

CULTURAL TRANSMISSION BETWEEN NEANDERTALS AND MODERN HUMANS

Marcel OTTE

University of Liege, Belgium

Abstract

Traces of contact between Neandertals and modern humans are present as combined technologies, artistic expressions, and religious activities. The cultural traditions preceding the Aurignacian in Europe seem to have continued as a combined form with the Aurignacian impact, of external origin. The European “Middle Upper Palaeolithic” seems to be the result of these combinations, mainly modern, with respect to anatomy, technology, and spirituality.

Background

Europe constitutes a geographic extremity where the local population was progressively formed by migratory waves coming mainly from Asia, and secondarily from Africa. These diverse components merged, both biologically and with respect to technological capabilities. Between a million years ago (date of the first evidence) and 30,000 years ago, this mixture of traditions and population was created from different sources. However, the final results appear homogeneous: Neandertals and Mousterian technology are equivalent throughout Europe. Distinct regional traditions only appeared near the end of the process, resulting from different forms of contact between Neandertals and modern humans, around 40,000 years ago.

The long duration of the “Middle Paleolithic” (around 300,000 years) attests to the technological continuity, adaptive capacities, and enduring value systems which were already available to European populations. Anticipatory capabilities were probably already present, as Levallois methods attest, but they were not expressed by constant technological progress. Spiritual activities were, however, quite elaborate, as attested by burials, but they did not extend to the mythological representation of images. These potentialities would require a challenge, or competition, in order to be expressed. Relations with nature would have been expressed through non-material abstract narratives, and seem particularly congruent, because tools were made on wood and stone, and not on horn, antler, or bone. A serene and technologically balanced world seems to have been formed during the long occupation of Neandertals in Europe.

Contact

Over the course of only a few thousand years, everything had changed; these capacities were revealed, developed, and expressed completely differently with the introduction of modern humans in Europe. This contact would be fatal to the prior way of life (but not immediately to local populations). The migration of anatomically modern humans would gradually extend across the continent, between 40 and 30,000 years ago. They spread primarily by two paths: along the Danube basin in Central Europe and along the Mediterranean coast in the south. The same movement provoked changes: by successive and regional processes of acculturation, each time varying according to the local cultural substrate.

Essentially, these were ideological modifications which accompanied the arrival of a new population with an evolved anatomy. This anatomic evolution occurred outside Europe, probably in Asia, where evolutionary tendencies were more marked beginning with the early phases of the Paleolithic.

This migration seems to have followed the steppe, north of the Caucasus and the Black Sea. A steppic adaptation is attested, among others, in the use of weapons made of organic materials, thus, evidencing a shift in relationships with nature. Technological equipment is much lighter because it is produced by laminar reduction and specially adapted for handles of bone (e.g., hollow bones, cervid antler tines).

The creation of pendants evidences a symbolic recovery of natural forces (teeth, perforated shells) and their transformation into body ornaments. The designation of the group, individual, or clan is made by reference to particular animals, while the distinction is also made with respect to other local populations. This symbolic break is observed also in the creation of plastic images, rendering physical a mythology which had been oral and abstract up to that point. In order to be strengthened and perpetuated, this explanatory mythic world would be expressed by image, thus establishing its continuity and expression in the eyes of others and against time.

Hence the contrast of ideas ultimately ruptured European ethnic unity, by weakening local beliefs and traditions and forcing them to be redefined, either within the local populations or immigrating groups. These changes seems to have occurred within the same human species, but between the populations which had developed secondary morphological variations, akin to present-day human races scattered across the world.

Change

Through time, local Neandertal populations would react to the intrusion of modern humans by establishing their own new and stable system of values, both with respect to their own history and in response to challenges from the new populations. It is in this way that one sees adaptive "reactions" crystallized in different parts of Europe distinct from external

influences, assimilating them at the same time. The case is very clear in eastern Europe where contacts started early and developed rapidly: the Streletsian (Mousterian with bifacial foliate points) led fairly early to the local “Sungirian” (triangular points, numerous pendants, and the first mobile art).

The Chatelperronian forms an even better example, in the extreme west of the continent, in which the population, clearly Neandertal, both inherited Mousterian traditions and radically modified the lithic blank production to manufacture blades. Furthermore, relations with animals were altered by the use of bone tools and pendants made of animal fetishes (teeth, ivory).

In the northern plains, a delay seems to have occurred before the new penetration, as one can follow a regular trend toward lighter technological forms within the original regional technology. Here too, the rare available hominid remains indicate the persistence of a Neandertal population which did not immediately disappear following contact.

Final Phase

Later, the northern populations seem to be engulfed in a state of full transition. In the early phase of the Gravettian: the strong Mousterian features are acknowledgeable foliate pieces, flat retouch and pointed blades being at the origins of “Middle Upper Paleolithic” traditions, at a time when neither anatomy nor culture are of exclusively external origin. Change occurs as if a process of acculturation in the northern regions affected the population with mixed anatomic characteristics. Several writers insist on the evidence of Neandertal amongst Gravettian groups (e.g., Smith 1982). We have also sought to demonstrate the effects of the plastic, thematic, and religious acculturation which may have taken place in the time span between the Aurignacian and the Gravettian.

The core of the European Upper Paleolithic seemingly has resulted from a hybridization between local Neandertal populations surviving in northern regions of Europe and the Aurignacian groups arriving from outside and occupying the “Middle European” central axis. This tradition progressively extended over Europe, from the Urals to the Atlantic, forming the basis for subsequent traditions, up to the different forms of the local Mesolithic and historically attested peoples, such as the “Indo-Europeans” with their vibrant but strictly local history.

Conclusion

The European continent underwent a major phase of acculturation and hybridization after the arrival of modern humans around 40,000 years ago. The particularity of this migration was the ongoing integration of new anatomic forms with more archaic local forms, blurred in the terminal phase (Gravettian).

Hence the fundamental modification occurred not in the physical but in the meta-physical realm: modes of life were mutually opposed during the contact and neither eventually survived it. The crania of the humans dating to the Gravettian appear to be genetically mixed, while their traditions combine both local and intrusive elements, resulting from an original synthesis, and transitions creating a completely new way of life which was subsequently imposed over the whole of Europe.

References

Fox, C.

1949. Anniversary address. *The Antiquaries Journal* 29/3-4: 192-193.

Hülle, W.M.

1977. *Die Ilsenhöhle unter Burg Ranis / Thüringen. Eine paläolithische Jägerstation.* Stuttgart: Gustav Fischer Verlag.

Koenigswald, W. von, Müller-Beck, H.J., & Pressmar, E.

1974. *Die Archäologie und Paläontologie in den Weinberghöhlen bei Mauern (Bayern). Grabgruben, 1937-1967.* Tübingen: Archaeologia Venatoria 3.

Leroi-Gourhan, Arl. & Leroi-Gourhan, A.

1964. Chronologie des grottes d'Arcy-sur-Cure. *Gallia Préhistoire* 7: 1-64

Otte, M.

1990. Relations transculturelles et transrégionales dans l'art mobilier. In J. Clottes (ed.). *L'art des objets au Paléolithique*, t.2, 185-194. Proceedings of the Colloquium in Foix (1987).

Otte, M.

1995. Traditions bifaces. In *Les industries à pointes foliacées d'Europe centrale*, 195-200. Proceedings of the Colloquium in Miskolc, supplément n° 1 of *Paléo*.

Smith, F.E.

1982. Upper Pleistocene hominid evolution in South-Central Europe: A review of the evidence and analysis of trends. *Current Anthropology* 6/23: 667-703.

Tattersall, I.

1995. *The Fossil Trail: How We Know What We Think We Know about Human Evolution.* Oxford: Oxford University Press.

Vlcek, E.

1997. Human remains from Pavlov and the biological anthropology of the Gravettian human population in South Moravia. In J. Svoboda (ed.). *Pavlov I Northwest. The Upper Palaeolithic Burial and Its Settlement Context*, 53-153. Brno: The Dolni Vestonice Studies 4.

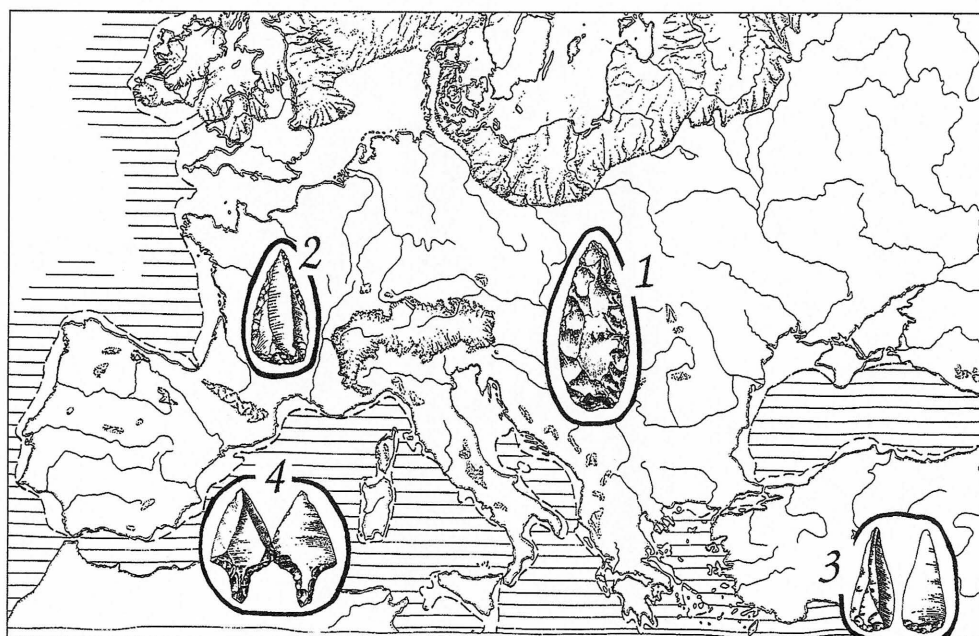


Figure 1. At the final Middle Paleolithic (around 50,000 years ago), several regional traditions can be distinguished, particularly acknowledgeable in the “style” of tool forms and technological processes. 1: foliate points of Central Europe; 2: Mousterian points in the west; 3: points with thinned bases in the Levant; 4: tanged points in North Africa (after Otte 1995).

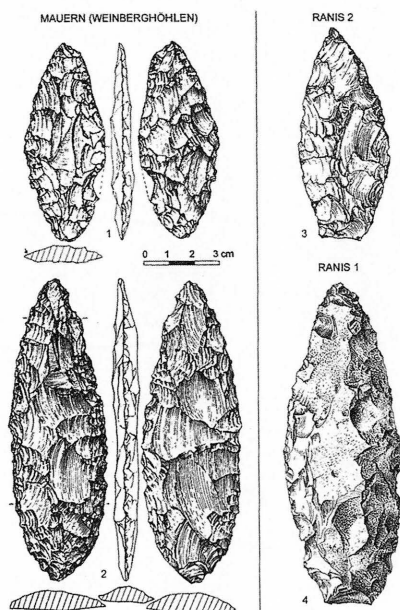


Figure 2. Mousterian traditions in Central Europe are featured by foliate points, with a trend towards elongated shapes. These are regional traditions, clearly observable at two distinct sites: Mauern in Bavaria (left, after Koenigswald et al. 1974) and Ranis in Thuringia (right, after Hülle 1977).

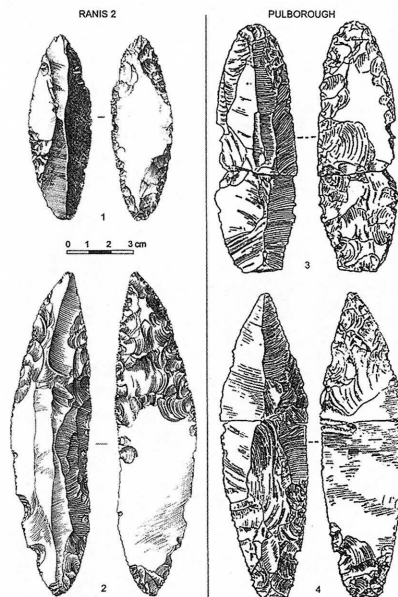


Figure 3. During the more recent phases (around 38,000 years ago), the foliate trend extended to the north of Europe (Great Britain) where they were manufactured on laminar blanks, proper the Upper Paleolithic tradition. They seemingly developed independently from the local Mousterian traditions (left, Ranis 2, after Hülle 1977; right, Pulborough, after Fox 1949).

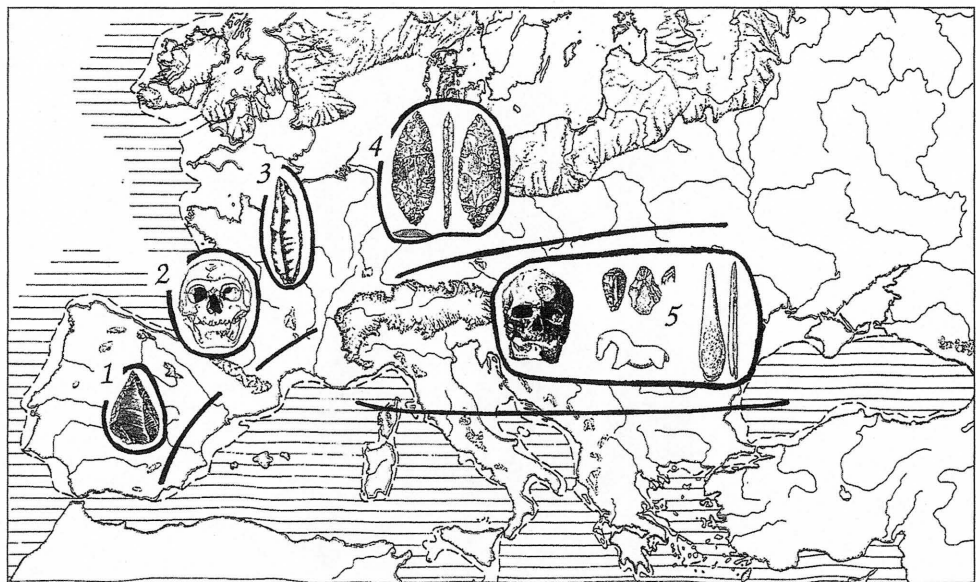


Figure 4. The ‘Aurignacian transition’ seems to penetrate abruptly in Europe, bringing in both a new population, distinct techniques, and a different system of values, particularly in relation to the animals (bone tools, animal images). Contact zones were established in the west (Chatelperronian) where the indigenous population remained, but the techniques were rapidly modified. In the northern region, the foliate point tradition persisted independently (after Otte 1995).

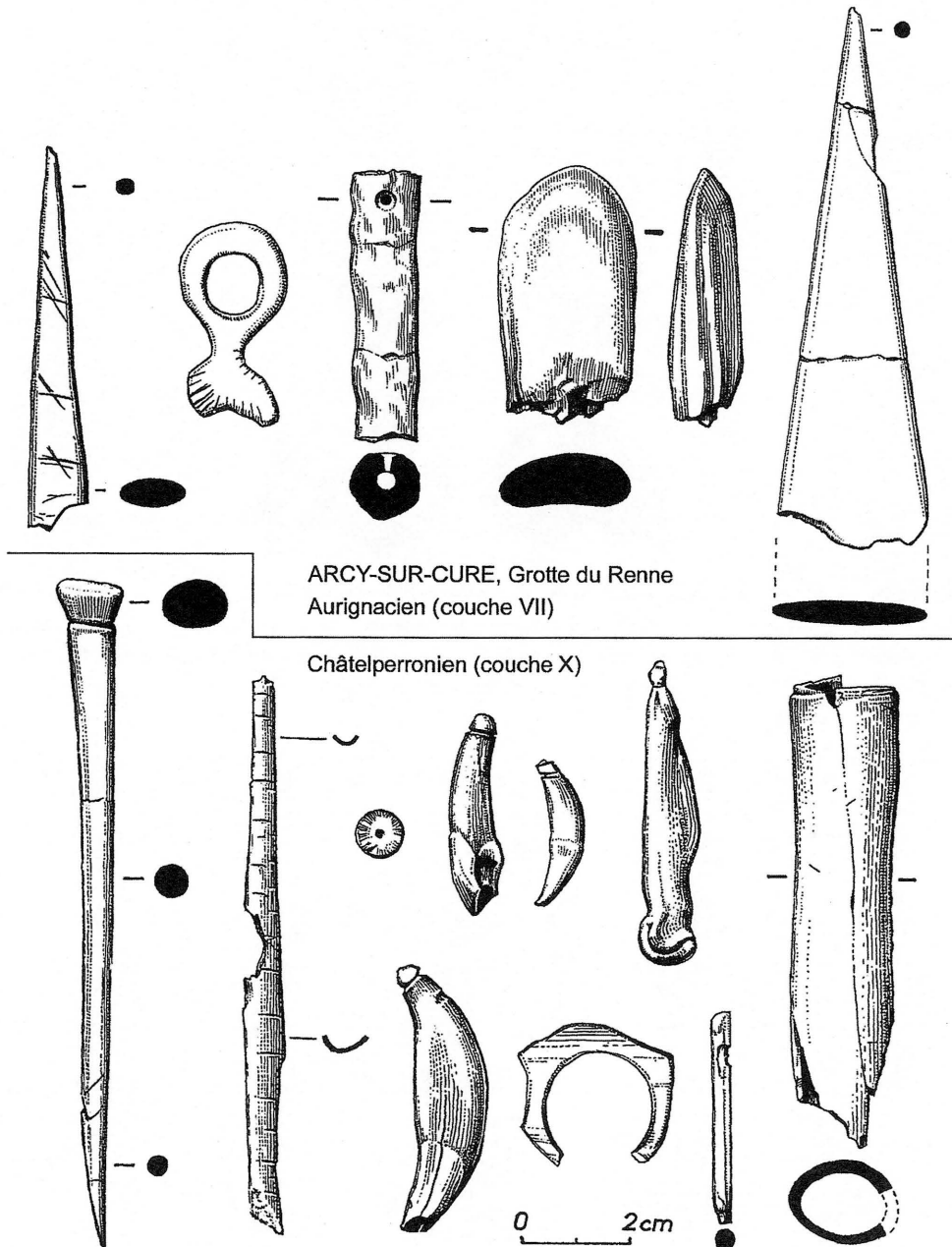


Figure 5. La Grotte du Renne à Arcy-sur-Cure clearly demonstrates this process of acculturation in which technological and decorative processes were transmitted from one tradition to the another: the Chatelperronian, with Mousterian affinities, integrates Aurignacian bone tools and pendants brought in by modern humans (after Leroi-Gourhan and Leroi-Gourhan 1964).

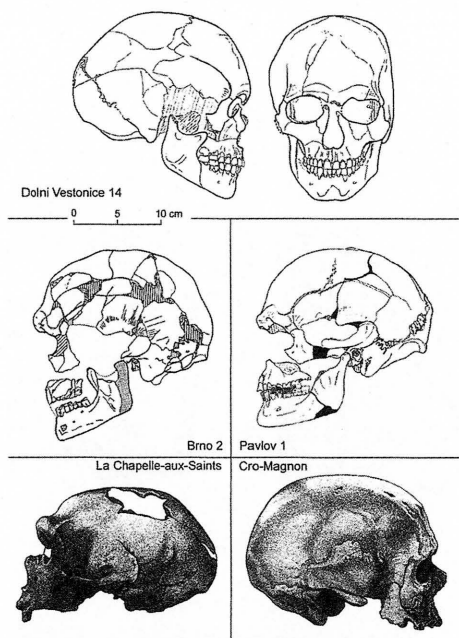


Figure 6. A new population appeared, in the northern and middle regions of Europe, during the middle phase of the Upper Paleolithic, bringing the “Gravettian” industry. This population combines the features of modern humans (Cro-Magnon) and Neandertals (La Chapelle-aux-Saints) (Dolni Vestonice 14, Brno 2 and Pavlov 1, after Vlcek 1997; La Chapelle-aux-Saints and Cro-Magnon, after Tattersall 1995).

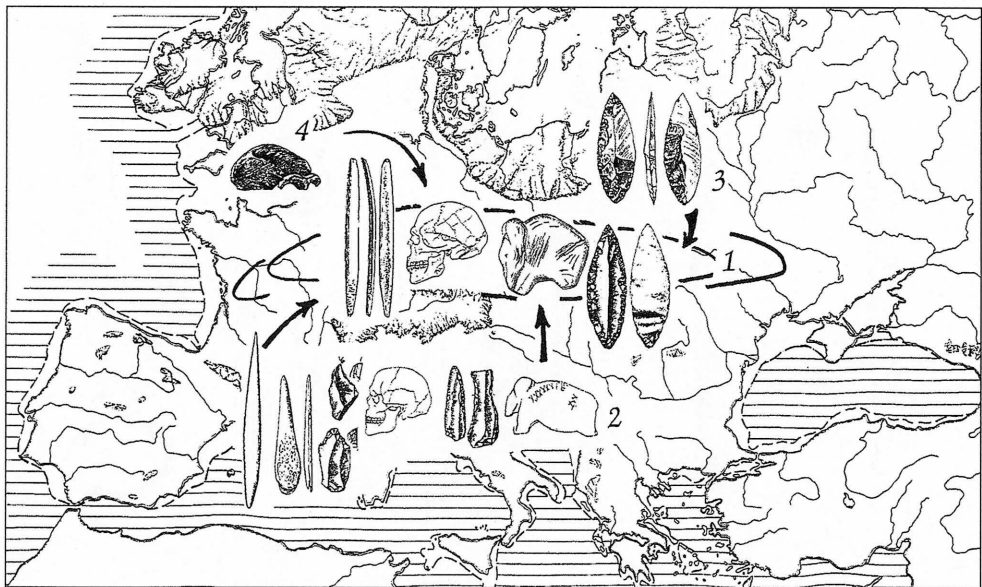


Figure 7. A complete cultural and anatomical merging seems to have appeared in the middle phase of the Upper Paleolithic. The “pan-European” assemblage existed from the Atlantic to the Ural, featuring a Gravettian cultural context and with a homogeneous anatomy: typical European or a “proto-Indo-European” (Otte 1995).

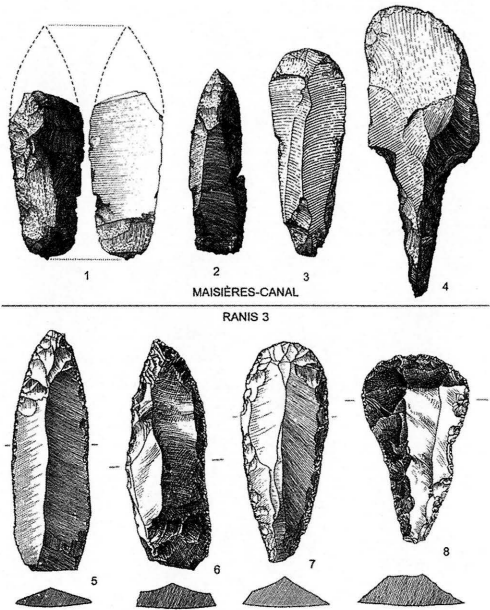


Figure 8. During the final phases of the northern foliate point industries, laminar tendencies and tanged hafting methods were developed. These techniques were clearly oriented toward the northern Gravettian (industries with tanged points; above: Maisières-Canal, after de Heinzelin 1973; below: Ranis 3, after Hülle 1977) (1, 2, 5, 6: pointed blades; 3, 7: endscrapers on retouched blades; 4, 8: tanged tools).

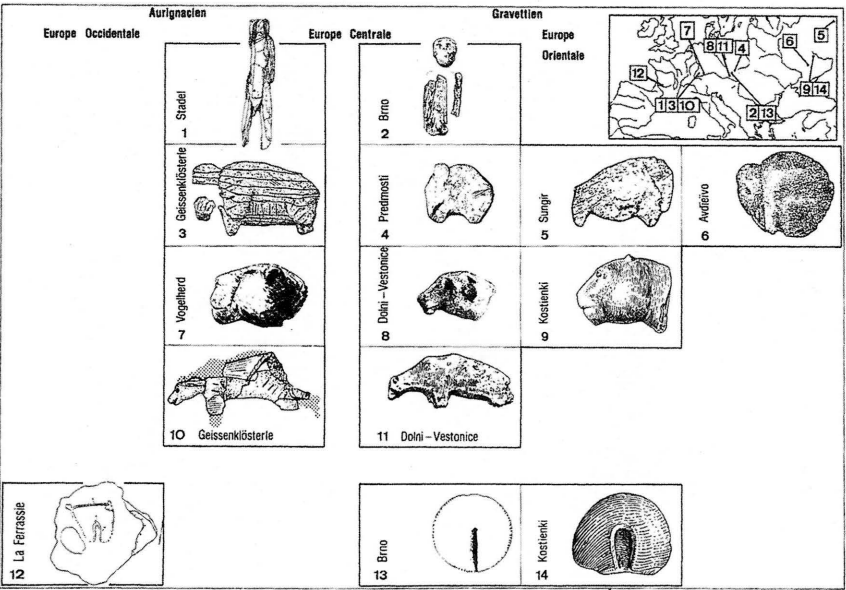


Figure 9. Evidence of acculturation is particularly obvious in symbolic and artistic objects. Sculptures express a similar set of images: masculine and zoomorphic figures and feminine symbols. The identical expressive techniques and categories of images reflect religious and artistic exchange between modern humans and local populations (after Otte 1990).