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## Appearance, expansion and dilution of the Magdalenian civilization

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### *Abstract*

The Magdalenian constitutes a civilization in the full meaning of the term, with its unique metaphysics, social rules, exchanges codified with nature via its art and weaponry. Such coherence and strengths led to its demographic and territorial expansion into regions formerly considered “uninhabitable”. In these new, immense and constraining geographic zones, the Magdalenian culture became thin, less substantial, and other civilizations emerged from it (Creswellian, Hamburgian, Ahrensburgian, Tjongerian, Azilian). All foreshadow the end of the balanced relationship between humanity and nature, the domination of one over the other, and thus the end of the European Paleolithic.

### **1. Introduction**

Although commonly noted, it remains curious to observe the comparison between a human life and all society. With a childhood during which the absorption of surrounding values operates in a single direction, followed by a phase of maturity during which one’s personality develops and is asserted, all is completed by a phase of dilution in which certain elements are diffused and dispersed, the coherence of the initial body having disappeared. This comparison is especially marked with superimposed and clearly defined European civilizations, overlapping within a given territory and during limited periods. It loses pertinence as one moves to eastern Eurasia where the concept of civilization is considered to be cyclic, at least in the eyes of a Western observer. Restricted to the European continent, there is no objective reason to imagine that such linear and dynamic rhythms would apply less to human societies prior to writing than to other societies, whether contemporaneous or anterior (Celts, LBK, Paleolithic). In this view, we present here the example of the Magdalenian civilization for which the history, cultural components, geographic expansion and complex disappearance are sufficiently well-known to attempt to construct a highly schematic and provisional overview.

In this perspective, the comparison of data of highly different nature, and often artificially separated, is necessary: art, economy, habitat, technology. The context is also broadened to obtain a truly historical dimension: cultural phenomena considered globally in the three dimensions of space, time and their nature. A diachronic approach is rarely applied in ethnology, and the opposite is also true for history. Altogether the Magdalenian, clearly defined in contrast to all other surrounding cultures, is the exact equivalent of what we hope to learn of a powerful civilizing pulse, of long duration with phases of origin, formation, maturity, expansion and spread across Europe. This is the only Paleolithic civilization not only originating in but limited to the European continent; it is thus within it that we can hope to identify all of its mechanisms.

### **2. Demographic and cultural foundations**

In contrast to the “Inter-Pleniglacial” phase (between ca. 40 and 20,000 BP) during which continental-scale contacts were intense (Aurignacian, Gravettian), the more recent demographic concentrations in southwest and southeast Europe appear to coincide with the most rigorous conditions of the Last Glacial Maximum, to which apparently these civilizations were not adapted.

As a result, a sort of “ethnic desert” seems to divide the continent such that no civilization retained its unity. We consider here the western part of the continent since all evidence suggests a western origin for the Magdalenian, while all other cultures developed in parallel on the eastern flank (“Mezinian”). In the west then, the different components of the Final Gravettian (plain-faced points), Aurignacian-like complexes (“Badegoulian”) and African influences where contemporaneous drought led to symmetric but opposite migrations from south to north (“Middle Solutrean”), are superimposed.

In Western Europe, south of the Rhine, the Meuse and the Escaut Rivers, the different components of the Gravettian and Final Aurignacian civilizations were concentrated, but also underwent an extraordinary efflorescence, reflected by the different “facies” already defined. Often considered in a nationalistic view as stages in a single line of evolution, a more objective view shows the existence of a network of external influences, certainly successive but especially with varying geographic affinities. When we take this into consideration, all prestigious civilizations start from the crystallization of debris left over from other different civilizations that a new formulation will bring together in a new and powerful force. The example of Western Europe is very clear in this regard. The Aurignacian traditions and populations contrast sharply with local preceding ones, while influencing them (Chatelperronian, Uluzzian) and providing a very specific color to the regional Gravettian (Périgordian). Art, for example, is extremely exemplary in this respect: from Chauvet to Cosquer, plastic continuity can be observed. Technology also reflects such persistence, unique to the west, in the use of bladelet armatures.

Yet these forms of regional osmosis are surprising only by their absence elsewhere, and present in such a limited territory and in such high demographic and traditional concentration. We moreover find them sporadically dispersed across all centers of contemporaneous ethnic concentrations, from Moravia to the Russian Plain, from the Crimea to the Kazakh steppes, while the richest regions are in France, Spain, Italy and Belgium. The distinction between Aurignacian and Gravettian civilizations does not lose its importance. Yet the specific examples we use here are of two specific orders. In that which the Bordes school terms Périgordian VA (tanged points with flat retouch), we clearly see the late influence of innovations proper to the northern plains (Maisières-Canal, Huccorgne, Nemours). And it is within this variant of the Gravettian that the same school (and others) confounded the so-called “Proto-Solutrean”, again in a nationalistic spirit legitimate at the time but untenable today.

Plain-faced points announce nothing - those that will be shaped by bifacial retouch, in what can be termed Middle Solutrean following the same regionalist “logic”, are certainly more recent than the Middle Solutrean, but only in France! Iberian sites not only contain early phases, but also produce the earliest dates for bifacial retouch that also interrupts the development of the regional Gravettian (Otte and Noiret, 2002). North Africa long possessed such technological traditions that disappear at the same time that they are spread into Spain and then to the South of France, only, following the same model as the spread of the Acheulean. All art of this true Solutrean also reflects an African influence because it manifests a relationship with an experienced reality, entirely absent in Europe, whether Aurignacian, Gravettian or Magdalenian in which art reflects a dreamed mythology. The opposition between these two worlds is naturally equivalent to their modes of thought and metaphysics, reflected as much in the images as in techniques, productions with distinct functions, but also an equivalent spiritual anchorage. A bifacial Solutrean point contrasts as much with a point made of organic material combined with Gravettian bladelets as the animated images from Covalanas do with the figures frozen in the mythical time of Cougnac, for example. To confound them is the same as likening Vermeer to Caravaggio under the pretext that they are contemporaneous, or Piero della Francesca and Byzantine art. Absolute dates, although necessary, are not sufficient to sweep away the obvious stylistic differences, that is, the formal expression of collective values held by a given people. Our true work as anthropologist of the past lies here, while certainly complex, but at the very least oriented toward coherence.

### 3. Origins

New paths are forged from this rigor and this mixture, starting with the Final Gravettian (also termed “Laugeriean” or “Périgordian VII”) observed especially in the southwest (Abri Pataud, Movius 1977), but also in the Rhineland (Mainz-Linsenberg) and more rarely in dispersed sites (Klaric *et al.*, 2009; Hahn 1969). Already this distribution, broad and northern, inaugurates new attempts at reoccupation, primarily via composite technology: stone and bone joined by adhesive or grooving. Such techniques, based on the use of bladelets with a straight edge, reflect the complexity and maturation of the mind confronted with new constraints and challenges, stimulating in terms of the human adventure (Fig. 1).

All civilizations start, retrospectively, from the success achieved over the constraints that limited preceding populations. For the formation of the Magdalenian, these difficulties were diverse and unknown. These included first of all the easing of demographic tensions in the dense concentrations of the extreme west, attempting new technological combinations and, in particular, developing a sufficiently strong mythology to support new conquests against nature. All of this is very simply expressed by maps of expansion, technological systems and art, so close to mental images. The Magdalenian way of life thus reflects successive attacks against natural laws, but with a single mind. The development of weaponry provides additional evidence, and one sees in them the broadening of the range of prey or, at least, technological responses appropriate to these renewed needs.

The essential here resides in the perfect parallelism held as much by mechanical paths as by those of images across the transition between the regional Final Gravettian (Périgordian Vc, then “Proto-Magdalenian”) and the earliest Magdalenian, dated at El Miron to 17,000 uncal BP (Straus and Gonzalez Morales 2003), identical to Lascaux. One would have to have a particularly obstinate mind to continue to see the Solutrean at Lascaux or Gabillou, where all evidence indicates clear continuity, not only with the subsequent Magdalenian plastic adventure, but also with the preceding Aurignacian/Gravettian cycle. The semiotic forms are interlinked: humans hunting bovids and two ibex in opposition at Lascaux and Roc-de-Sers, but these are episodic narrative influences of a fading Solutrean civilization, and moreover ephemeral in time and space, entirely opposite to what is observed during the Magdalenian.

### 4. Spirituality

Although, in my view, the challenge launched via techniques comes down to the “spiritual” attempt (being that of the mind), it is more comfortable to express this evolution very classically by the evidence separated from any utilitarian connotation. Art is often reputed to better explain things than the sagaie, despite my own conviction. This art follows the same adventure, from the Gravettian to the most “classic” Magdalenian (coming back to the historical analogy). Within this continuity, myth radically prevails over the relationship with observed reality, opposite to what occurred during the ephemeral Solutrean civilization (Covalanas, Parpalló, La Pileta), particularly manifested in the extreme southwest part of Europe or even only on the Iberian Peninsula, where it is moreover earlier and more abundant than in France where it disappeared (fig. 2). Conversely, exactly symmetrical, images from the “Périgordian-Magdalenian” cycle embody dreams, that is, forms of collective control over reality in all of its functioning and in its sacredness.

In Paleolithic prehistory, we cannot hope for a better contrast between two traditions, precisely because they were partly contemporaneous, in part in the same territories, and so unfortunately interpreted, especially due to the completely inopportune separation between technological and artistic approaches to the same phenomenon. To this methodological error can be added the regional fiber, so obscure and so powerful, that leads us to still call our ancestors the

Gauls, in a country named by the Franks, a Germanic people... The chronological scale, based on excavations, does not touch the cultural layers that are in continuous horizontal movement, as if we confounded Paleolindians with European cultures, obviously overlain but in total intellectual disharmony. The Paleolithic history of Western Europe contains leaves of entirely different, but immediately identifiable, traditions as soon as we leave the cul-de-sac of the extreme western region. The formation of the Magdalenian takes key elements which, in this restrained environment, affect all preceding innovations, absorbing the essential and combining them into a new, innovative and coherent form. It remains that, with a little conceit, the essentially European current formed by the Gravettian substrate appears to constitute the principal component, as much in its demographic, technological and artistic aspects as mythological. Once these different forms are combined, when the civilization takes form, they are imposed on all of its components and, by this new spiritual key, propose other adventures to its members, such as the conquest of new territories.

### **5. Life of forms and territorial conquests**

Within this fundamental mythological relationship (action passes by myth, not by reality), we see and feel all of the patterns that reflect this liberating will alter by a progressive passage from the dreamed form to that close to that experienced. Proportions, animation, changes in themes, anatomical details are accentuated until man himself ventures, armed with this new control, into territories which until then had been “forbidden” by traditional inhibitions that only customs imposed. An analogy can thus be clearly seen between the conquest of reality by images and conquest of nature by the extension of the habitat (fig. 3).

Represented on a map and with available dates, techniques and arts, these migrations are logically connected. Movement is thus much clearer than the origins because it involves territories unoccupied since the Gravettian: Germany, Bohemia, Moravia and Poland, where it abruptly comes into contact with the Eastern Gravettian, itself in full expansion. It is striking to observe the cohesion, for example, in dwelling forms, artistic expressions and technical solutions that are identical in Central Germany (Nebrat), Bohemia (Hostím), Bavaria, Switzerland and Belgium. Like the conquerors of the New World, all of the cultural baggage remains intact over millennia and across extremely varied territories, like we would recognize a British component in the middle of the Australian bush, characterized by the same contrast and the same coherence in technical expressions, distant memories of the metropolitan ideology that justified their presence there.

### **6. Expansion**

Before any climatic improvement then, daring was enough to both distinguish these populations from those that disappeared on a European scale and to invent facultative weapons, a conquering mythology, appropriate displacements, episodic ruptures, long-distance relays, flexibility in control over all kinds of environments, ritual delegation by shamanism, the “descent” of mythical decoration of rock walls in favor of mobile supports, such as modern crucifixes or portable altars. All of these elements can be seen a “proof” by their simple spread on a map indicating waves of Magdalenian expansion, oriented toward the northeast. Two principal routes, with distinct destinies, can be observed (Kozłowski, 1985), but remain too often confounded. The northern axis links the Périgord to the Paris Basin, then to the Meuse Basin and the Rhine Basin (fig. 4). The central axis passes by the Swiss Plateau, the Jura Souabe, Bohemia, Moravia and Poland (fig. 5). It appears to be much earlier than the first (around 14,000 BP at Maszycka) and corresponds to the core that would lead to the plains civilizations (Hamburgian and Creswellian) that a too rapid look tends to confuse with the phantom of a “Northern Magdalenian”, while these are actually entirely new civilizations, certainly with Magdalenian souvenirs, but recomposed a thousand other ways.

We should thus view the expansion of the Magdalenian civilization as a series of successive waves rather than by a single population movement, as the dates (14-12,000 BP), the arts and techniques demonstrate with eloquence. From the Middle Magdalenian, the whole of the hilly



regions of Europe appear to have been colonized (Maszycka, Nebra and Oelknitz at 14,000 BP). However, other waves contribute to the Late Magdalenian (13-12,000 BP): Chaleux, Gönnersdorf, Monruz. However, up to then each could be attached to the original evolution in the Périgord, as if this metropolis created concepts regularly transmitted and transposed to pioneer, peripheral and distant frontiers. Art is particularly explicit at this stage: entirely naturalistic, it diversifies its themes while remaining within the animal register. Only feminine schemas suggest human contours, but conversely, rigorously codified to the limits of abstraction and reduced to a conventional sign. There are two forms of contemporaneous plastic language, sometimes in the same ensembles (e.g., Gönnersdorf), once again demonstrating the rigor of the codes, and thus the collective thought during the Magdalenian, regardless of the context. And all are, ultimately, attached to the Périgord, from Lalinde in the Dordogne to Hostím in the Bohemia, as surely recognizable as Roman coins that carry, far from their metropolitan origins, the image of successive divine emperors.

This regularly renewed density of the Magdalenian population in hilly regions, then the plains of Central Europe, would lead to the reconstruction of new patterns, adapted to the vast river basins draining to the northern seas. Western contacts become diluted and end by ceding place to entirely autonomous ways of life, like American culture today can be distinguished from that of the English colonies. Memories remain, but their compositions are completely new.

## **7. Cultural dilution and inheritance**

Probably “winded” by such huge migrations and confronting unceasing challenges, the pioneering population as well as their technology and mythology began to crumble and became diluted across these immense expanses, where new generations could create their own myths. The widespread adoption of the bow, light armatures, with truncated point and shouldered base, reflect an entirely different relationship between man and nature, totally indentured. Spiritually, the Neolithic is not far off and the human image is present in what remains of schematic art, as a definitive sign of the appropriation of nature, well before and independent of Neolithic domestication (Cauvin, 1976; Sahlins, 1972). The hunter-gatherer world has shifted to that of predators in which nature becomes a dietary resource to exploit rather than an integral part of human life.

Indeed, the fundamental difference between hunters and predators is that for the first a harmony is established between nature and man, who respects nature and proceeds by ritualized and controlled exchanges. For the second (predators), nature has become external to the humans who exploit it only for its resources, as a vein of coal may be mined. This key difference shatters the spontaneous equilibrium between nature and human society, and is irreversible. Exploitation would from now on be increasingly intensified and always in the same direction, in favor of humanity, to the point that it is greater than the renewal of natural resources. Domestication logically follows this path, but it had to have been preceded by this phase of overexploitation of natural resources that the spiritual anchoring of such an economic revolution evidences.

At the same time, the importance gained for human figures in art shows the same change because they indicate the presence of “gods”, that is to say, superior forces, affecting the destiny of humans, but which now have a human allure. It is here that the ideological change is the most dramatic because humanity shifts from mythology (illustrated stories) to religion (place with the gods). All human appearances prior to the Bölling were dissimulated (in animal forms), deformed (such as masks) or highly schematic (sexual signs). While the representations had meaning (and this is evident in sacred art), they had to obey strict rules that favored certain images and forbade others. With the Lateglacial, this new control and daring are shown both in the relationship to prey and to human images. Still, up to the present, the human figure would be the iconographic foundation and animal separated as favorable (domesticated herds) and unfavorable (wild and dangerous). The point of departure lies here.

Still in parallel and in the same direction, the sudden abundance of light shouldered stone points (regardless of cultural substrate), contrasting with massive bone sagaies, corresponds to the new importance given to bows when hunting in forested environments. Of course, this weapon had existed at least since the Aurignacian, between 35 and 40,000 BP (points on bladelets), but were an accessory part of the hunting toolkit dominated by sagaies, better adapted to the steppe and wild herds. The new points demonstrate the now near-exclusive use of the bow. It left little chance to the prey, reached from a distance, with rapidity, precision and silence: bows were the weapons of the gods. Once again, man sought to overcome his natural anatomic condition by the dominant use of a sophisticated weapon with high ballistic power and thus the image itself entered the range of religious images. More than a weapon, the bow became a symbol, such as the bishop's crozier today (originally a shepherd's staff) or the marshal's baton (originally a real weapon). This ideological transposition recalls the value of "sign" taken by the biface in earlier times, devoid of any technical function, or later, the Neolithic axe, useless but so prestigious that it was represented next to actual axes deposited in funerary contexts. Again, such delegation of the real function to the figured image is evidence of a process begun at the end of the Magdalenian.

## 8. Conclusion

For six thousand years, the Magdalenian civilization found solutions, appropriate to the challenges encountered, by spiritual, artistic, technological, economic and social means (fig. 6). This overabundance of success gave humans the ability to forge their destiny, to overcome natural constraints which limited preceding civilizations. Such expansion even led to its ultimate loss: far from the centers of origin, where these abilities worked in harmony, Magdalenian metaphysics, undermined by new and unexpected constraints, became diluted to give rise to other structures refined by new generations, and with a much more aggressive attitude toward nature, which was progressively reduced to a dietary role, an exchange between energy sources. Today's mentalities come directly from this, but this observation, based on an irreversible process, provides nothing to the current situation. It only accentuates the responsibility of humanity. Armed with this historical lucidity, it must cope by renewing its own values.

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### Figure captions

Figure 1: The “Périgordian VII” (proto-Magdalenian), very close in time, sets in motion the foundation of Magdalenian technological processes: backed bladelets adhered or inserted into an organic haft. Art also follows its plastic life without interruption? It reflects the increasing control over reality and thus the progressive loss of its original mythical substance.  
 (sources: Brézillon, 1968; Daumas, 1962; Demars and Laurent, 1992; Otte, 2004)

Figure 2: The dramatic differences between Solutrean and Magdalenian “art” (with the spiritual concepts that it embodies). The first is attached to reality to give it a mythical value. The second embodies the mythical vision, devoid of its relationship to the real world. The first reflects African influences, the second Eurasian. The concept of the weapon reflects this profound opposition: in stone and bifacial in southwest Europe, in bone and light on the Eurasian steppes.  
 (sources: Demars and Laurent, 1992)

Figure 3: These are new challenges that push Magdalenian societies to expand to the northeast, abandoned during the Last Glacial Maximum. Techniques, like metaphysics, were suitable to overcome such challenges prior to climatic amelioration.  
 (sources: Daumas, 1962; Feustel, 1974; Otte, 1988; Street and Terberger, 1999; Torroni *Et Al.*, 1998)

Figure 4: Approaching reality through attitudes, movements and details, art shifts from walls to plaquettes, to become mobile like the populations themselves. The style becomes more realistic as humans defy nature through the use of new composite and elaborated weapons. Overcoming the constraints of rigorous environments was thus above all an idea that humans had of themselves, transcribed as much in the arts as in geographic expansion.  
 (sources: Bosinski and Fischer, 1980; Rensink, 1995)

Figure 5: This migratory route crosses hilly Europe, from the Aquitaine to Poland, passing by the Bohemia and eastern France and Central Germany. The “Magdalenian à navettes” (spear foreshafts) belongs to its middle phase, around 14,000 BP. The networks maintained, via fossil shells, show this orientation toward the center of Europe via the Rhine and Danube basins.  
 (sources: Bullinger *et al.*, 2006; Klima, 1985; Kozłowski, 1985; Marshack 1995; Vencel, 1995)

Figure 6: Iconographic themes become more schematic, from the Périgordian walls to the heart of Poland, and shift to the statuette while preserving the same rigorously observed style, the same schematic formula and particularly the same iconographic theme. Shamanism, evident at the Trois-Frères in the Pyrenees, continues across Central Asia, from where, in our view, it originated. It illustrates this strict and harmonious relationship between man and nature, supporting the hypothesis of the occasional mounting, far from the principle of domestication.  
 (sources: Bosinski, 1981; Mania, 1999; Marshack 1995)

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(sources: BRÉZILLON, 1968; DAUMAS, 1962; DEMARS & LAURENT, 1992; OTTE, 2004)

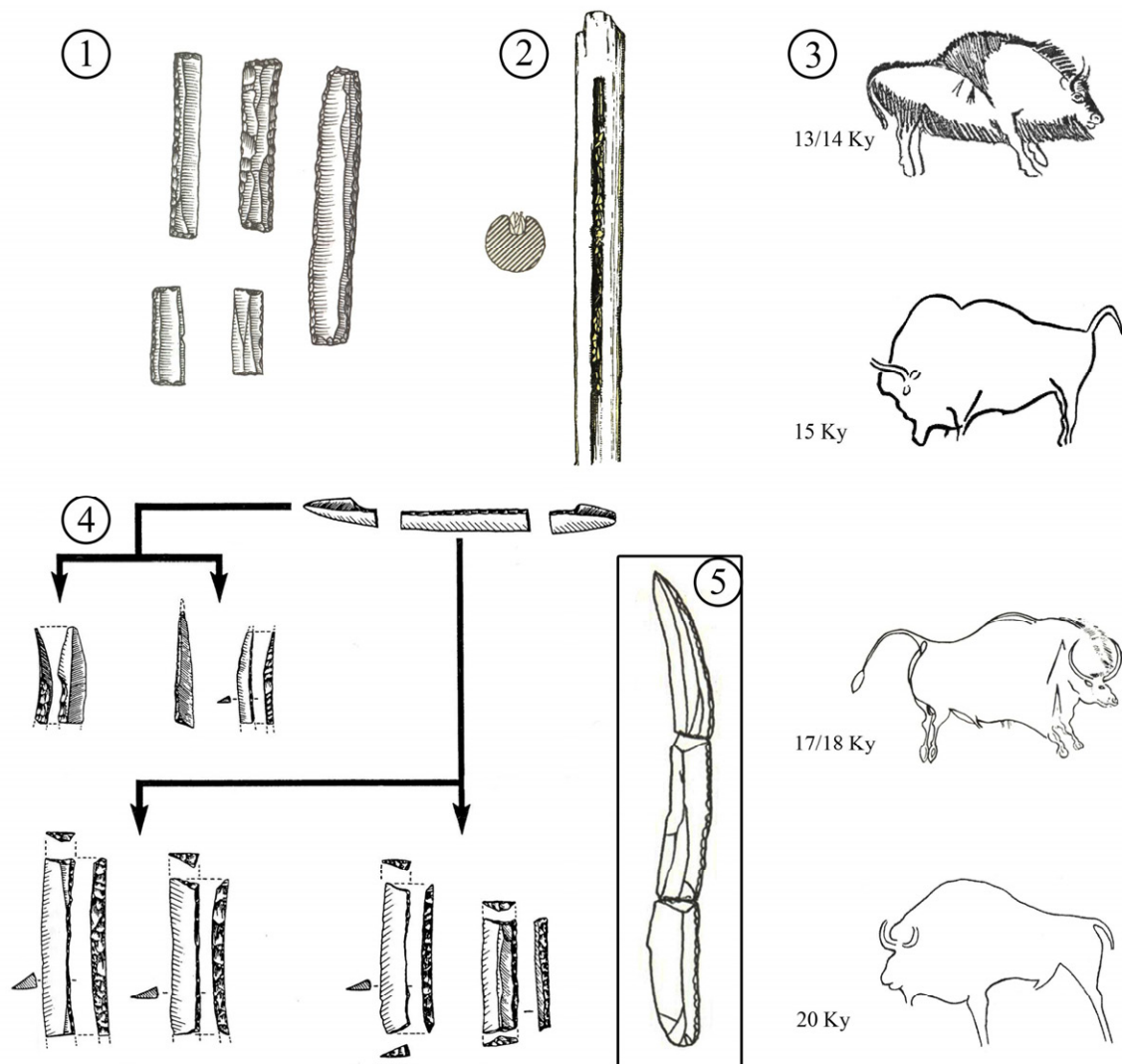
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Figure 3: These are new challenges that push Magdalenian societies to expand to the northeast, abandoned during the Last Glacial Maximum. Techniques, like metaphysics, were suitable to overcome such challenges prior to climatic amelioration.  
(sources: DAUMAS, 1962; FEUSTEL, 1974; OTTE, 1988; STREET & TERBERGER, 1999; TORRONI *et al.*, 1998)

Figure 4: Approaching reality through attitudes, movements and details, art shifts from walls to plaquettes, to become mobile like the populations themselves. The style becomes more realistic as humans defy nature through the use of new composite and elaborated weapons. Overcoming the constraints of rigorous environments was thus above all an idea that humans had of themselves, transcribed as much in the arts as in geographic expansion.  
(sources: BOSINSKI & FISCHER, 1980; RENSINK, 1995)

Figure 5: This migratory route crosses hilly Europe, from the Aquitaine to Poland, passing by the Bohemia and eastern France and Central Germany. The “Magdalenian à navettes” (spear foreshafts) belongs to its middle phase, around 14,000 BP. The networks maintained, via fossil shells, show this orientation toward the center of Europe via the Rhine and Danube basins.  
(sources: BULLINGER *et al.*, 2006; KLIMA, 1985; KOZLOWSKI, 1985; MARSHACK; VENCL, 1995)

Figure 6: Iconographic themes become more schematic, from the Périgordian walls to the heart of Poland, and shift to the statuette while preserving the same rigorously observed style, the same schematic formula and particularly the same iconographic theme. Shamanism, evident at the Trois-Frères in the Pyrenees, continues across Central Asia, from where, in our view, it originated. It illustrates this strict and harmonious relationship between man and nature, supporting the hypothesis of the occasional mounting, far from the principle of domestication.  
(sources: BOSINSKI, 1981; MANIA, 1999; MARSHACK)



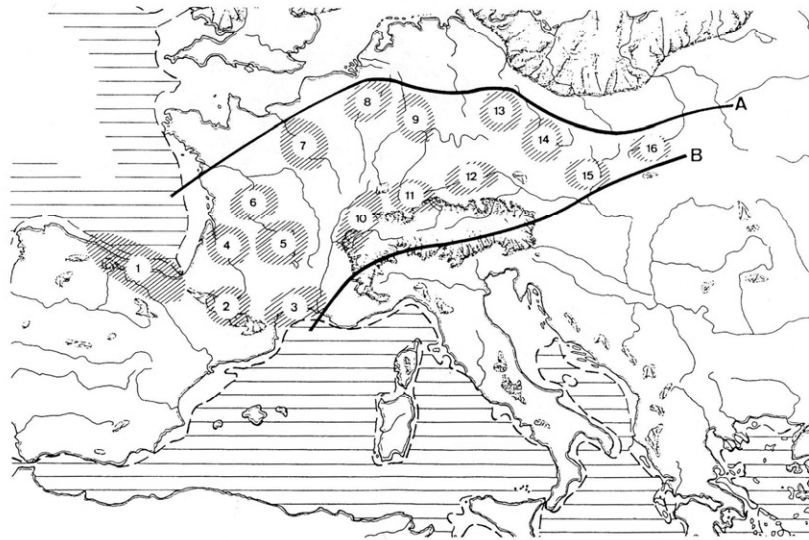
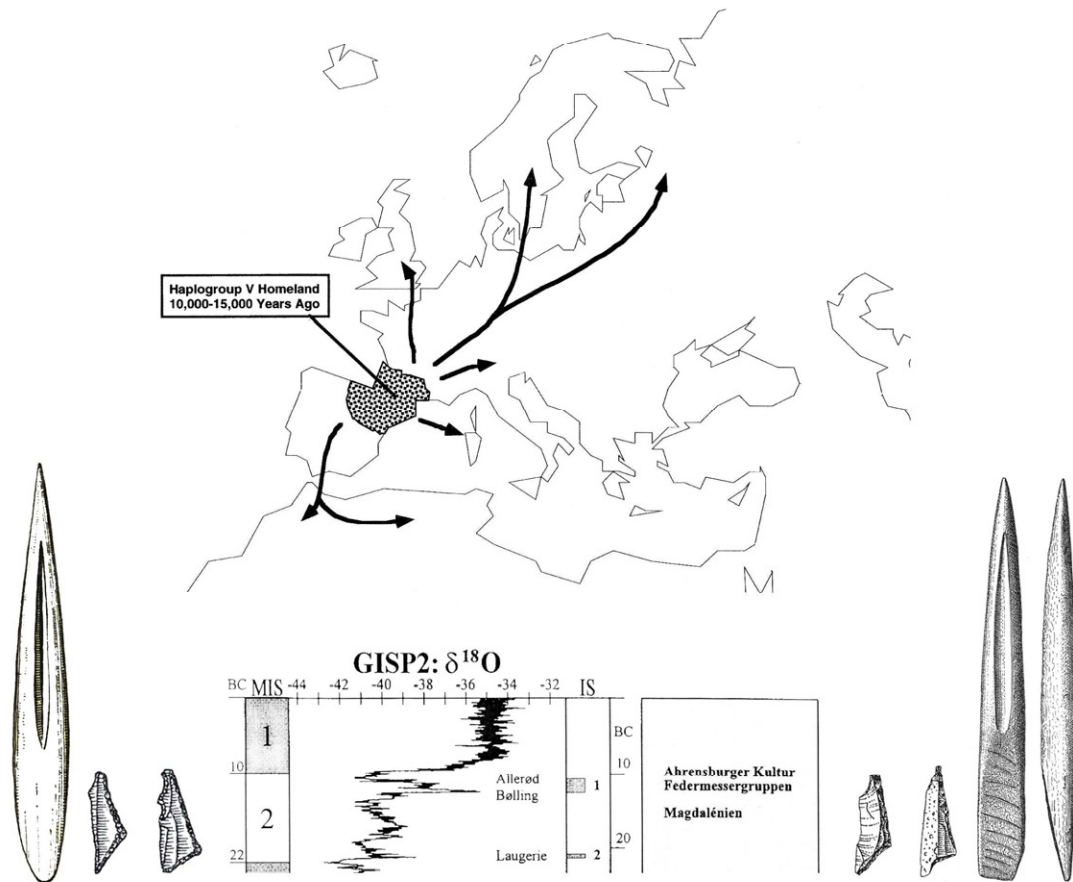


Solutrean

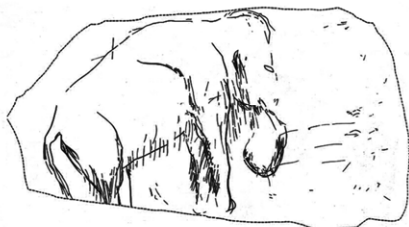


Perigordian / Magdalenian

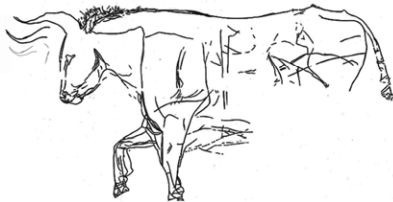








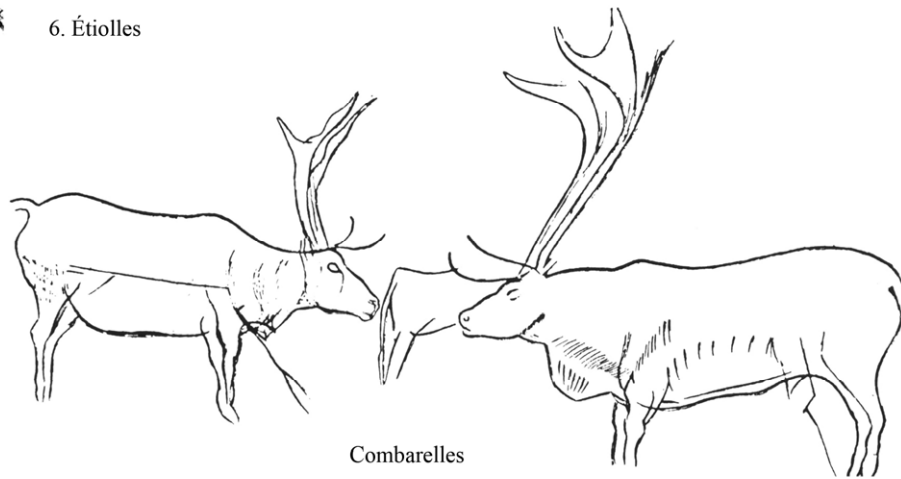
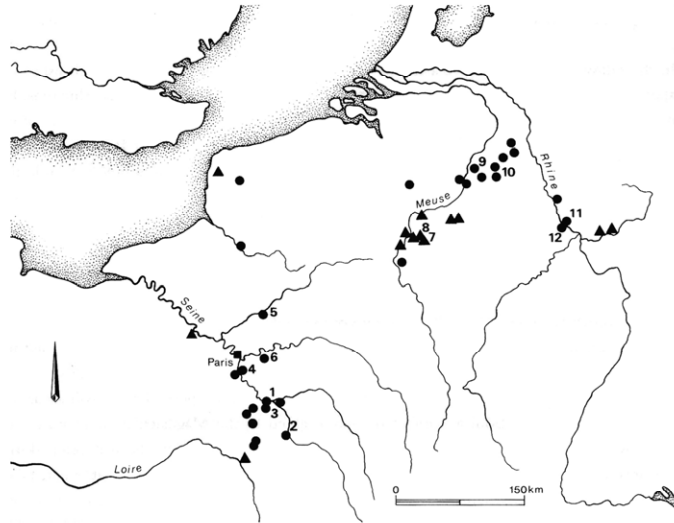
11. Gönnersdorf



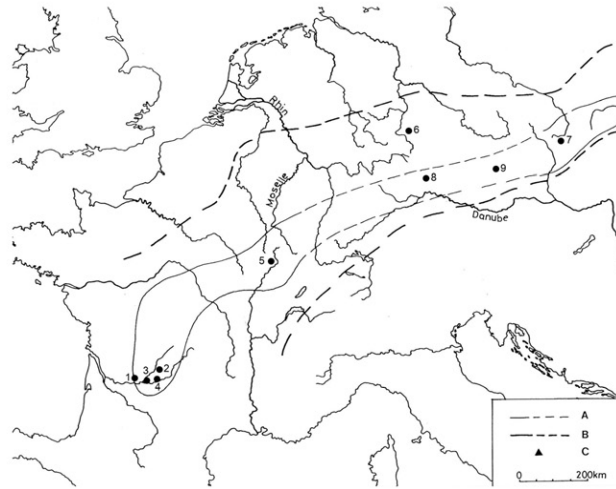
7. Chaleux



6. Étiolles



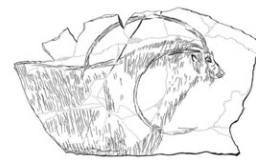
Combarelles



5. Switzerland



8. Bohemia



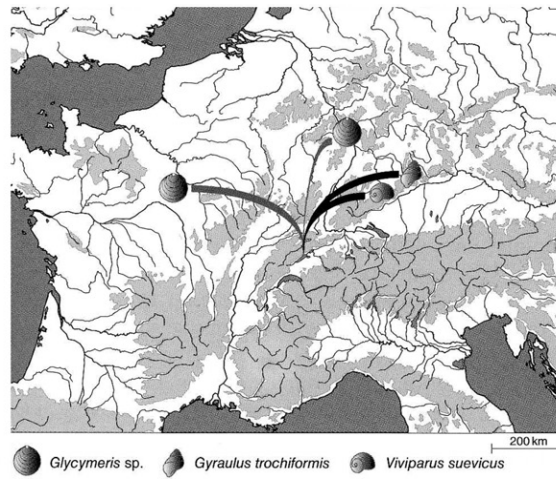
9. Moravia

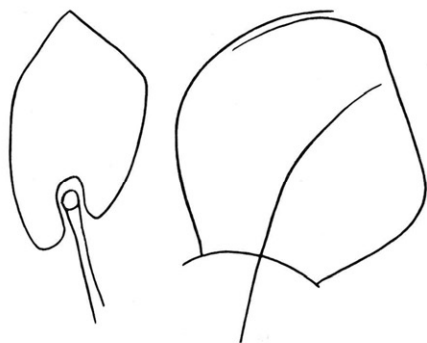


7. Poland



1. Combarelles

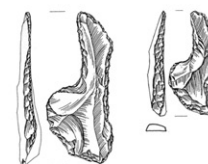
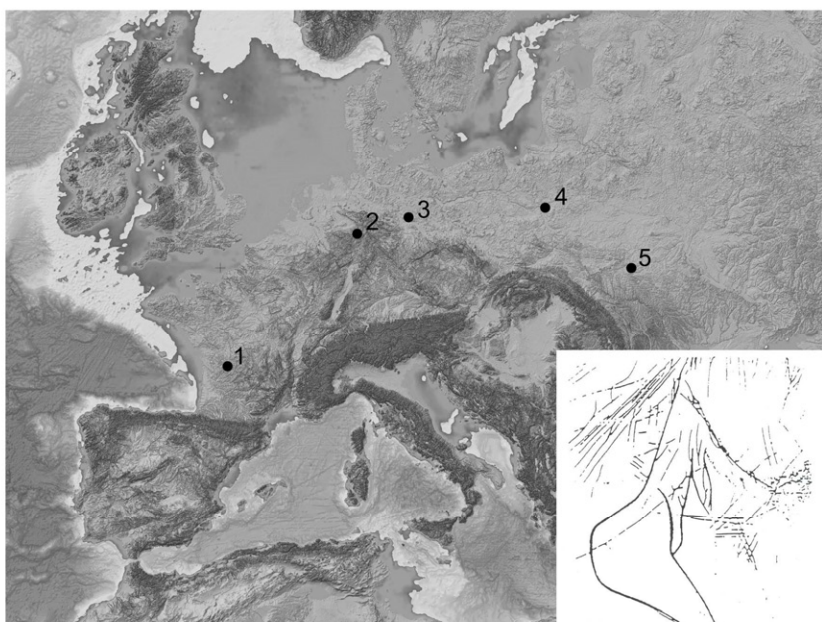




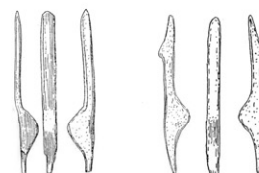
2. Gönnersdorf



5. Maszycka



4. Wilczyce



3. Nebra



1. Couze



2. Gönnersdorf



Trois-Frères

