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# THE EARLY UPPER PALEOLITHIC IN SOUTHWESTERN FRANCE

*Nicolas Teyssandier*

*This paper is a tribute to the work of Jiri Svoboda and its relevance to important discussions on the beginning of the European Upper Paleolithic.*

## **Abstract**

The Upper Paleolithic (ca. 40.0–10.0 ky BP) is traditionally envisioned in terms of a clear rupture with the Middle Paleolithic. Indeed, how can we not see, in the numerous and varied ornaments, sculpted stone blocks, ivory statuettes, or bone, antler and ivory spear points, evidence of a significant and abrupt mutation in the long history of human evolution? We try here to explore the historic depth and evolutionary significance of the main innovations that materialized with the development of modern humans during the Early Upper Paleolithic in France. This chapter, thus, provides an overview of current knowledge on the technical and socio-economic evolution of modern hunter-gatherers from the Châtelperronian to the end of the Gravettian. Our main emphasis is, thus, related to the explanation of economic and social mutations that took place during the first stage of modern human dispersion in prehistoric France.

## **Keywords**

Châtelperronian, Aurignacian, Gravettian, Proto-Magdalenian, stratigraphy, chronology, France

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## **Introduction**

The Upper Paleolithic is linked with the emergence and development of the first societies of anatomically modern humans in Europe. Broadly speaking, it ranges from 40.0 to 10.0 ky BP, during the course of the last glacial cycle (OIS 3, 2 and 1),

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which was marked by rapid and intense climatic fluctuations (Dansgaard-Oeschger cycles and Heinrich events 4 to 1). This important moment of evolution in the Paleolithic was composed of six chronological entities (Châtelperronian, Aurignacian, Gravettian, Solutrean, Badegoulian and Magdalenian) that were succeeded by Epipaleolithic societies. Antler and bone points, together with particular elements of lithic tool-kits, served as type-fossils for establishing the stratigraphic succession of these different techno-complexes. This initial classification, with an emphasis on chronology, led to the recognition of separate entities whose cultural relevance remains difficult to grasp. These entities follow one another in a linear fashion, yet the evolutionary drive behind their succession is difficult to discern.

Over the last thirty years, behavioral approaches highlighting the *chaînes opératoires* of production, tool-kit curation and the existing interrelations between various components of technical systems have multiplied. They allow us to organize the cultural successions of the Upper Paleolithic in a more dynamic manner through notions of ‘transition’. Improvements in the resolution of chronological and paleo-environmental data make it possible to discuss the evolutionary mechanisms of these hunter-gatherer societies.

This chapter is not intended to be an exhaustive synthesis of French Early Upper Paleolithic data. It does, however, strive to bring to light certain factors that may explain particular major transformations affecting cultural groups at the end of the Pleistocene. We have at our disposal complementary documentation for the different geographic regions of France. While Southern France and its diversity of biotopes presents a near continual record of human occupation, particularly conducive to a diachronic approach, other geographic areas, such as the Paris basin and its fringes, have produced high-resolution data-sets that favor paleo-historic considerations (Valentin 2008). Here, we mostly discuss data from Southwestern France related to the first stages of the Upper Paleolithic, from the Châtelperronian up to the end of the Gravettian.

### **The onset of the Upper Paleolithic: the Châtelperronian and the Aurignacian (40.0–29.0 ky BP)**

Besides behavioral changes brought about by the onset of the Upper Paleolithic, this period also witnessed a major biological event which saw the replacement of European Neanderthal populations by anatomically modern humans. At the heart of this process lies the Châtelperronian (40.0–37.0 ky BP), the first Upper Paleolithic techno-complex in the French archeological sequence. Up until the end of the 1970s the authorship of the Châtelperronian had never been questioned. It was assumed that the appearance of new traits (bone and antler objects, ornaments and blade tools), which mark the uniqueness of the Upper Paleolithic, could only have been the work of modern man.

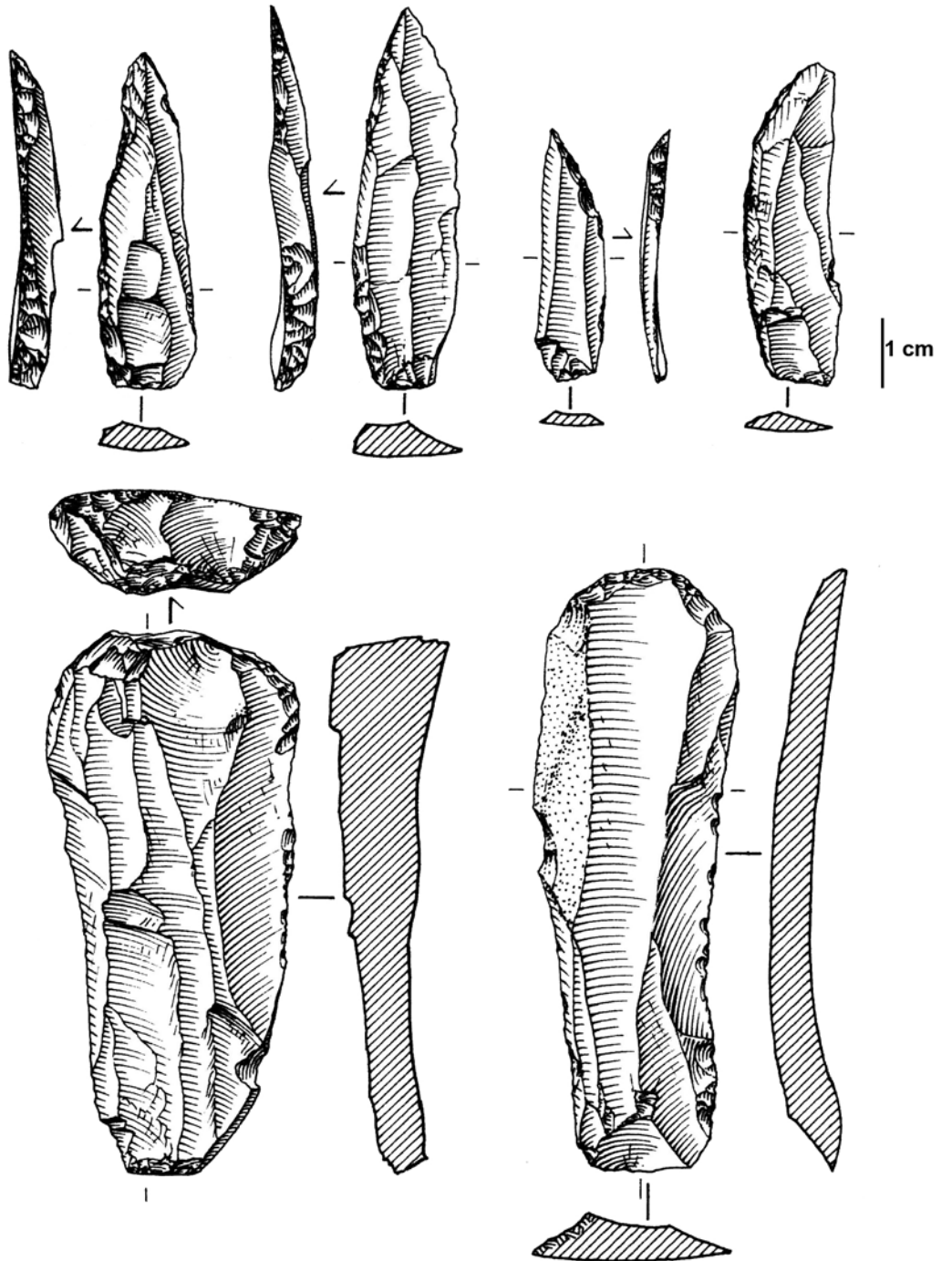
The 1979 discovery of a Neanderthal skeleton in a Châtelperronian context at the site of Saint-Césaire (Levêque and Vandermeersch 1980) overturned the classic evolutionary model and opened a new debate. Why did Neanderthals drastically

transform their behavior and invent the Upper Paleolithic? An initial hypothesis rapidly gained ground, one that evoked the acculturation of the final Neanderthals through contact with the first anatomically modern humans arriving in Europe around 40.0 ky BP (Demars and Hublin 1989; Mellars 1989, 2004). With this perspective, Neanderthals are but passive actors amongst the changes taking place within the Châtelperronian; *Homo sapiens* and the conquering culture of the Aurignacian were the innovators. This point of view has been challenged by others who underline the strict chronological precedence of the Châtelperronian over the Aurignacian (Zilhão and d'Errico 1999). According to the latter view, Châtelperronian innovations were produced by Neanderthals and resulted from the independent evolution of their groups (d'Errico *et al.* 1998; d'Errico 2003; Zilhão 2006). Accordingly, there is no correlation between the biological and cultural spheres during the Middle to Upper Paleolithic transition, rather a parallel evolution of these two human types towards forms of cultural modernity.

As the current state of research stands, it is difficult to validate either scenario. Anthropological data remains elusive and the Neanderthal/Châtelperronian association rests entirely on a couple of sites which themselves demand more thorough investigation: Saint-Césaire and the Grotte du Renne at Arcy-sur-Cure. At Saint-Césaire, and as previously mentioned by Lévêque and de Sonneville-Bordes, two distinct lithic components are, in fact, associated in the Châtelperronian assemblage of the Ejop superior layer: a Middle Paleolithic one containing more than 2/3 of the tools and an Upper Paleolithic one. Moreover, the lithic artifacts share a distinct state of preservation, indicating that the assemblage has a complicated post-depositional history (Bar-Yosef and Bordes 2010; Bachellerie 2011; Bordes and Teyssandier 2011). An analysis of the lithics of both Ejop inferior and superior layers (Soressi 2010) has shown that, while formerly attributed to the Châtelperronian, they are in fact distinct chronoculturally. This opens the door to new questions about the mixture of Mousterian and Châtelperronian artifacts in the Ejop sup layer (work ongoing).

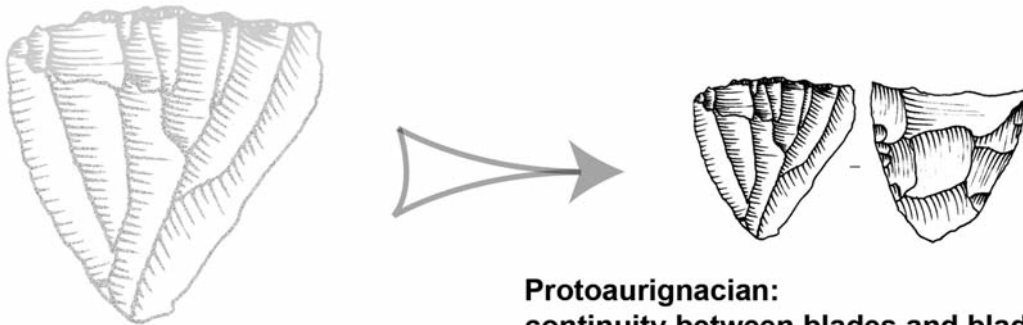
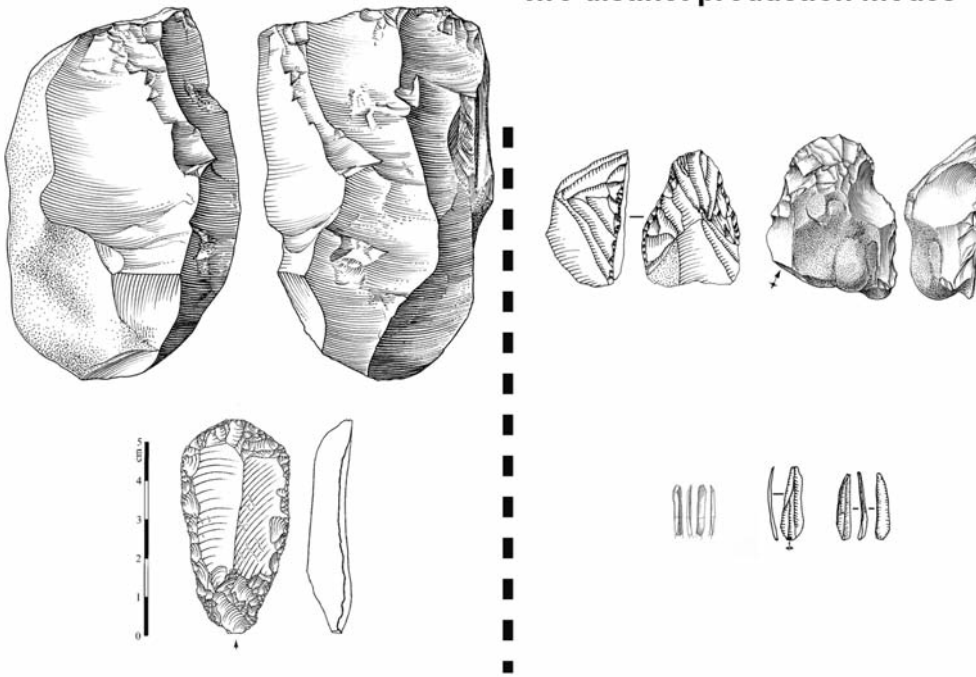
Moreover, the very definition of the Châtelperronian is problematic. Is it a transitional industry bearing mixed characteristics, some inherited from the Middle Paleolithic and others foreshadowing the Upper Paleolithic? Or is it a strictly Upper Paleolithic industry? In the majority of caves and rock shelters in Southwestern and West-central France where the Châtelperronian stratigraphically follows recent Mousterian industries (Bordes 2002), mixed features are frequently found. This is the case at Saint-Césaire where Mousterian flake tools and Discoïde débitage sit side by side with blade tools. The opposite is true of open-air contexts bearing a single archeological level (Canaule II, La Côte, Les Vieux Coutets, Les Tambourets) where Châtelperronian lithic production is turned almost exclusively towards the production of large, relatively short blades with a rectilinear profile (Figure 1), mainly destined for the manufacture of Châtelperron points or knives (Pelegrin 1995; Bachellerie *et al.* 2007; Pelegrin and Soressi 2007). The mixing hypothesis requires more detailed examinations since the presence of Mousterian reminders in these assemblages never surpasses 10% of the retouched tool component. Thus, the

Figure 1: Blade tools of the Châtelperronian (Châtelperronian points above and end-scrapers) from the open-air site of Canaule II, Dordogne (drawings by M. Jarry, after Bachellerie *et al.* 2007).

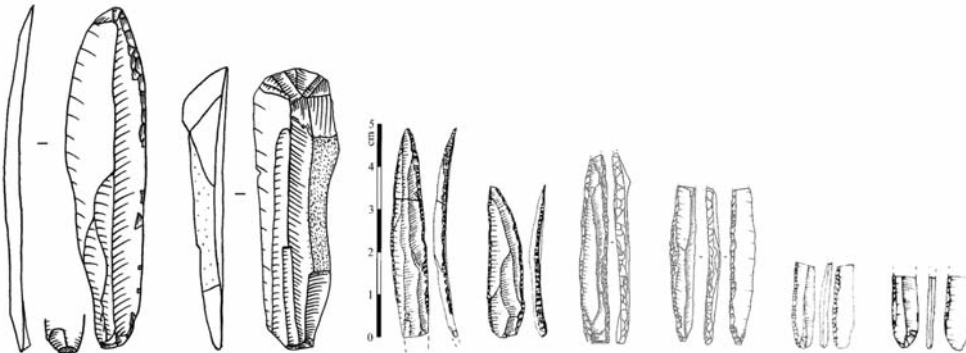


**Early Aurignacian:  
two distinct production modes**

Figure 2: Organization of lithic production and characteristic tools of the Protoaurignacian (above) and of the Early Aurignacian (after Teyssandier *et al.* 2010).



**Protoaurignacian:  
continuity between blades and bladelets**



Châtelperronian appears as a properly Upper Paleolithic industry and not as an Epi-Mousterian one. At the other chronological boundary of the Châtelperronian there are no links with Aurignacian production methods, which differ in both intentions and modalities (Pelegrin 1995; d'Errico *et al.* 1998). Similarly, the working of organic material remains rare and little diversified in the Châtelperronian, except at Arcy-sur-Cure or Quincay, and then only if personal ornaments are taken into account.

How then can the Châtelperronian be reconciled with the Aurignacian that follows? An important role may be assigned to projectile elements in the constitution of lithic tool-kits (Teyssandier 2008; Teyssandier *et al.* 2010). In the Châtelperronian, the most regular blades, the primary goal of the debitage, were transformed into knives and points for armatures (Plisson and Schmider 1990; Pelegrin 1995; Bachellerie 2011; Roussel 2011). The idea of hafting lightweight lithic elements represents a departure from previous technical systems and almost certainly explains the abandonment of flake-based production methods typical of the Mousterian. This idea gains significant ground during the Aurignacian, which is marked in its initial phase by the production of bladelets (Bon 2006). The Protoaurignacian (37.5–35.5 ky BP) is present in a large part of the south, spanning the western Mediterranean coastline, where it was initially identified, to the Atlantic coast, the foothills of the Pyrenees and the Aquitaine. Further north, it is also found in the Bourgogne at Arcy-sur-Cure; however, its presence in this region seems sparse. Stratigraphically, the Protoaurignacian follows the Châtelperronian and precedes the Early Aurignacian with split-based points (Bordes 2002; Zilhão 2006; Teyssandier *et al.* 2010). Another innovative characteristic is the primacy of rectilinear bladelets (Figure 2), which are transformed into pointed bladelets with bilateral direct retouch and/or bladelets with alternate retouch (Dufour bladelets). These bladelets are obtained from pyramidal and prismatic cores, which first produced blades as part of an operational *continuum* (Bon 2002). It is clear that production of lithic hunting weapons dominated the Protoaurignacian industries.

This trend continues with the Early Aurignacian (35.5–32.0 ky BP) in the form of shorter, often unretouched, bladelets. Bladelets become smaller and are the focus of a specific, independent production (Bon 2002; Teyssandier 2007, 2008). Deliberately large and thick blades are obtained by direct soft hammer percussion from unipolar prismatic cores and were destined for the manufacture of domestic tools, mainly endscrapers and retouched blades that were often subject to several cycles of re-sharpening (Teyssandier *et al.* 2010). The bladelets, which were sometimes used to arm shafts, are removed from emblematic carinated 'endscrapers', an ingenious core that permitted the production of a large number of bladelets. In other words, with the Early Aurignacian, we observe an individualization of lithic reduction sequences (Figure 2) based on the activities for which the end products would be used, such as the 'opposition' of domestic *vs.* hunting tools (Tartar *et al.* 2006; Teyssandier *et al.* 2010).

With the Early Aurignacian, the working of organic materials diversifies and becomes systematic (Figure 3). Bone is transformed into a large array of domestic tools (Tartar 2009); reindeer antler is used for soft-hammers, but primarily as the

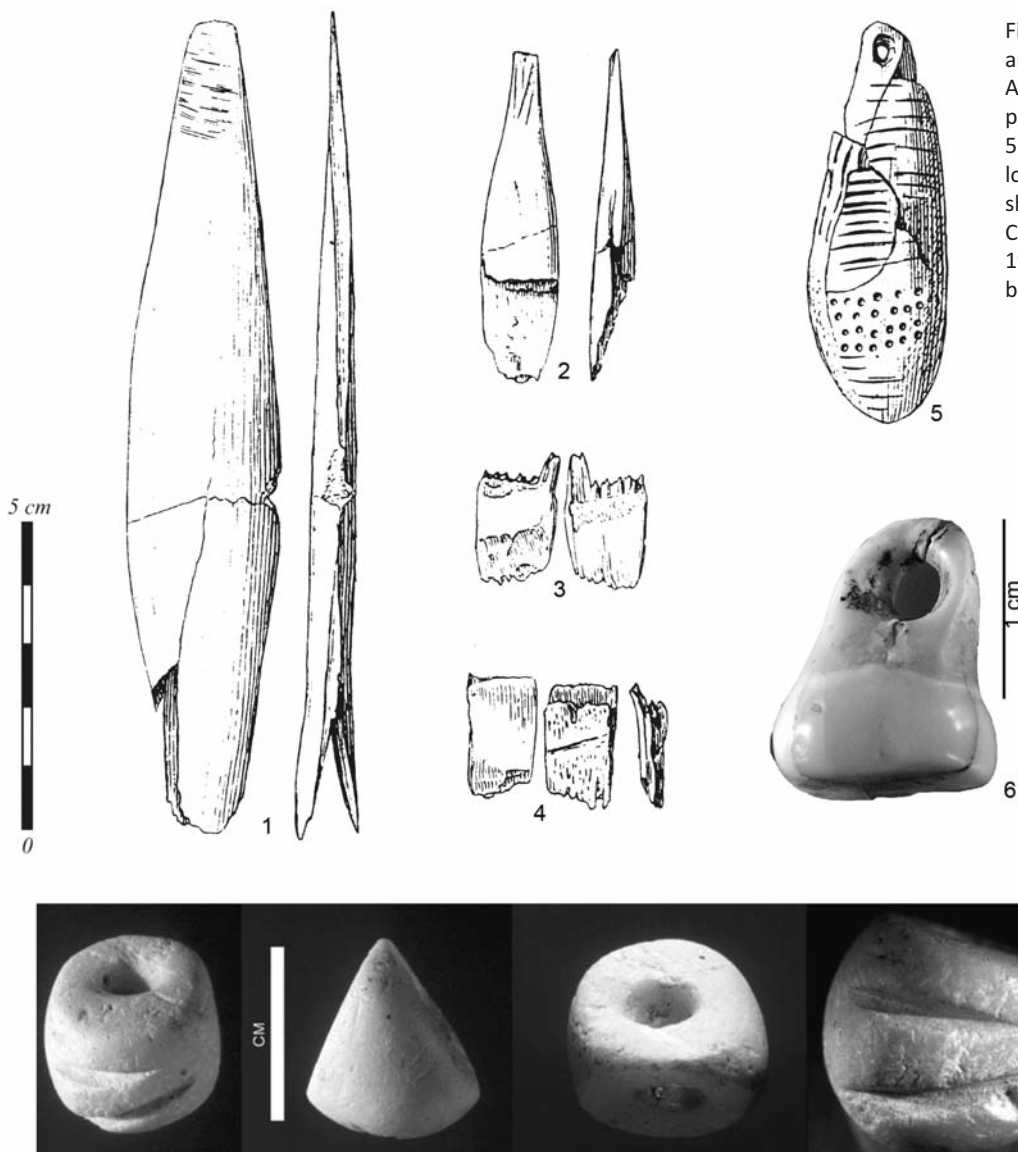


Figure 3: Bone industry and ornaments of the Early Aurignacian. 1–2: split-based points; 3–4: tongued pieces; 5: ornament; 6: perforated human lower left M2 or M3; 7: basket-shaped bead. (1–5 Tuto de Camalhot: after Vézian and Vézian 1966; 6: Isturitz; 7: Brassempouy, both after White 2007)

raw material for the famous split-based bone points whose ingenious hafting method becomes widespread (Liolios 1999). Finally, ivory is limited to the symbolic realm where it is transformed into ornaments. In this sense as well, the Early Aurignacian witnesses a very clear florescence; the use of different materials multiplies, and types become more diversified and demonstrate a regionalization, such as the well-known basket-shaped ivory beads from Southwestern France (White 2007). Personal ornaments, like some bone tools, may be decorated with geometric motifs (Tartar 2009). The Aquitaine witnesses the development of an art form on stone slabs that is principally centered on sexual representations, such as the engraved vulvas from the small valley of Castel-Merle (White *et al.* 2012).



In terms of material culture, the Late Aurignacian (31.0/29.0 ky BP) constitutes a continuation of Early Aurignacian traditions. Tool sets, both lithic and osseous, portray subtle variations; broad carinated endscrapers are replaced by narrow nosed forms, and busked burins appear whose particularity lies in their being systematically twisted in profile (Michel 2010). This puzzling technique was an immense success, spanning the Atlantic coast to the Russian plains and Zagros Mountains. Blade tools show a clear decrease of the scaled Aurignacian retouch. Split-based points disappear and are replaced by 'massive' base points of the Central European Mladeč form. Finally, and most conspicuously, figurative art develops with the spectacular examples of parietal art at Chauvet Cave (Geneste 2005) whose striking parallels with the ivory sculptures from Vogelherd or Geissenklösterle have long been recognized (Hahn 1986). This full-blown artistic expression takes place within the context of territorial expansion, notably towards the large northern plains previously ignored by Aurignacian groups. France follows this trend with the first indications of an Aurignacian in the north in the form of a late Aurignacian with twisted bladelets (Fagnart *et al.* in press).

An evolution of techniques, distinguished by the individualization of the main spheres of activity, takes place during the beginning of the Upper Paleolithic. In the case of the Aurignacian, this trend is reflected in the rise of armature production and the clear isolation of domestic realm from that of weaponry (Tartar *et al.* 2006; Teyssandier 2008; Bon 2009). This tool specialization takes form with a progressive microlithization of bladelet armatures. Aside from the obvious functional advantages of composite projectiles, bladelets present an enormous advantage in terms of hunter-gatherer mobility (Bon 2009). The travel kit of the classic Aurignacian could thus be limited to a few substantial blades, resharpened over long periods in order to satisfy domestic needs, and to small blocks or flakes functioning as a potential reserve of bladelets. This organization of lithic production during the Aurignacian can be seen as a response to a developing nomadism and to a significant increase in the size of territory covered, as evidenced by the transportation of kits over several hundred kilometers (Bordes *et al.* 2005; Féblot-Augustins 2008). This temporal and spatial organization of activities must have had important consequences on settlement patterns, although there is insufficient information to confirm this. However, this view is supported by the existence of knapping workshops, such as those of the Bergeracois, which served to distribute laminar elements, or by large, open-air occupations structured around a number of hearths and implying a codified organization of the domestic space, such as Régismont-le-Haut near Béziers (Bon and Mensan 2007).

The last years of the Aurignacian, from 30.0–29.0 ky BP, are largely unknown, either in France or on the European continent. Recent research in the Southwestern France has highlighted the diversification of bladelet production immediately preceding the Gravettian (Pesesse and Michel 2006; Pesesse 2008; Michel 2010). Elongated and rectilinear bladelets return, a phenomenon, which is clearly perceptible in the Vachons burin industries that are always in the upper-most stratigraphy of the main Southwestern Aurignacian sequences (La Ferrassie, Le

Flageolet, Pataud, Roc-de-Combe) and in the Font-Yves point industries associated with a final stage of this techno-complex and which may bridge the gap with the initial stages of the Gravettian (Pesesse 2008).

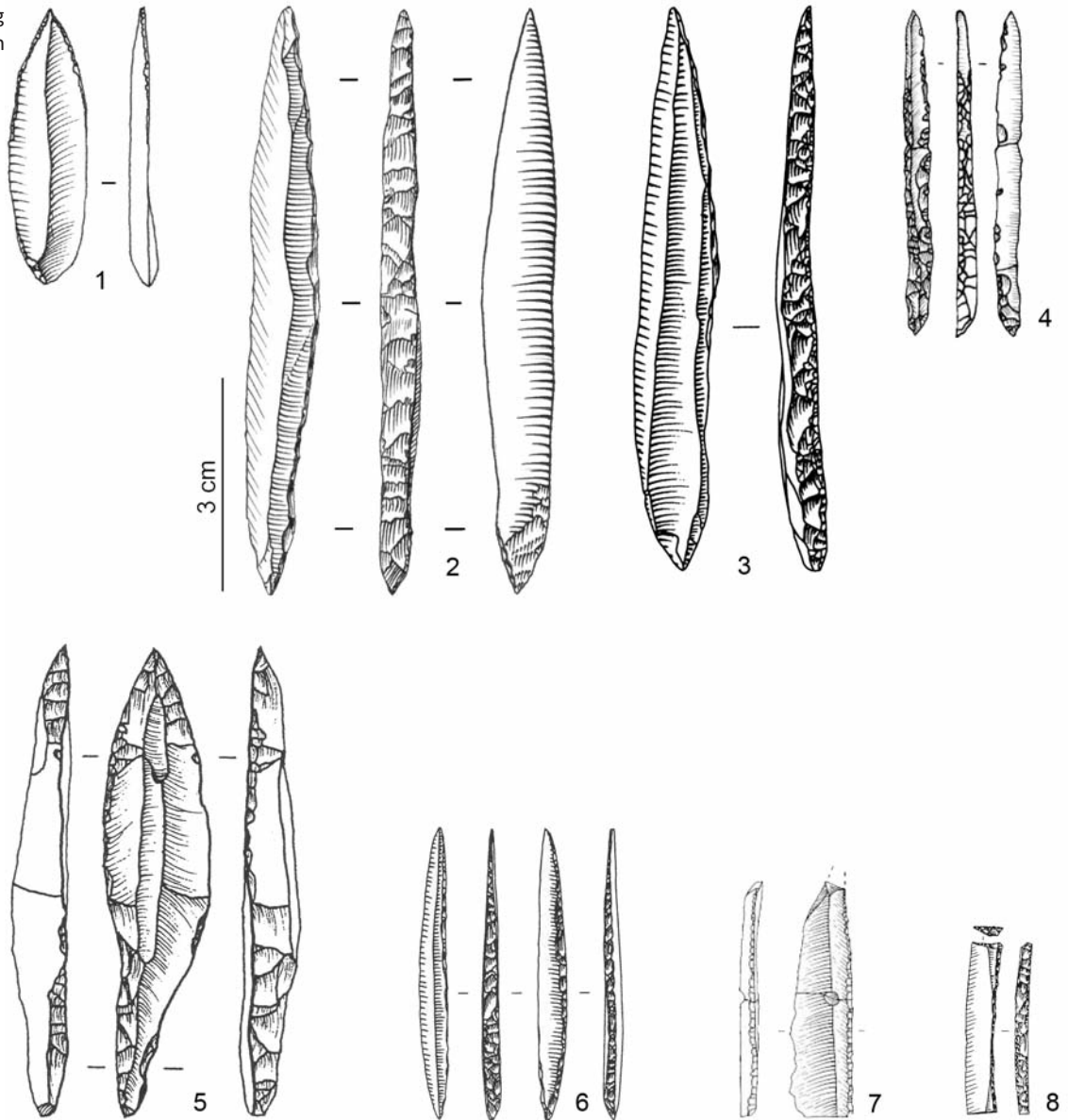
### **The Gravettian (29.0–22.0 ky BP): European civilization or cultural mosaic?**

As with all other important chrono-cultural transitions, the origins of the Gravettian remain obscure, particularly in France where archeological sequences and radiometric dates for the oldest stages are still rare. As a general rule, the idea of an intrusive Gravettian dominates with its origin being sought in West-Central Europe or the northern plains, depending on whether one considers the precursor to be either *fléchette* or tanged-point industries (Bosselin and Djindjian 1994). Stratified sequences containing vestiges of the Early Gravettian are limited; Abri Pataud and La Ferrassie are rare examples (Bricker 1995). In the case of Abri Pataud, the sequence begins with the *fléchette* industries associated with numerous Gravette points, while, at La Ferrassie, the Gravette points are instead associated with Font-Robert points. For some, *fléchette* and Font-Robert trends are sub-contemporaneous, whereas others tend to see a diachrony and consider the *fléchette* industries (Bayacian) as representing the oldest stage (Pesesse 2008). The latter may be the oldest manifestation of the Gravettian in France, thus attenuating the strict rupture between the final Aurignacian and initial Gravettian populations. Indeed, this industry lacks backed points and, as such, does not present 'classic' Gravettian attributes, just as the Font-Yves point industries present diminished Aurignacian characteristics (Pesesse and Michel 2006; Pesesse 2008).

The archetypical Gravettian is not truly established until the Early Gravettian, as seen in the Aquitaine (La Gravette, Pataud, Puy-Jarrige) and the Loire, particularly the large open-air site of Vigne Brun, famous for the patterning of domestic space into several living units structured around hearths (Combiér 1988). The production of large Gravette points constitutes the defining element of these industries together with various methods for producing blade-bladelet blanks. These production methods include long reduction sequences producing blades of different sizes and shorter sequences destined for the production of light blades (Pesesse 2008). The unity of the Early Gravettian is equally expressed in the wide range of its hunting tools: Gravette points, alternately backed points, Tursac points and *fléchettes* (Figure 4). In terms of working organic materials, the Early Gravettian is distinguished by the systematic extraction of *baguettes* by the double groove technique (Goutas 2009).

In the Middle Gravettian, regional variations develop; different trajectories of change may be observed in the northern and southern halves of France. In the north, assemblages with Raysse burins dominate and diverge from the technical norms common to the Gravettian. The Rayssian is practically devoid of abruptly backed points and consists of marginally retouched bladelets (Picardie bladelets) produced from Raysse burins (Klaric 2003, 2007). In a large area of the southern half of France, Noailles burin traditions predominate, as is the case in the Pyrenees where this tool type spans the totality of the Gravettian sequence (Simonet 2009). The Pyrenean

Figure 4: Lithic hunting weapons of the French Gravettian. 1: *fléchette*, La Gravette; Vachon point, Isturitz; 3: Gravette point, Vigne-Brun; 4: Micro-Gravette, Le Blot; 5: Font-Robert point, La Ferrassie; 6: Alternate backed point, Vigne-Brun; 7: Picardie Bladelet, La Picardie; 8: Bitruncated backed bladelet, Pataud (1, 3, 5–6: after Pesesse 2008; 2: after Simonet 2009; 4, 7: after Klaric *et al.* 2009; 8: after Bricker 1995).



Gravettian differs from its north-Aquitaine counterpart not only in the persistence of Noailles burins but also in the frequency of splintered pieces, as well as in a more precise blade debitage. This geographic contrast between the Rayssian and the Noaillian is not consistent; it seems that these two entities actually succeed one another in the Aquitaine, as can be seen in the Abri Pataud sequence where Raysse burins progressively replace Noailles burins.

In the Late Gravettian, several sites demonstrate marked similarities in their lithic armatures (Gravette points, Micro-Gravettes, backed bladelets) as well as in production methods, such as the development of an original method for obtaining

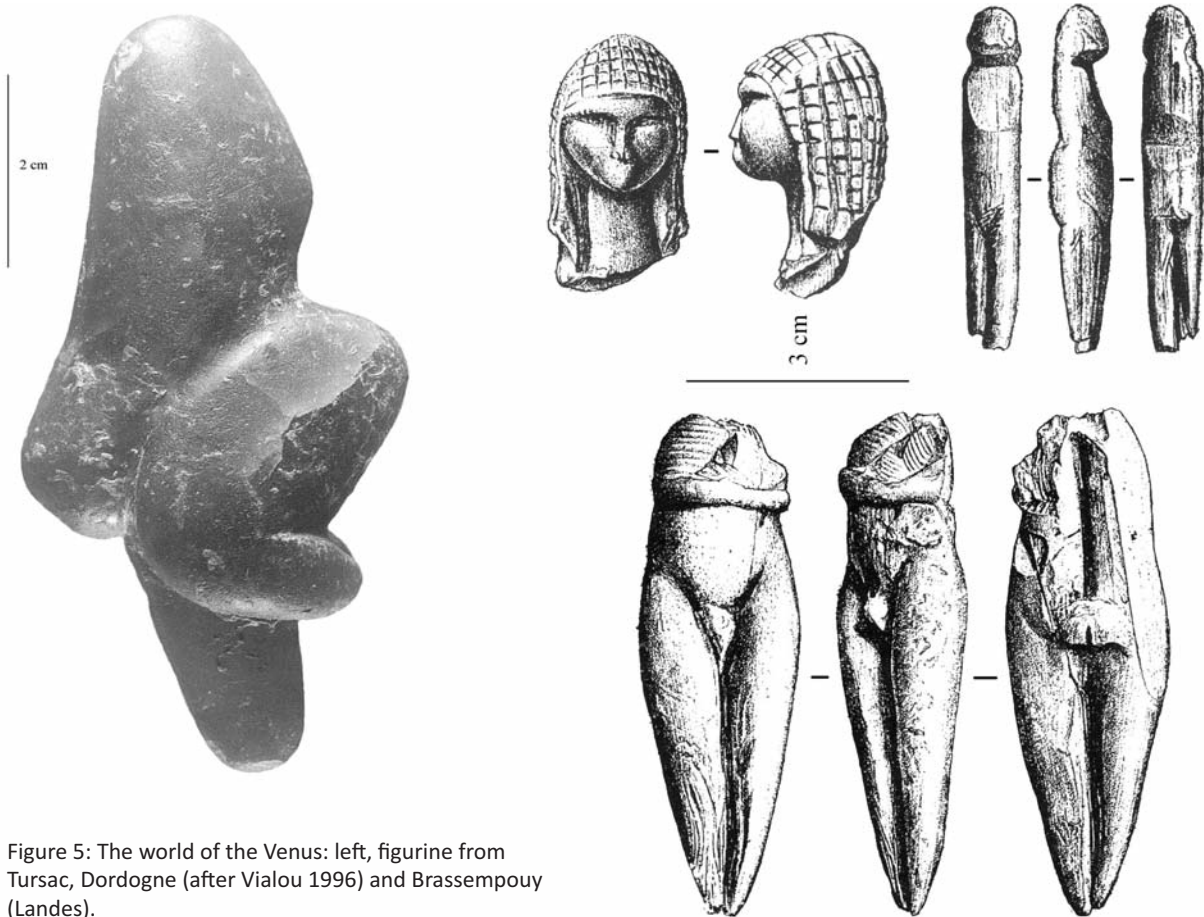


Figure 5: The world of the Venus: left, figurine from Tursac, Dordogne (after Vialou 1996) and Brassempouy (Landes).

bladelets from polyhedral core-burins (Klaric *et al.* 2009). Establishing a precise chronology for these Late Gravettian industries remains difficult in the absence of sufficient radiometric dates. The Peyrugues sequence suggests that the progressive disappearance of blade points is contemporaneous with the abandonment of the Gravette concept. This trajectory of change solidifies with the final Gravettian of the Proto-Magdalenian type, which is characterized by a decline of Gravettian lithic armatures (*ibid.*).

This example of the evolution of lithic equipment portrays the difficulty of reconstructing Gravettian chrono-cultural dynamics between roughly 29.0 and 22.0 ky BP. Certain technical traits, Gravette and Micro-Gravette points in particular, are shared over vast territories and do not constitute reliable chronological markers. Other tool types punctuate the Gravettian chronology, such as the *fléchettes*, which are characteristic of older phases (Pesesse 2008), or the recently redefined Vachon points that are typical of a middle phase, just as Picardie bladelets are associated with a very stereotypic production pattern involving Raysse burins. Recent results question the classic paradigm of a uniform and monolithic Gravettian and instead suggest a cultural mosaic punctuated by moments of uniformity (Klaric *et al.* 2009).

How can this new perception of the Gravettian be reconciled with the view of it being the great pan-European civilization of the Upper Paleolithic?

The famous 'Venus' figurines (Figure 5) made of ivory or soft stone, are the key element tying together the Gravettian cultural mosaic extending from the Atlantic to Siberia (Delporte 1979). Few well contextualized examples of these statuettes are known from France as the majority was discovered either during old excavations (Brassempouy and Lespugue in the Pyrenees, Grimaldi near Monaco) or come from contexts lacking any stratigraphy (Sireuil in the Dordogne). Despite these reservations, the figures are almost exclusively associated with a Noaillian facies of the Gravettian, as demonstrated by Delporte's excavations (1962) at Tursac in the Dordogne. The chronology of this 'Venus episode' in Western Europe is little understood; the only available dates, 25.6 and 23.0 ky BP, are from Tursac. Based on the recurring associations of Venus statuettes with particular stone and ivory armatures (shouldered and ivory points), themselves rare in the Gravettian assemblages, Simonet has suggested narrowing down the time-span of this phenomenon. He sees in this a form of Gravettian unity expressed around an ideology founded upon the duality of the feminine symbol and the realm of armatures considered to be inherently masculine (Simonet 2009).

This specific combination, albeit rare, highlights the spirituality of Gravettian society. At Brassempouy there appears to be a genuine shrine where the exceptionally crafted armatures, ornaments and animal paws, in anatomical connection, are found within a secluded location (Simonet 2009; Goutas and Simonet 2009). In the Pyrenees, this goes hand in hand with a certain hierarchy of site function (Simonet 2009), aggregation sites centered around technical (Isturitz) or spiritual (Gargas) activities and shrine-occupations (Brassempouy) and smaller sites focused on the acquisition and processing of meat-based (Tuto de Camalhot, Gatzarria, Atxurra) or mineral (Tercis) resources. Moreover, combined evidence indicates a semi-permanent character for the occupation of Brassempouy that is consistent with the indications of partial sedentism hinted at by several large Central and Eastern European sites. An additional indication of group stability may be another recurrent Gravettian phenomenon that is almost unknown throughout the Upper Paleolithic, multiple inhumations such as those known from Cro-Magnon, Cussac and Grimaldi (Henry-Gambier 2008).

Around 22.0 ky BP, we see a change in the lithic production of the late Gravettian; the classic laminar pattern typified by arched bipolar cores, Gravette points and, especially, micro-Gravettes is rejected (Klaric *et al.* 2009). Concurrently, a new type of microlithic armature appears, the truncated or bi-truncated backed bladelet, typical of the final Gravettian or Proto-Magdalenian, which has been identified at a few rare sites in the Southwestern (Laugerie-Haute, Les Peyrugues, Pataud) and Central France (Le Blot). The move from Late Gravettian apical weapons to Proto-Magdalenian non-perforating truncated armatures laterally mounted on organic points suggests a modification in the conception of hunting weapons (Klaric *et al.* 2009). The other distinctive characteristic of the Proto-Magdalenian are the lithic raw material provisioning strategies, almost entirely focused on exogenous materials of excellent

quality, as at Peyrugues or Le Blot (Klaric *et al.* 2009). The Proto-Magdalenians anticipated mineral resource requirements in order to maintain the production of large durable blades. Other characteristics, such as ornaments made of reindeer antler at Les Peyrugues (Allard *et al.* 1997) or of bone at Abri Pataud (Clay 1995), contribute to the creation of identity by these final Gravettian groups.

The final moments of the Gravettian correspond to the return of cold climatic conditions at the dawn of the Last Glacial Maximum. The explosion of technical models, already perceptible in the Final Gravettian, continues during this pivotal period leading up to the Solutrean, often considered as the 'golden age' of worked stone.

## Conclusion

While there remain inevitable gaps in this synthesis, the synthesis underlines several important trends over the course of the French Early and Mid-Upper Paleolithic. The multiplication of data and the refinement of diverse analyses allowed us to identify different stages of change during these almost 20 millennia of evolution. Furthermore, the deconstruction of the traditional classifications of the Upper Paleolithic permitted us to trace some unifying links between different cultural assemblages previously considered as being hermetically sealed.

It appears that the Upper Paleolithic in general is marked by certain stability in the chosen solutions for the production of technical equipment and symbolic items. In this sense, the Upper Paleolithic breaks with the Middle Paleolithic, and it seems that the pool of choices becomes reduced. Lithic elements become almost exclusively blades and or bladelets and organic equipment is significantly oriented towards the production of cervid antler points. While ornaments and artistic manifestations vary through time and space, similar societies nevertheless display similar trends.

To sum up, the common denominators among the different techno-complexes have been recognized for some time within typological studies. We must, therefore, explore these common denominators in more detail. Hunting equipment appears to be the ideal focus as it encompasses the entirety of the Upper Paleolithic and significantly differs from Middle Paleolithic forms. Furthermore, this particular focus has the advantage of shedding light upon the interface between hunters and their prey and can be directly associated with environmental changes.

Numerous models have recently been proposed to explain the dynamics of change in relation to climatic alterations. For example, the cold Heinrich events and their ecological consequences favored the expansion of resource rich steppes that may have led to increased numbers of human groups occupying larger territories. These groups would, however, have become fragmented during more temperate periods (d'Errico *et al.* 2006).

While the adaptation of these hunter-gatherer societies to the significantly fluctuating climatic conditions of the last glacial cycle is indisputable, it demands further precision. We wish to emphasize the socio-economic changes that we believe characterize the Upper Paleolithic and which we have attempted to discuss here.

Once formulated, these changes come to represent both the internal and external motors of Upper Paleolithic evolution and must now be further deciphered and incorporated in future work.

### **Résumé**

Le Paléolithique supérieur est traditionnellement envisagé comme étant en rupture avec le Paléolithique moyen. En effet, comment ne pas voir dans les innovations techniques qui le caractérisent, les parures nombreuses et variées, les pièces d'art mobilier et autres statuettes en ivoire ou les équipements en os et bois de cervidés, les preuves manifestes d'une mutation majeure dans l'histoire de l'évolution de l'Homme. Nous explorons ici la profondeur historique et le sens des principaux changements qui se matérialisent au cours du développement du Paléolithique supérieur en France, depuis l'emblématique Châtelperronien jusqu'à la fin du Gravettien. Sans prétendre à la synthèse, notre objectif est de proposer des explications aux changements techniques et socio-économiques qui prennent place au cours des premiers temps du développement de l'Homme moderne en France.

### **Zusammenfassung**

In unserer Vorstellung ist der Beginn des Jungpaläolithikums (ca. 40.000–10.000 BP) üblicherweise durch einen klaren Bruch zum Mittelpaläolithikum gekennzeichnet. Wie können wir auch nicht, in den zahlreichen und vielgestaltigen Verzierungen, den geformten Steinen, Elfenbeinstatuetten, Knochen-, Geweih- oder Elfenbeingeschossspitzen, Belege sehen für eine signifikante und plötzliche Veränderung in der langen Geschichte der Evolution des Menschen? Wir wollen hier versuchen, die historische Tiefe und evolutionäre Bedeutung der wichtigsten Innovationen zu erforschen, die mit der Entwicklung des modernen Menschen während des frühen Jungpaläolithikums in Frankreich auftreten. Dieses Kapitel liefert damit einen Überblick über den aktuellen Wissensstand zur technischen und sozio-ökonomischen Evolution moderner Jäger und Sammler vom Châtelperronien bis zum Ende des Gravettien. Unser Schwerpunkt liegt demnach auf der Erklärung ökonomischer und sozialer Veränderungen im Zuge der ersten Ausbreitungsphase des modernen Menschen im prähistorischen Frankreich.