DISCUSSION 5: Transitions in the Later Palaeolithic

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Abstract This paper discusses a number of concepts common to "transitions" in the Later Palaeolithic, whether change should be multifaceted in nature involving more than one cultural or technological attribute to be accepted as a defining point in time; the extent to which rate of change is important, be it gradual, accelerated, punctuated or uniform, and whether duration of change is relevant to the "transitions" debate. The case for refining chronologies is discussed. The paper concludes by drawing on the other papers in this section of the sourcebook to make some general methodological points.

Keywords Later Palaeolithic • Transitions (Abrupt, Incremental, Multi-faceted, Time-transgressive, Stasis)

"Transitions" and the Archaeological Record

Archaeology as a discipline has always had periods—divisions of time—within which material culture is grouped. As one period finishes, another begins and this process of change conveys a sense of dynamics to the subject—the succession of one archaeological body by another producing evolutionary stages where one set of material is replaced by another. Change may occur due to many factors, including (but not limited to) demographics, technological innovation, indigenous evolution, and cultural change. The boundaries that separate periods are the transitions, and because these represent moments in time at which change is concentrated, they have long attracted the attention of scholars (e.g., Adams, 2007; Bar-Yosef, 1996; Carciumaru and Anghelinu, 2000; Kobusiewicz, 2004; Narr, 1984). One only needs to think of the Neolithic Revolution (Childe, 1952; Cole, 1970; Harris, 1996; Maisels, 1993; Redman, 1978; Smith, 1998) to see the effect of a new entity in the archaeological record and the way it attracts attention. As the contributors to this monograph show, transitions in the Palaeolithic are no exception in the interest they engender.

Transitions, whether Palaeolithic or later, typically ask similar questions. Focus is often centered on changes manifested at the point of transition and the study of small incremental steps may elucidate the underlying cause of the transition or the mechanism effecting the change. Studies may be undertaken into a single attribute of a transitional assemblage (e.g., d'Errico and Laroulandie, 2000); alternatively, attention may be focused on the multifaceted nature of the transitional process, examining interconnected changes in many artifact groups within a cultural collection (Gowlett, 1999; Hopkinson, 2007). Complementary to this are approaches that examine the chronology of change, measuring the rapidity by which one cultural entity is replaced by another (e.g., Jöris and Weninger, 2000). Determining whether change was gradual or accelerated, punctuated or uniform, can provide important insights into the process. By definition, transitions involve change, and change requires

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explanation, thus motives and reasons are sought and discussed. Association with external noncultural stimuli (e.g, climate change) may be investigated. These questions and others (Camps, 2006) are often central to any treatment of transitions in the archaeological record, and are pertinent here.

Archaeology, viewed simplistically, could appear to be no more than a succession of time blocks—periods of cultural "sameness" divided by short intervals within which change is concentrated. The points of change between the stasis blocks are the transitions. Although convenient, this viewpoint has clear methodological shortcomings. Conceptually, it is difficult to endorse this model since, in reality, no period is ever wholly in stasis; a degree of change is always present, however limited. No matter how similar, archaeological assemblages will display a modicum of variation in their attributes. The more appropriate question is how much variability, or degree of difference, is accepted before one archaeological assemblage becomes sufficiently different to be assigned a different period "label" (Hopkinson, 2007). This process will define the number and extent of transitional events in the archaeological record.

In attempting to identify or characterize a "transition" in the archaeological record, it is right to ask whether *duration of change* is important. Specifically, must transitions be appreciably shorter than the adjoining "stasis" periods? Alternatively, is it ever useful to see an entire period, like the Middle Palaeolithic, as "transitional"? (it is certainly transitional in the sense of it "links" or connects the Lower with the Upper Palaeolithic but this could be said of almost all periods). Should we be concerned that the Middle Palaeolithic transition extends over a longer period of time than the Upper Palaeolithic? Equally, is it important that for many Palaeolithic archaeologists, there is probably more cultural change in the later "stasis" Upper Palaeolithic period than in the preceding Middle Palaeolithic transition where change should, at least theoretically, be concentrated. Such considerations suggest that the labeling of complete periods as transitions serves little useful purpose and a more restrictive application is to be preferred.

Do transitions require the change of more than one cultural attribute? Should a transition involve synchronous change in a combination of material components—e.g., artifact typology, lithic/faunal procurement strategies, settlement and/or mobility patterns, biological palaeoanthropological attributes, and others—or is it permissible to have only one manifestation of change? For example, one could argue that while Neanderthal assemblages in Europe display "Mousterian variability" (Binford and Binford, 1966; Binford, 1973; Bordes and de Sonnevilles-Bordes, 1970; Mellars, 1970), typological variation alone is not sufficient to represent a transition. On the other hand, the combination of changes associated with the succession from the Middle Palaeolithic to the Upper Palaeolithic is sufficient for it to be recognized as a transitional event, even though some of the "classic" elements of the Upper Palaeolithic are now recognized as present in the preceding Mousterian and Levallois techno-complexes (Bar-Yosef, 2002). One could conclude that multifaceted change *is* probably a requirement for a true archaeological transition. Clearly there is a problem where limited preservation often means one element of the archaeological record takes precedence over the rest of the cultural package. In the Palaeolithic, emphasis has historically been placed on typological classification of lithics; whether this alone is sufficient for a transitional event to be defined is debatable. Change involving a suite of material culture attributes must surely be preferable.

Later Palaeolithic Transitions

Three of the five contributors to this section of the monograph have chosen to address the transition at the end of the Pleistocene. Drawing on examples from the Old and New Worlds, the authors refer to it in very different ways—in one instance, the transition is from the Paleoindian period to early Archaic, for another it is the Palaeolithic-Mesolithic boundary, while the third discusses the Terminal Pleistocene-Early Holocene transition—but in essence all are concerned with the same subject matter: the archaeology of the Pleistocene-Holocene boundary (Straus et al., 1996). This highlights a general matter that is relevant to all transitions—the influence that terminology may have on our perception of the event. As Adovasio and Carr note, some of the terminology we use as archaeologists has possibly outlived its usefulness, and in the

context of discussing transitions, retention of the old constructs is obfuscating—masking or otherwise distorting the transitions that we are studying. In the context of the American Northeast, this point is more comprehensively developed in their paper, but the point is more generally applicable, and will be returned to later in this paper.

The same transition need not take place at the same moment in time. In the case of the Pleistocene-Holocene boundary, the environmental responses to climate change were geographically varied and time-transgressive. Temporal synchronicity of vegetation recolonization stages did not take place because geographical position was important. While a similar succession of "development phases" may have taken place, a geographical and temporal cline is observable. Although time-transgressive and culturally diverse, this transition is a major archaeological marker and some of the insights to be gained are almost certainly applicable in other contexts.

The paper by Otte is pitched deliberately wide-embracing as is the Terminal Palaeolithic-Mesolithic (Pleistocene-early Holocene) transition on many continents. In the context of this volume, the ideas put forward are particularly valuable in relation to the other contributions because the author proposes a series of common cultural manifestations that are believed to be universally applicable: (1) the geometrization of microliths associated with the adoption of the bow and arrow, (2) the adoption of a broad-spectrum hunting and food procurement strategy, (3) the decrease in mobility as semi-sedentism becomes more widespread, and (4) a transformation in the way humans perceive their position in nature as seen in the artistic depictions of the period. The degree that these are represented in the other case studies dealing with the same transitional boundary is revealing, and this interplay between generalized ideas and specific examples assists to unify this section of the monograph.

Many broad issues concerning transitions in general are discussed by the contributors. Otte, for example, is clear that the Palaeolithic-Mesolithic transition is multifaceted in the way it is represented in many components of the archaeological record (lithics, fauna, art, resources, habitations, and so on). He makes the point that transitions can be time-transgressive, with similar transformations occurring in separate regional settings on different continents, but not necessarily at the same moment in time. Indeed, he makes the point that entire regions still practiced what could be characterized as the "Mesolithic" way of life until the first European contacts, suggesting that while a transition may be of short duration in a specific geographical region, the overall transitional event could encompass a considerable length of time—in this instance, *c.*10,000 years. Hence a global age model for a given transition may be very different from that applicable regionally. The time-transgressive nature of the environmental changes in the (North American) "Northeast" are well brought out in the paper by Adovasio and Carr, who show that the later transformation in the Northeast (from an open sparsely wooded landscape to a forested environment) had a much more profound effect on the cultural adaptations of the region's inhabitants than the earlier Late Glacial/Early Holocene boundary (or, in cultural terms, the Palaeoindian-Early Archaic). Their paper successfully shows how historical terminology proposed decades ago may no longer assist the process of understanding certain transitions in the archaeological record. In the context of Late Pleistocene-Early Holocene, it is good to see the recognition that "the Early Archaic-Middle Archaic differences are far more striking in virtually *all* ways" than those at the Palaeoindian-Early Archaic boundary. The fact that the Early Archaic-Middle Archaic boundary coincides with a change in forest composition, where conifers give way to deciduous trees, is worthy of note; clearly in this instance, landscape vegetation structure is more important culturally than climate-induced temperature amelioration.

It would appear that environmental and climatic change has a complex relationship with archaeological transitions. Otte persuasively argues that environmental context is important in *permitting* cultural choice, but he makes the point that some societies seem to have been able to preserve their Palaeolithic ways of life until comparatively recently, in spite of the considerable environmental changes at the end of the Palaeolithic. In his view, environmental change at a transition is important, but its influence is not deterministic. Commenting on the environmental changes at the end of the Early Archaic, Adovasio and Carr make a related

point that "the putatively pivotal Palaeoindian-Early Archaic transition [was] *not*... the beginning of a new set of lifeways in a new and dramatically different environment, but rather ... a continuation of an old lifeway in a subtly changing environmental matrix." Although initially appearing to coincide with climate change, these Late Palaeolithic-Mesolithic examples show the subtle ways humans may respond to external stimuli.

However, as illustrated by Graf in her examination of the Middle Upper Palaeolithic (MUP) to Late Upper Palaeolithic (LUP) transition in south-central Siberia, determining the cause, nature, and rate of transition in situations where the change is coincident with an *adverse* climatic event is much more difficult. Here, the issue relates to whether there is a gap in the regional settlement record coinciding with the Last Glacial Maximum (LGM) and the implications for the process of transition. The general point needs to be stated that if there is a hiatus in human habitation in this region, then the expectation would be for an *abrupt* change in the archaeology at this transition. This is because sites with intermediate properties (temporally located between the MUP and the LUP) will be lacking if this part of the settlement record is absent from the region. In such a case, cultural contrast rather than similarity will be emphasized; more so if temporal separation between the respective periods of settlement is great. The problem is methodological and is not specific to this case study. Regardless of context, poor temporal resolution is likely to produce erroneous outcomes, suggesting continuity of settlement, whereas the true picture may be otherwise. Better chronological control may show that there was a break in settlement and regional abandonment. The solution is clearly good chronological control, which is precisely what Graf recognizes in her paper. Chronological "weeding" of the ^{14}C record is an essential part of assessing this transition, and the author's conclusion that there is a hiatus from 22 to 19 ka cal BP, which almost inevitably means that the transition will appear abrupt, with major differences between the MUP and the LUP. However, extension of the study to the likely areas of refuge during the LGM (possibly Japan and the coast of the Russian Far East) would probably change the appearance of the transition, demonstrating that the location of a study is likely to affect the form of the transition.

Canales' examination of the transitional Terminal Pleistocene-Early Holocene lithic assemblages from the Andes is valuable by linking with many of the ideas that Otte proposes. The South American evidence supports the model that the transition involved a degree of specialization and standardization in lithic assemblages involving the development of microbifacial points for camelid and deer hunting, a regionalization of techno-typological traditions, and a shift in some societies to a more sedentary lifestyle with an increased role for aquatic resources. The concluding observations concerning the emergence of two lifestyles in this region—one essentially similar to what preceded it but subtlety changed with a simple flake-based typology and a focus on marine resources, and another involving a microlith projectile industry linked to deer/camelid hunting and plant gathering—helps to give the more generalized predictions a firm regional setting.

The final contribution by Steguweit focuses on the evidence for the period of transition between the Aurignacian and the Gravettian techno-complexes in the Bistriţa valley of northeast Rumania. In this contribution, the issue is whether there was cultural continuity of the Aurignacian after *c*. 28,000 uncal ^{14}C years BP in this region of Eastern Europe. The question comes down to the existence of a "late Aurignacian" or "Epi-Aurignacian" industry in northeast Rumania. Again, the questions asked are similar to other studies in this monograph—did the change from Aurignacian to Grevettian take place rapidly, or was there considerable cultural and temporal overlap? How can the observed pattern be explained? Is this transition synchronous with the Aurignacian/Gravettian boundary observed elsewhere in Europe? If it is not synchronous, then did the transition take place earlier or later? Clearly, many of these questions focus on chronology, and this is precisely what this paper pays careful attention to. The conclusion that there is no convincing evidence for cultural overlap of these two techno-complexes in this region suggests the transition was abrupt—there is no late Aurignacian in the Bistriţa valley, and the transition was not time-transgressive in relation to the same event

elsewhere in Central and Eastern Europe. In terms of the Palaeolithic of Eastern Europe, the outcome is valuable and complements the work undertaken on both earlier and later transitions (Adams, 2007; Allsworth-Jones, 2000; Carciumaru and Anghelinu, 2000; Kobusiewicz, 2004).

Steguweit makes an important concluding observation concerning the limitations of the ^{14}C record and the effect this has on our study of transitions. In all these examples, ^{14}C has been the basis for our chronologies, and most of the contributors have rightly devoted a good deal of attention to improving the dating. The problem with ^{14}C in this period is the uncertainty concerning atmospheric production of ^{14}C and the effect it has on the calibration process (Hughen et al., 2004). Other forms of chronology, such as tephrostratigraphy and tephrochronology (Lowe, 2001), have the potential to make a valuable contribution if they can be tied to high-resolution environmental sequences (ice-cores, peat bogs, lakes, and marine cores). In the future, if more precise chronology is achievable, and decadal rather than centennial or millennial scales become a reality, then abrupt transitions will possibly feature more in archaeology. Whatever develops in the future, it is likely, however, that "transitions" will remain a focus of Palaeolithic enquiry for many years to come.

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