. (1990) The Neolithic–Chalcolithic transition and the Qatifian of the northern Negev and Sinai. *Levant* 22, 47–63.
- Gopher, A. (1998) Early pottery-bearing groups in Israel, the Pottery Neolithic period. Pp. 205–25 in T. E. Levy (ed.), *Archaeology of Society in the Holy Land*. Leicester: Leicester University Press.
- Gopher, A. and Gophna, R. (1993) Cultures of the eighth and seventh millennia BP in the southern Levant: a review for the 90s. *Journal of World Prehistory* 7/3, 297–353.
- Gopher, A. and Tsuk, T. (1996) Conclusion. Pp. 209–43 in A. Gopher (ed.), *The Nahal Qanah Cave: Earliest Gold in the Southern Levant*. Monograph Series of the Institute of Archaeology 12. Tel Aviv: Tel Aviv University.
- Goren, Y. (1990) The 'Qatifian Culture' in southern Israel and Transjordan: additional aspects for its definition. *Mitekufat Haeven* 23, 100*–112*.
- Goring-Morris, A. N. and Belfer-Cohen, A. (2003) *More than Meets the Eye: Studies on Upper Paleolithic Diversity in the Near East*. Oxford: Oxbow Books.
- Gosselain, O. (2000) Materializing identities: an African perspective. *Journal of Archaeological Method and Theory* 7(3), 187–217.
- Hanbury-Tenison, J. (1986) *The Late Chalcolithic to Early Bronze I Transition in Palestine and Transjordan*. Oxford: BAR Int. Ser. 311.
- Hodder, I. (1978) Simple correlations between material culture and society: a review. Pp. 3–24 in I. Hodder (ed.), *The Spatial Organization of Culture*. Pittsburgh, PA: University of Pittsburgh Press.
- Hodder, I. (1982) *Symbols in Action: Ethnoarchaeological Studies of Material Culture*. Cambridge: Cambridge University Press.
- Hodson, F. R. (1982) Some aspects of archaeological classification. Pp. 21–9 in R. Whallon and J. A. Brown (eds), *Essays in Archaeological Typology*. Evanston, IL: Center for American Archaeology Press.
- Hourani, F. (2002) Le cadre paléographique des premières sociétés agricoles dans la vallée du Jourdain: Etude de l'impact des événements de l'Holocène ancien sur le dynamisme du peuplement humain. Unpublished PhD thesis, Institut National Agronomique Paris-Grignon.
- Humbert, J.-B. (2000) *Gaza méditerranéenne: histoire et archéologie en Palestine*. Paris: Errance.
- Joffe, A. H. and Dessel, J. P. (1995) Redefining chronology and terminology for the Chalcolithic of the southern Levant. *Current Anthropology* 36, 507–18.
- Joffe, A. H., Dessel, J. P. and Hallote, R. (2001) The 'Gilat Woman': female iconography, Chalcolithic cult, and the end of southern Levantine prehistory. *Near Eastern Archaeology* 64, 8–23.
- Jones, S. (1996) Discourses of identity in the interpretation of the past. Pp. 62–80 in P. Graves-Brown, S. Jones, and C. Gamble (eds), *Cultural Identity and Archaeology: The Construction of European Communities*. London/NY: Routledge.
- Jones, S. (1998) *The Archaeology of Ethnicity: Constructing Identities in the Past and Present*. New York: Routledge.
- Kerner, S. (2001) *Das Chalkolithikum in der südlichen Levante. Die Entwicklung handwerklicher Spezialisierung und ihre Beziehung zu gesellschaftlicher Komplexität*. Rahden/Westf.: Verlag Marie Leidorf BmbH.
- Kroeber, A. and Kluckhohn, C. (1952) *Culture*. New York: Meridian Books.
- Kuper, A. (1999) *Culture: The Anthropologists' Account*. Cambridge, MA: Harvard University Press.
- Levy, T. E. (1983) The emergence of specialized pastoralism in the southern Levant. *World Archaeology* 15, 15–36.
- Levy, T. E. (1992) Transhumance, subsistence, and social evolution. Pp. 65–82 in O. Bar-Yosef and A. Khazanov (eds), *Pastoralism in the Levant*. Madison, WI: Prehistory Press.
- Levy, T. E. (1995; repr. 1998) Cult, metallurgy and rank societies – Chalcolithic period. Pp. 226–44 in T. E. Levy (ed.), *Archaeology of Society in the Holy Land*. London: Leicester University Press.
- Lovell, J. L. (2001) *The Late Neolithic and Chalcolithic Periods in the southern Levant: New Data from Teleilat Ghassul, Jordan*. Oxford: BAR Int. Ser. 974.
- Lovell, J. L., Dollfus, G. and Kafafi, Z. (2007) Abu Hamid and the burnished tradition *Paléorient* 33/1, 50–75.
- Merhav, R. (1993) Sceptres of the divine from the Cave of the Treasure at Nahal Mishmar. Pp. 21–42 in M. Heltzer, A. Segal and D. Kaufman (eds), *Studies in the Archaeology and History of Ancient Israel in Honour of Moshe Dothan*. Haifa: Haifa University Press (Hebrew).
- Miller, D. (2005) Materiality: an introduction. Pp. 1–50 in D. Miller (ed.), *Materiality*. Durham, NC: Duke University Press.
- de Miroshedji, P. and Sadeq, M. (2001) Les fouilles de Tell es-Sakan (Gaza): Nouvelles données sur les contacts égypto-cananéens aux IVe–IIIe millénaires. *Paléorient* 27/2, 75–104.
- Moore, C. C. and Romney, A. K. (1994) Material culture, geographic propinquity, and linguistic affiliation on the north coast of New Guinea: a reanalysis of Welsch, Terrell, and Nadolski (1992). *American Anthropologist* 96/2, 370–96.
- Nigro, L. and Marchetti, N. (1998) *Scavi a Gerico, 1997: relazione preliminare sulla prima campagna di scavi e prospezioni archeologiche a Tell es-Sultan, Palestina*. Rome: Università di Roma 'La Sapienza'.
- Parkinson, W. A. (2006) Tribal boundaries: stylistic variability and social boundary maintenance during the transition to the Copper Age on the Great Hungarian Plain. *Journal of Archaeological Archaeology* 25, 33–58.
- Phillips, P. and Willey, G. R. (1953) Method and theory in American archaeology: an operational basis for culture-historical integration. *American Anthropologist* 55, 615–33.
- Phillips, P., Ford, J. A. and Griffin, J. B. (1951) *Archaeological Survey in the Lower Mississippi Alluvial Valley 1940–1947*. Papers of the Peabody Museum 25. Cambridge: MA.
- Renfrew, C. (1972) *The Emergence of Civilisation: The Cyclades and the Aegean in the third millennium BC*. London: Methuen and Co.

- Renfrew, C. (1978) Space, time and polity. Pp. 89–92 in J. Friedman and M. J. Rowlands (eds), *The Evolution of Social Systems*. Pittsburgh, PA: University of Pittsburgh Press.
- Renfrew, C. (1987) *Archaeology and Language. The Puzzle of Indo-European Origins*. London: Jonathan Cape.
- Rice, P. M. (1996) Recent ceramic analysis: I. Function, style, and origins. *Journal of Archaeological Research* 4, 133–63.
- Rollefson, G. (2001) The Neolithic period. Pp. 67–105 in B. MacDonald, R. Adams, and P. Bienkowski (eds), *The Archaeology of Jordan*. Sheffield: Sheffield Academic Press.
- Rowan, Y. and Golden, J. (2009) The Chalcolithic period of the southern Levant: a synthetic review. *Journal of World Prehistory* 22, 1–92.
- Sackett, J. R. (1977) The meaning of style in archaeology: a general model. *American Antiquity* 42/3, 369–80.
- 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 Weissner. *American Antiquity* 50, 154–60.
- Sackett, J. R. (1986) Style, function, and assemblage variability: a reply to Binford. *American Antiquity* 51/3, 628–34.
- Sackett, J. R. (1991) Style and ethnicity in archaeology: The case for isochrestism. Pp. 32–43 in M. W. Conkey and C. A. Hastorf (eds), *The Uses of Style in Archaeology*. Cambridge: Cambridge University Press.
- Sayej, G. J. (2004) *The Lithic Industries of Zahrat adh-Dhra '2 and the Pre-Pottery Neolithic Period of the Southern Levant*. Oxford: BAR Int. Ser. S1329.
- Sharon, I. (2001) Philistine bichrome painted pottery: scholarly ideology and ceramic typology. Pp. 555–609 in S. R. Wolff (ed.), *Studies in the Archaeology of Israel and Neighboring Lands in Memory of Douglas L. Esse*. Chicago, MI: Oriental Institute of the University of Chicago.
- Shennan, S. (1978) Archaeological ‘cultures’: an empirical investigation. Pp. 113–39 in I. Hodder (ed.), *The Spatial Organisation of Culture*. London: Duckworth.
- Shennan, S. (1989) Introduction: Archaeological approaches to cultural identity. Pp. 1–32 in S. Shennan (ed.), *Archaeological Approaches to Cultural Identity*. London: Unwin Hyman.
- Shennan, S. (1991) Tradition, rationality, and cultural transmission. In R. Preucel (ed.), *Processual and Postprocessual Archaeologies: Multiple Ways of Knowing the Past*. Center for Archaeological Investigations Occasional Paper No. 10, Southern Illinois University of Carbondale.
- Stark, M. T. (1998) Technical choices and social boundaries in material culture patterning: an introduction. Pp. 1–11 in M. Stark (ed.), *The Archaeology of Social Boundaries*. Washington DC: Smithsonian Institution Press.
- Stark, M. T. (1999) Social dimensions of technical choice in Kalinga ceramic traditions. Pp. 24–43 in E. S. Chilton (ed.), *Material Meanings: Critical Approaches to the Interpretation of Material Culture*. Salt Lake City, UT: University of Utah Press.
- Steel, L., Clarke, J., Sadeq, M., Manley, W. P., McCarthy, M. and Munro, R. N. (2004) Gaza research project. Report of the 1999 and 2000 seasons at al-Moghraqa. *Levant* 36, 37–88.
- Trigger, B. (1968) *Beyond History: The Methods of Prehistory*. New York: Holt, Rinehart & Winston.
- Trigger, B. (1984) Alternative archaeologies: nationalist, colonialist, imperialist. *Man* 19, 355–70.
- Trigger, B. (1989) *A History of Archaeological Thought*. Cambridge: Cambridge University Press.
- Trigger, B. (2003) *Artifacts and Ideas: Essays in Archaeology*. New Brunswick, NJ: Transaction Publishers.
- Ucko, P. (1969) Ethnography and archaeological interpretation of funerary remains. *World Archaeology* 1, 262–80.
- Welsch, R. L., Terrell, J., and Nadolski, J. A. (1992) Language and culture on the north coast of New Guinea. *American Anthropologist* 94/3, 568–600.
- Whiting, C. (2007) *Complexity and Diversity in the Late Iron Age Southern Levant: The Investigation of 'Edomite' Archaeology and Scholarly Discourse*. Oxford: BAR Int Ser 1672.
- Wiessner, P. (1983) Style and ethnicity in the Kalahari San projectile point. *American Antiquity* 48, 253–76.
- 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, 160–5.
- Willey, G. R. and Phillips, P. (1958) *Method and Theory in American Archaeology*. Chicago: University of Chicago Press.
- Willey, G. R. and Sabloff, J. A. (1974) *A History of American Archaeology*. London: Thames & Hudson.
- Willey, G. R. and Sabloff, J. A. (1993) *A History of American Archaeology*, 3rd edn. New York: W. H. Freeman.
- Wobst, M. (1977) Stylistic behaviour and information exchange. Pp. 317–42 in C. E. Cleland (ed.), *For the Director: research essays in honour of the late James B. Griffin*. Ann Arbor: University of Michigan.
- Wobst, M. (1999) Style in archaeology or archaeologists in style. Pp. 118–32 in E. S. Chilton (ed.), *Material Meanings: Critical Approaches to the Interpretation of Material Culture*. Salt Lake City: University of Utah Press.