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DYNAMIC LANDSCAPES AND LATE PLEISTOCENE SOCIAL GEOGRAPHY: CLOVIS AND KOSTENKI COMPARED

ABSTRACT: During the Late Paleoindian empty continents saw range expansion by anatomically modern humans while occupied ones witnessed human groups undergo range contractions and demographic shifts. To understand what effects these different types of population movements had on the archaeological record, this paper compares the records of two allopatric Late Paleoindian hunter-gatherer groups: those who left behind the Clovis and the Willendorf-Pavlov-Kostenki-Avdeev inventories. Ecological theory as well as insights from migration theory are used to generate specific archaeological correlates which are then identified in the archaeological record. These records show the existence of very diverse phenomena including colonization, abandonment, refuging, and demographic shifts. The resultant consequences differ depending on both social and environmental realities of the Late Pleistocene landscapes.

KEY WORDS: Late Paleoindian demographic shifts – Clovis – Willendorf-Pavlov-Kostenki-Avdeev cultural entities

INTRODUCTION

The Late Paleoindian saw a number of demographic shifts. Empty continents – Australia and the Americas – witnessed colonization by anatomically modern humans. Upper Paleoindian Eurasia, on the other hand, saw human groups undergo range contractions and range expansions, as well as demographic shifts. In this discussion I use the term demographic shift to denote the relocation of groups across space without, necessarily, conscious intent to move. This term is preferable to the often used migration which not only presupposes purpose – something which has to be proven – but also operates on time scales probably too brief to be recognized by Paleoindian archaeologists. To understand what effects the different types of population movements may have had on the archaeological record, I compare the Late Paleoindian records of two allopatric groups of Late Paleoindian hunter-gatherers: those who left behind the Clovis and the Willendorf-Pavlov-Kostenki-Avdeev inventories.

I focus on these two entities because of a number of points they share in common. First, both show wide spatial spreads. Second, both were generated by anatomically modern hunter-gatherers who inhabited northern latitudes with similar cold and, especially in Eurasia, often harsh open environments. Third, organic remains recovered from these entities suggest that people occupying the two continents subsisted largely by exploiting broadly similar faunal communities.

As Praslov and I pointed out elsewhere, in spite of these similarities, the archaeological records of the two regions are strikingly different (Soffer, Praslov 1993). Central and East European sites assigned to the Willendorf-Pavlov-Kostenki-Avdeev entity contain numerous dwellings and complex features as well as rich faunal and lithic inventories. They also have an abundance of socially and
ideologically important objects of personal adornment and portable art. Clovis sites lack evidence for elaborate facades, jewelry, and art, but do contain evidence for an elaboration of stone working technology. Lastly, the widespread Clovis complex transformed in time into a myriad of regionally circumscribed complexes, while the Willendorf-Kostenki-Avdeevo one dissipated in a time and space transgressive fashion.

The literature addressing the significance of the wide spatial spread in both these cases suggests demographic shifts or colonization, as well as change over large distances as explanations (for central and eastern Europe see, for example, Gamble 1993, Otte, Keeley 1990, Otte 1993, for the Clovis see Kelly, this volume, Melzer 1989). To help unravel the two, I begin by outlining some general ecological principles guiding mobility and generating some archaeological correlates for different types of demographic shifts.

ARCHAEOLOGICAL CORRELATED OF DEMOGRAPHIC SHIFTS

First, principles of evolutionary ecology show that range expansions and contractions, as well as range relocation or migration, are all demographic processes in need of explanation (Pianka 1974). Such population shifts can be expected to occur as a response to factors of pull and push, for example, when previously unavailable areas open up and a species takes advantage of the situation by colonizing virgin territories, or when changes in local conditions require changes in adaptations (Jochim 1981, Lee 1966, Lewis 1982).

For a mobile and highly adaptable species such as humans, the pull of a newly opened area leads to colonization. For foragers, such a pull can come about through a number of factors including climatic changes as well as technological innovations. Archaeological signatures of this include the advent of artifacts and features in an area previously unoccupied, and a unidirectional spread of them in a time and space transgressive manner. Once initial settling has occurred, we can expect regional differentiation to begin.

The push leading foragers to move comes when the energetic returns on harvesting the resources they rely on diminish significantly. Such a decline can result from a number of factors including climatic deterioration and, as argued by Kelly (this issue), behavioral changes of the exploited prey. Foragers faced with declining resources can cope by a number of strategies that include broadening their resource base in the same area or by moving to different areas.

Moving to different areas can occur in various ways and on various time scales, each of which can be expected to have different archaeological signatures. The most obvious and almost universal example of this, one taking place over short time frames, is seasonal mobility (Bettinger 1991, Jochim 1981).

Ethonographic literature indicates that hunter-gatherers also alleviate resource stress by moving in with relatives in other regions (Minc, Smith 1989; Soffer 1989; Wiesner 1983). When these moves are very temporary and involve very small groups — a season or two — such moves will probably be archaeologically invisible.

We can hypothesize that repeated directional moves by people into territories occupied by others, kin or not, will generate a more complex archaeological record. Not all such moves need to be conscious ones, however. A very minor relocation of the exploited territories by a few kilometres per generation in 500 years or 20 generations may see the descendants of the group located some 200 km away from the original range used 500 years before. If such moves take the groups into similar environments, they may continue their cultural practices and retain their technology. The archaeological signature for such moves should indicate broad structural similarities between the records of the old and new areas along a number of discrete categories in the patterning material culture — but ones that are separated in space and time. As Rouse (1986) pointed out, what is important is the structural redundancy in the archaeological record of the two areas rather than just typological, technological, or stylistic similarities in specific items of material culture (e.g. types of stone points). Since the newcomers cannot be expected to bring with them the entire complex of their culture, founders effect guides us not to expect exact replication of the archaeological record in space or time. Similarities, however, should be greater the less time involved. This scenario clearly presupposes a minimum of contact with groups already in the area — as would be the case in sparsely and patchily populated regions.

In the case of groups moving into territories more densely occupied by other people, whose cultural practices can be expected to differ, we can anticipate a complex set of interactions between the resident and incoming people. Such social negotiations should, however, be finite in an archaeological and ethnoarchaeological context, and limited to a single episode. A single negotiation would account for most of the variation in the presence of features in the Clovis complex, as well as for the distribution among different sites. Such negotiations would be the result of an interaction between the Clovis complex and the local occupation of territories.

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The Clovis complex, one spread over a continental region some 5,000,000 km² in size, was surprisingly short-lived, lasting well under 1,000 years, when it was replaced by more regionally circumscribed entities (Figure 1) (Haynes 1993, Dincousse 1993, Kelly, this issue). What is striking about this record is its continent-wide redundancy consisting of small sized widely scattered kill sites found in combination with equally small sized and ephemeral residential areas. All the sites show minimal energy expended on features — Clovis hearths and dwellings are ephemeral at best. Evidence for food storage is all but absent and burials very infrequent. Some Clovis tool caches are known, these, like the burials, however, are widely scattered across the western part of the continent and not associated with occupation sites (Kelly, Todd 1988, Kelly, this issue).

Clovis inventories, when compared to Kostenki ones, are quite impoverished in diversity. Although some bone and ivory was worked into hunting implements, neither organic nor inorganic materials were transformed into items of personal adornment, decorated pieces, or portable art.

Clovis groups did, however, invest a great deal of time and energy into refining certain aspects of lithic technology for the production of curated weaponry (Bradley 1993, Kelly, Todd 1988, Kelly, this issue). They used superior raw materials originating from great distances to produce spectacular and difficult to make fluted points. The unidirectional west to east or north to south distribution of these exotic materials is in good accord with the unidirectional trajectory of Clovis colonization (Kelly, Todd 1988, Tankersley 1991).

In sum, Clovis sites show time and energy invested into hunting weaponry at the expense of features and of non-utilitarian components of material culture. Such a material record, with its absence of socially significant paraphernalia, is one that we can expect of people in socially simple landscapes. Ones in which they are either totally alone or expanding their range into a very sparsely and patchily occupied regions.

The Willendorf-Pavlov-Kostenki-Avdeevno entity Background
The Willendorf-Kostenki cultural entity, dating between some 28,000 and 18,000 B.P., was spread over an area measuring some 2,000 km in length (Figure 2). The rational

KOSTENKI AND CLOVIS COMPARED

Clovis

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FIGURE 1. Late Paleolithic North America: 1) Glaciated regions at the last glacial maximum; 2) Distribution of Clovis Sites.

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Dynamic Landscapes and Late Pleistocene Social Geography: Clovis and Kostienki Compared

The area around the Don, on the other hand, was further removed from the Ice Sheet than was the centre. This resulted in milder climatic conditions which found their expression in the area's resource structure (see Figure 2, Soffer 1990, Spiridonova 1991). Moravia

Stratigraphic and radiocarbon data from Moravian sites assigned to the Pavlov culture clearly indicate that this region was the earlier locus of settlement, dating between 28,000 and 24,000 B.P. (Kozlowski 1986, Soffer 1993, Svoboda 1994a, b, Svoboda et al. 1996).

Data on annual ranges of north latitude foragers suggest that Moravia, measuring some 22,200 km² in size, is likely too small a region to reflect a complete settlement pattern of these people (see Binford 1978). The fact that more than 90% of the lithic inventories were made on exotics originating from 100 to 300 km north and east of the sites indicates that people making and using them were quite mobile and seasonally visited southern Poland, the Dnieper region near Willendorf, northern Hungary, and both western and eastern Slovakia (Kozlowski 1986, 1991, Soffer 1992, Svoboda 1994a, Svoboda et al. 1996).

With the deterioration of climatic conditions associated with the advent of the L.G.M., which occurred earlier here than further east, we witness an earlier collapse of the resource base. Moravia's archaeological record between some 24,000 and 22,000 B.P. indicates a shift in the core area occupied as groups relocated east to western Slovakia and north, around Krakow. This was followed by a 3,000 year period when the area was abandoned. Its subsequent reoccupation may have begun about 19,000 years ago, but was intensified only some 14,000 years ago, when groups with Magdalenian inventories came to occupy the area (Kozlowski 1986, 1990, Svoboda 1990, 1994b, Svoboda et al. 1996).

This demographic shift also resulted in the influx of some central European groups and their descendants onto the east European or Russian Plain — an area with a resource mix more akin to the now collapsed open grassland river valleys of Moravia.

This west to east shift clearly occurred over a long span of time and was obviously not a conscious process. Similarly, it probably did not consist of a single migration episode but a series of population incursions separated in time. The earliest evidence for it may be at Khtyoljevo II on the central part of the plain, dating to about 24,000 years ago, and at Molodova V – layer 7, with a date of 23,000 B.P. (Grigor'ev 1993 with references).

The shift was initiated and continued due to the west to east shift in the natural resources used by these groups, and is the time when the large herbivores, which gave us the time and region transgressive Willendorf -Pavlov-Kostienki-Ardeche record.

The East European Plain

The size of the unglaciated plain that Pavlov descendents came to, some 1,500,000 km² stretching from the Carpathians to the Urals, clearly could have accommodated a number of hunter-gatherer groups. Its Upper Paleolithic record, with regionally distinct archaeological cultures along the river valleys and in the southern steppes zone, indicates that this was indeed the case (Boriskovskij 1984, Soffer 1985).

In contrast to Clovis groups, people who moved onto the Russian plain came into a region not only occupied by other groups but also one with a record of human occupation of considerable time depth. This record does, however, show unequal lengths of occupation for the different regions. The greatest number of sites dating before the L.G.M. are found concentrated along the western and eastern parts – along the middle Dnieper and the middle Don (Gribchenko, Kurenkova, this volume, Soffer 1990, Velichko, Kurenkova 1990). The central part of the plain, on the other hand, shows some human presence during the warmer time some 25,000 years ago, but does not show intensive occupation until after 20,000 B.P. (Gribchenko, Kurenkova, this volume, Soffer 1990).

A salient feature which differentiates the archaeological record of the Plain from that of Moravia is that although there is some evidence for a north – south latitudinal relocation of groups in response to deteriorating environments around the L.G.M., this vast area was never abandoned. Rather, it appears to have served as a population refuge.

Its archaeological record between some 25,000 and 23,000 B.P. the time Moravian groups were shifting their ranges, shows faint evidence for the advent of these people. This evidence is found at the sites closest to Moravia: Molodova V some 800 km to the south-east and Khtyoljevo II, some 1200 km to the east (Grigor'ev 1968, 1993, Kozlowski 1990). In both cases this evidence for Moravian presence is muted not only by time but by local environmental and resource realities which necessitated changes in subsistence practices. In both cases we see this presence very faintly. People arriving at Molodova not only came to an already occupied landscape, but one with a different resource structure. I suggest that data from Molodova V layer 7 show us these people already undergoing a shift in economy and technology. The structure of this layer, as well as the nature and the distribution of both the features and the inventories, differ from preceding and subsequent layers, but bear some similarity to some Moravian sites (compare Chernysh 1987 with Klïma 1963, Absolon, Klïma 1977, Svoboda 1994b).

The way of using the landscape, however, is already different from Moravia and more akin to the Dnieper pattern. Subsequent layers at Molodova and other sites in the area are devoid of this "Pavlov" influence. Taken together, I suggest these data point to an incursion of a small number of people who quickly acclimated to the landscape. The record from the central part of the plain is more ambiguous. The sparseness of sites here dating before 1989.
Dynamic Landscapes and Late Pleistocene Social Geography: Clovis and the Concomitant Human Response of Increased Mobility and Intrastate as well as inter-regional demographic shifts, can bring about a record of widespread and long-standing similarities in faunal and floral assemblages that can be seen as resembling the 'Boreal' or 'Glacial' archaeological complex (Dolukhanova et al., 1980; Gamble, 1993). The regional and inter-regional eb and flow of hunter-gatherer populations is expected to produce local continuity through time between one complex and the next. This in turn may be seen as a pattern at the Kostienki-Borschchevo sites along the Don. Clovis shows us that the same record can result from colonization and war, once again, about equilibrium – specifically, that in the South, both eb and flow of human groups as well as colonization can leave superficially similar archaeological records. In sum, shifting populations are difficult to deal with in prehistoric archaeology – yet the Kostienki and Clovis cases tell us that we must.

REFERENCES


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