

**ARTISTIC APOGEES AND BIOLOGICAL NADIRS : UPPER PALEOLITHIC
CULTURAL COMPLEXITY RECONSIDERED**

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ABSTRACT

Our traditional views of the European Upper Paleolithic emphasize the cultural complexity achieved by these late Pleistocene groups, which found its expression in the elaboration of material culture: in sumptuous burials as well as in the production of personal adornments and of portable and parietal art. Such a view sets up the European Upper Paleolithic cultural achievements as the measure against which coeval data from the rest of the occupied world is measured and found wanting.

The interpretation of this period as one of ostensible cultural apogee is subverted by multiple biological data which indicate that many of the same populations elaborating their material culture were also under physical stress.

Using paleoanthropological and archaeological data from Upper Paleolithic Western, Central, and Eastern Europe, this paper argues that the two phenomena - cultural elaboration and stress - are interrelated. Such an interrelationship, in turn, suggests that we can gain new insights into Upper Paleolithic behavior by reviewing cultural elaboration not as an achievement but as a symptom of social pathology.

I. INTRODUCTION

The Upper Paleolithic record of Europe, replete with a rather sudden elaboration of material culture in the form of cave art, spectacular architecture seen in mammoth bone dwellings, jewelry, portable art, and sumptuous burials, is usually interpreted as an example of advanced cultural achievement and "the dawn of civilization". It is used as a yardstick of cultural evolution, against which the less spectacular data from the rest of the occupied Old World is measured, and, not surprisingly, found wanting. This stressing of pra-European achievement ignores, however, the equally spectacular and sudden collapse of this material elaboration seen when we cross the Pleistocene - Holocene rubicon and compare the Upper Paleolithic to the early Mesolithic. Here I consider the significance of this

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discontinuity by examining data from archaeology, ethnography, paleoanthropology, and paleogeography.

A latitudinal ethnographic transect, surveying elaboration of hunter-gatherer material culture from the equator to the poles, appears to mirror the distribution of Upper Paleolithic art and elaborate non-utilitarian objects, and this prompts us to see the later as material manifestations of the "periglacial behavioral package" - one related to behavior of hunter-gatherers under stress (WOBST, 1990). The same data offer us evidence of latitudinal increase in both developmental stress and trauma as a cause of severe injuries and death. Data on north latitude hunter-gatherers also point to a number of organizational and demographic responses to environmental stress which include elaboration of material culture and regional demographic shifts through emigration (HASSAN, 1981; KEELEY 1988).

These suggestions, together with the discontinuous nature of European material elaboration, warrants us to reconsider that record so as to pinpoint some of the variables responsible. In this paper I examine the European record which contains a great deal of this elaboration, and do so in the geographic context of the then occupied world. Such a perspective situates all of Europe at the fringe of the human oecumene, a periphery with region-specific environmental and demographic problems, and one with a number of spectacular, though costly, and ultimately unsuccessful solutions to these problems.

II. THE GEOGRAPHIC AND ENVIRONMENTAL CONTEXT

The European Upper Paleolithic period, dating between some 40 - 10,000 BP, fits within the end of stage 3 and all of stage 2 of the deep sea isotope record - which, on a global scale, documents first interstadial and then the onset of full glacial conditions (GAMBLE, 1986). This global record, due to its very catholic nature however, glosses over regional climatic differences which are of prime importance in understanding concrete human adaptations. For Central and Eastern Europe, for example, - the first located in the corridor between the Alpine glaciers and the Fennoscandian Ice Sheet, and the second, in a region of maximal expansion of the Ice Sheet - biostratigraphic data indicate both earlier and more severe climatic, and therefore, biotic consequences of glacial expansion, as well as inter-regional time lags in environmental changes (, MUSIL, 1985; SOFFER and GAMBLE, 1990).

Regional geographic and topographic differences between different parts of Europe combined to bring both asynchrony and discontinuity into the west to east environmental record. Thus, for example, a number of warm climatic oscillations documented stratigraphically in Western Europe between some 60,000 and 25,000 BP, are not clearly evident in Eastern Europe (RIGAUD and SIMEK, 1990; KOZLOWSKI, 1986; VELICKO and KURENKOVA, 1990). The same is true for the Tursac warming at some 22,000 BP, while the Laugerie interstade, documented in France at about 19,000

is picked up in Eastern Europe some 1,500 years later. Similarly, the Lascaux warm episode, seen in Western Europe at about 17,000, shows up in the stratigraphy of Eastern Europe some 700 years later.

Studies of European late Pleistocene faunal communities show that Central and Eastern Europe underwent far more dramatic oscillations and that some of these areas, such as Moravia, were turned into polar deserts 20,000 - 18,000 years ago during the last glacial maximum (FRENZEL *et al.* 1992; MUSIL 1985). This indicates that environmental stress brought about by deteriorating climates was differentially distributed across Europe, being most acute in central and eastern provinces.

These data predict that groups in Europe may have been more profoundly affected by stadial environmental conditions, and that we can anticipate finding greater morphological evidence of change among them than among the less stressed groups. The sparse data on hand from lower latitudes do support such a hypothesis. Late Paleolithic North African and Levantine groups, for example, show little change in size and stature through time, while a considerable reduction in both is documented among the Europeans (ANGEL, 1984 FRAYER, 1981, 1984; SKINNER, 1986).

They also indicate that all Upper Paleolithic Europeans, however, were not equally affected by environmental stress at the same times. Geographic and topographic differences between different parts of Europe combined to bring both asynchrony and discontinuity into the west to east climatic record. Thus, environmental stress brought about by deteriorating climates was differentially distributed across Europe, being most acute in the central and eastern provinces.

III. THE PERTINENT UPPER PALEOLITHIC ARCHAEOLOGICAL RECORDS

A. Central Europe

I turn next to the archaeological record of European Upper Paleolithic elaboration of material culture which, first and foremost, is dramatically discontinuous in space and time.

The earliest securely dated art comes from Central Europe - southern Germany and Austria - where it makes its appearance before 30,000 B. P. (BOSINSKI, 1990; WHITE, 1986). It is followed by a veritable explosion of material elaboration seen in the adjacent region of Moravia at such open-air sites as Predmosti, Dolni Vestonice and Pavlov - all dating between some 28,000 and 23,000 years ago.

In addition to yielding the world's oldest ceramics, these Moravian sites contained extensive inventories of beads and pendants made of mammoth ivory, exotic fossil marine shells, bones and teeth of animals, and of ground slate, as well as

large enigmatic ground stone rings, and engraved and decorated bone and ivory objects.

The Moravian sites clearly contain an abundance of non-utilitarian inventories - jewelry, portable art, and fired ceramics. The presence of this social and ritual paraphernalia, ethnographically associated with behavior found at large hunter-gatherer sites, together with the fact that lithic inventories found at these sites are made overwhelmingly of exotic raw materials, suggests that groups here may have aggregated in larger numbers and/or stayed together longer, thus requiring more complex ritual and hierarchical means of integration than did those elsewhere in Europe at the time (KOZLOWSKI, 1985, 1990, 1991; SOFFER 1993).

Archaeozoological research on mammalian remains from the Moravian sites is yielding evidence for intensive utilization of all animal species. Such extensive use of all animals suggests the possible presence of, perhaps seasonal, food stress (SOFFER, 1993).

With the deterioration of climatic conditions associated with the advent of the glacial maximum, 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 BP indicates a southern and a northern shift in the core area occupied by hunter-gatherers as southern Moravia, western Slovakia, the region around Krems, as well as around Krakow, indicate more intensive occupation (KOZLOWSKI, 1991). This shift was followed by human abandonment of this region until some 16,000 years ago (SOFFER, 1993; SVOBODA, 1990).

| | N | % |
|--|---|------|
| I. Number of deformed individuals: | 2 | 10.5 |
| II. Number of individuals with healed cranial lesions: | 5 | 26.3 |
| III. Individuals with fatal traumatic lesions: | 2 | 10.5 |
| Total: | 7 | 47.3 |

TABLE I : HUMAN REMAINS FROM UPPER PALEOLITHIC MORAVIA

(calculated from VLCEK, 1991)

Total Number of Individuals Found: 49

Number of Complete or Nearly Complete Skeletons: 19

Paleoanthropological remains from Upper Paleolithic Moravia, where some 49 individuals have been found, 19 of whom are represented by complete or nearly complete skeletons, indicate a high incidence of both deformation and trauma caused, presumably, by interpersonal conflict (Table 1). I interpret these data as indirectly attesting to a considerable level of social stress.

B. The Russian Plain

Two salient features differentiate the record of the Russian or East European Plain from that of Moravia. First, although there is some evidence for a north-south latitudinal relocation of groups in response to deteriorating environments around the glacial maximum, this vast area was never abandoned. Rather, it served as a population refuge (SOFFER, 1987, 1990). And second, evidence for intensification of subsistence practices and elaboration of material culture here crystallized later than in Moravia - beginning perhaps as early as 23,000 but expanding after the glacial maximum (SOFFER, 1985, 1993). As in Moravia, however, this elaboration did not continue across the Pleistocene - Holocene rubicon. Climatic deterioration here, expressed in cold temperatures and increasing aridity, brought with it a linearization of the biotic resources along the river valleys, as well as a southward shift in core areas of occupation. Data from the best studied central part of the Plain - an area containing spectacular settlements with mammoth bone dwellings such as Dobranichevka, Gontsy, Mezin, Mezhirich, and Yudinovo - show that resource linearization was tracked by a linearization of hunter-gatherer settlement systems - a spatial arrangement which not only resulted in a relative increase in population density, but also carried significantly greater costs for regional interaction and involved intensification manifest in the elaboration of material culture (SOFFER, 1985).

Inventories recovered from Mezhirich and other coeval sites on the Central Russian Plain are rich and diverse, containing a great variety of implements made of antler, ivory, and bone. They include jewelry made of ivory, of amber coming from the vicinity of Kiev, as well as of perforated animal canines and fossil marine shells originating from the Black Sea and Sea of Azov deposits located as far as 700 km. south of some of the sites. Art is represented by various categories of objects including stylized female figurines made of ivory, anthropomorphic figurines, as well as immovable painted mammoth bones found at Mezhirich and Mezin.

Different subsistence practices and settlement systems are in evidence on the eastern part of the Plain at the Kostenki - Borshchevo sites along the Don. This region some 22,000 years ago shows the presence of sites with inventories and features technologically, organizationally, and stylistically similar to the Pavlov ones from Moravia. These inventories, like the Moravian ones predating them by from 2,000 - 6,000 years, are rich in jewelry and art, most notably of ivory female figurines (GRIGOR'EV, 1993; GVOZDOVER, 1989; SOFFER, 1993). Their lithic inventories show the habitual use of exotic superior raw material originating at distances of 150 - 300 km. from the sites.

Chronological controls and the contextualization of archaeological data within the paleoenvironmental setting suggests that some sort of a demographic shift is the most parsimonious explanation for the appearance of these sites - namely, that around the glacial maximum the Russian Plain served as a refuge for some Central European groups.

Cultural intensification in this area, evident in the elaboration of material culture, although dating somewhat later than in Moravia, is also associated with deteriorating environments. I argue, however, that this association is not direct - the climate did not make them do it - but rather channeled through demographic packing or relative population density. On the central part of the Plain it is associated with the linearization of the settlement system while further east it appears associated with groups coming from elsewhere.

Finally, this region has yielded very sparse and fragmentary human remains which, unfortunately, do not permit a consideration of paleopathology.

C. Western Europe

Data from Western Europe - namely southwestern France and Spain - do, however, permit us to consider biological evidence relating to stress.

The artistic records of this part of Europe and of adjacent Italy are well published and in no need of summary presentation here (BAHN and VERTUT, 1988; DELPORTE, 1990; LEROI-GOURHAN, 1971; MUSSI, 1992). Although Upper Paleolithic art, both portable and parietal as well as decorated objects, are very abundant in this part of Europe, and while many questions remain about their dating, most date to the Late Upper Paleolithic - younger than some 25 - 20,000 B.P. (VALLADAS *et al.*, 1993; WHITE, 1986).

As in Central and Eastern Europe, this proliferation is associated with both deteriorating climates and increased population densities (JOCHIM, 1987; RIGAUD and SIMEK, 1990). It is also associated with increased morphological evidence of stress.

While the demographic samples are small in number and weak in chronological control, research on Upper Paleolithic skeletal remains has led JACOBS (1985) to conclude that the decrease in size and in sexual dimorphism noted for European Upper Paleolithic groups in general in actuality are most clearly in evidence after the glacial maximum. More recently, BRENNEN'S (1991) research on multiple indicators of stress on skeletal remains from southwestern France has shown redundant evidence for increase in stress between the Early and the Late Upper Paleolithic (after the glacial maximum) (Figure 2). This is seen in decreases in stature among both males and females, as well as in the increased incidence of such non-specific indicators of stress as dental hypoplasia, Harris lines, and periostitis.

IV. DISCUSSION AND CONCLUSION

In summary, this brief examination of the European Upper Paleolithic record has shows: 1) the asynchronous nature of climatic amelioration and deterioration, the asynchronous and region-specific response of the biotic communities to these climatic changes and, therefore, the asynchronous nature of environmentally generated resource stress on Upper Paleolithic hunter-gatherers who occupied these regions, and 2) the different and unsynchronized cultural solutions to this resource stress. In some cases, as in Moravia between some 24,000 and 22,000 BP, these solutions involved shifting settlement loci from core to peripheral regions and an eventual abandonment of the region. On the different parts of the Russian Plain it involved linearized demographic packing on the central part, an expansion into the southern steppe zone, as well as immigration of groups from elsewhere and the use of the region as a refugium reflected most clearly in the archaeological records of the Dnestr and of the Don (SOFFER, 1990, 1993).

This dynamic scenario, in contrast to our previous static ones which saw Upper Paleolithic Europe peopled from the Atlantic to the Urals by groups who through time, and their innate abilities, evolved closer and closer to the "dawn of civilization", sees Europe far from fully and steadily packed. Rather it shows ebbs and flows in the regional occupation records, and these carry a number of implications both for the paleoanthropological and archaeological records.

Second, regional differences in environmental degradation and concomitant resource stress, as well as the asynchrony of their onset, indicate that we should find both direct and indirect morphological evidence for this stress at different time periods in different parts of Upper Paleolithic Europe. I suggest that this is precisely what we see in Moravia ~26,000 years ago and in southwestern France some 15,000 years ago.

Third, it is these "lean times" associated with environmental degradation which show the proliferation of cultural complexity seen in elaboration of material culture, and this association is not coincidental.

Finally, the last point I wish to make is the clear reversibility of Upper Paleolithic cultural elaboration as evidenced in the proliferation of art. Specifically, the complexity seen in Moravia at some 26,000 BP or on the Russian Plain and in southwestern France some 15,000 years ago clearly had no long-term evolutionary significance - it did not lead to "bigger and better" art. This is clearly reflected in the oscillations in the production of art shown in Figure 1

Specifically, although cultural elaboration in Upper Paleolithic Europe is associated with deteriorating periglacial environments, this association is not a direct one but dependent on relative population densities. A global perspective also shows such elaboration occurring among the Natufians in non-periglacial Terminal

Pleistocene Levant (BAR YOSEF and VALLA 1991)), at roughly coterminous Jomon sites here in Japan (BAHN,1991), as well as, possibly earlier, in discrete regions of South Africa and Australia (BAHN, 1991). All this indicates that it was not the climate but rather some specific responses to it - those which lead to an increase in regional population densities - that are implicated in such elaboration. In some cases such densities, through socio-technological means in the presence of appropriate resources, spurred a qualitative change in cultural practices which followed an evolutionary trajectory. In others, as in Upper Paleolithic Europe, they did not - they just lead to the simple, small, and very mobile early Mesolithic.

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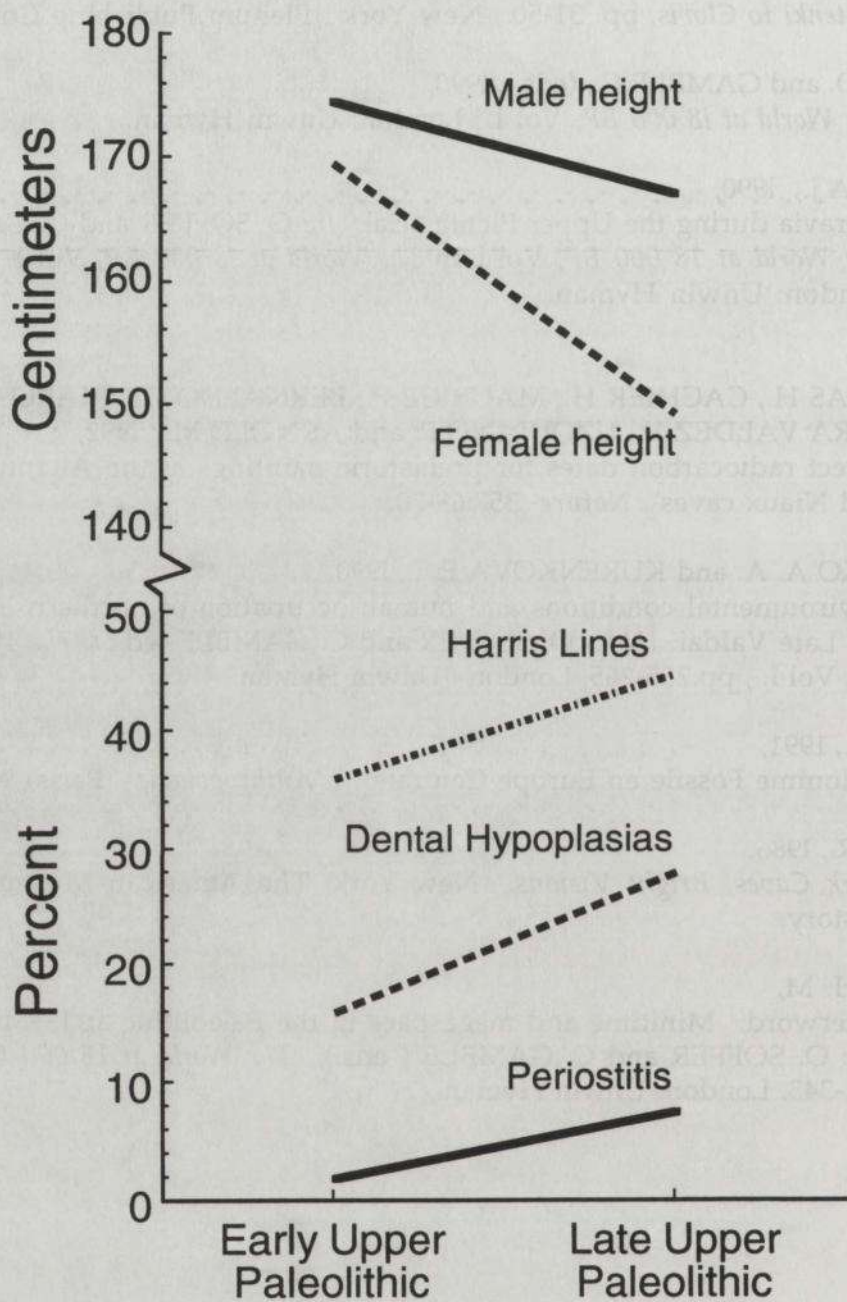


Fig. 1 : Nonspecific Indicators of Stress in Upper Paleolithic Southwestern France (after Brennen 1991)

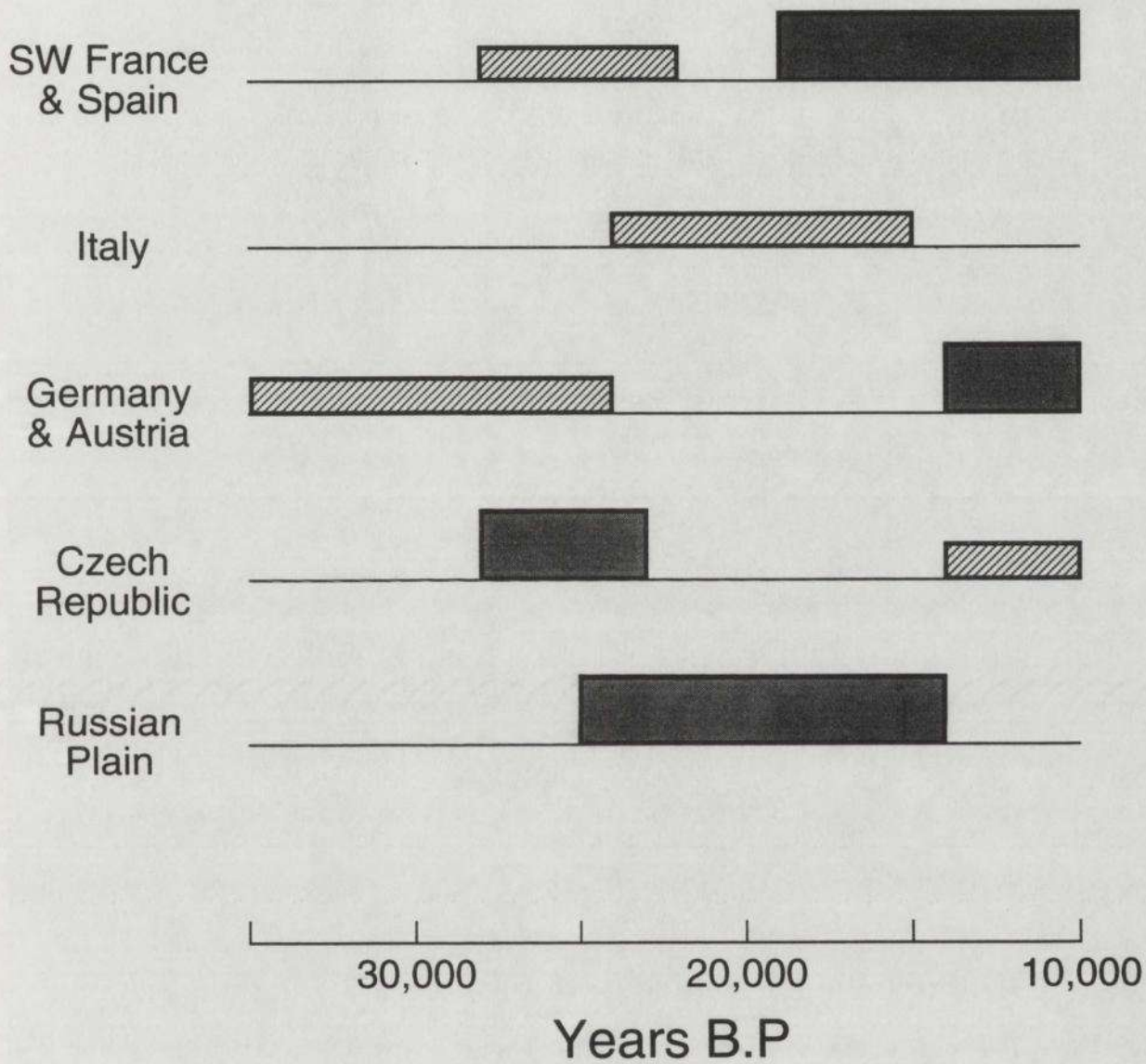


Fig. 2 : Proliferation of art and jewelry in Upper Paleolithic Europe
 - shaded areas - some
 - darkened areas - abundant