
Palaeolithic Art as Cultural Memory: a Case Study of the Aurignacian Art of Southwest Germany

Martin Porr

This article examines aspects of social memory in the Aurignacian mobiliary art of southwest Germany. An analytical distinction is introduced between cultural and communicative memory with different characteristics and functions in Palaeolithic social life. It is argued that the statuettes are reflections of cultural memory, but also stood in a complex and unstable relationship with the flexible conditions of everyday life. The figurative objects are not passive reproductions of collective ideas. Rather, they have to be seen as products of an active individual and intense concern with the field of meanings and associations of cultural memory, and consequently represent individual variations of a socially shared meaningful ideology.

The role and development of Palaeolithic art has been debated since its first discovery and acceptance in the late nineteenth century. The interpretation of Palaeolithic art always stood in a complex relation to contemporary ideas about the past and human development. The earliest interpretations struggled with the apparent beauty and complexity of the depictions and techniques, which seemed to stand in an uneasy relationship with the assumed primitiveness of their makers. The motive of primitiveness within the discourse on Palaeolithic art always produced contradictory elements in relation to attitudes towards simplicity and originality within Western thought. These relationships are further complicated by the use of the notion of 'art', which itself has a complex position within the general Western discourse on primitiveness, humanness and cultural history (Miller 1991). These complex and mostly implicit influences lead to an isolationist view of Palaeolithic art, separating it from human practices and contemporary socio-economic conditions. The structuralist approach of Leroi-Gourhan provides the most ambitious project in this spirit. Palaeolithic art is imagined to develop in separation from other aspects of the Upper Palaeolithic in Europe and in rhythms over enormous spans of time (e.g. Leroi-Gourhan 1965; see e.g. Ucko & Rosenfeld 1967 for an early critique).

Important steps into a different direction were made by attempting to view Palaeolithic art within an ecological framework of adaptation. Palaeolithic art was contextualized as a reflection of information storage and exchange to solve problems of spatio-temporal fluctuations of key resources (e.g. Gamble 1982; Jochim 1983; see Mithen 1991 for further examples). The art itself is seen as one factor within an adaptive system of interrelated elements. Complex individual human actions and motivations, agency and specific forms of practice, however, are generally neglected. Palaeolithic people are non-existent as active participants and creators within this interpretative framework. In this sense, evolutionary and ecological approaches also separate Palaeolithic art from human beings, their practices and experiences. This observation makes ecological interpretations strangely reminiscent of the structuralist idea that meaning is only created within relations and oppositions whereas the isolated image has no meaning at all.

In this present article, I want to develop a new perspective of Palaeolithic mobiliary art, which specifically integrates elements of ideology, practice and materiality (see Porr 2003) in a dynamic and complex form with elements of social memory. The approach I elaborate here is mainly inspired by the ideas of J. Assmann (2000; 2003; 2005), who has explored the role and

forms of social memory in the ancient civilizations of Egypt and the Near East. Assmann's theoretical framework, however, contains a lot of interesting aspects for other contexts as well. After providing a general introductory discussion, I will specifically concentrate on an analysis of the Aurignacian mobiliary art of southwest Germany as a reflection of cultural memory and elements that can be traced further into the subsequent Gravettian period. The respective collection is well researched in terms of general archaeological parameters, inferable practices and imagery (see Floss 2007 and Conard 2009 for recent summaries of the available evidence). The collection is consequently exceptionally suitable for an exploration of the forms and mechanisms of social memory in a Palaeolithic context. This approach will allow comments on the relation of ideology and everyday life in the creation of individuals' identities and general suggestions for the development of social memory during the Palaeolithic. In this way, tendencies that have dominated Palaeolithic archaeology for much of its history can be avoided (Gamble & Porr 2005).

Forms and mechanisms of social memory

The topic of memory has developed into a popular theme in archaeology in recent years. A whole range of edited volumes has been published that explore the different dimensions of memory for understanding past practices and societies (Van Dyke & Alcock 2003; Yoffee 2007; Mills & Walker 2008). These contributions cover a broad range of themes and geographical regions, although most focus on contexts of monumental architecture and communal commemoration. The Palaeolithic, however, is ignored in all above-mentioned contributions, emphasizing the traditionally different treatment of human practices before and after the invention of agriculture and a built environment (Gamble & Gittins 2004; Gamble 2007). In this contribution here, I want to demonstrate that memory and its social dimensions are also relevant for an understanding of human practices in the Palaeolithic. This project has to involve a choice of elements and strands that are particularly relevant for the conditions and material expressions of the Palaeolithic. In the context of memory, these are mostly connected to an understanding of memory as part of the constant fundamental and bodily engagement of the human person with the environment. However, even though I do want to concentrate on these dynamic aspects of the interplay of embodied practice and memory here, I do not want to suggest that other approaches and ideas might not turn out to

be relevant as well in future explorations. Even though no communal monuments were constructed during the European Upper Palaeolithic, caves with parietal art were also communal projects that often exhibit a layering and change of use over time, which certainly are related to shifting interpretations and meanings. In this sense, they can very well be compared to the shifting interpretations of monumental architecture in later periods, which have provided many contexts for explorations of the 'past in the past' (Yoffee 2007) or 'the past in prehistoric societies' (Bradley 2002). Related developments can certainly also be predicted for the future interpretation of Palaeolithic burials, which have only rarely been examined with respect to their inherent temporal depth and aspects of social commemoration (Gamble 2007, 144–50).

Before discussing the specific framework that I want to use in this article to explore social memory in the Palaeolithic, I want to draw attention to an important issue that is of particular relevance for the understanding of memory in human contexts. In recent decades, there has been a strong tendency to view human behaviour within a cognitivist framework, in which 'the mind was viewed as a storehouse of passive internal representational structures and computational procedures' (Malafouris 2004, 54). This idea not only continues to be 'the dominant paradigm in contemporary cognitive science', but it also provides 'the implicit model behind most archaeological accounts of prehistoric cognition which conceptualize the human mind primarily through the idioms of representation and information-processing' (Malafouris 2004, 54). Memory is consequently regarded as an internal storing of data, while material culture is seen as an array of containers for the external storage of memory data. Even though this view of 'external symbolic storage' (Donald 1991; Renfrew & Scarre 1998) is probably still the dominant paradigm in Palaeolithic archaeology, it is not the perspective adopted here. I do rather follow the critique of Jones (2007, 27) that memory is not data stored in the mind, but 'emerges from the mutual engagement between the person and world'. Memory does mediate between the past and the present, but it is not a passive reading of external information. It is part of the ongoing process of interpretation and re-interpretation of the world and also involves the sedimentation and inscription of habits into the body. Memory is consequently bound to neither the 'mind' nor 'language' or 'symbols'. It is a dynamic property of the continuous engagement of the whole embodied person with the world.

However, apart from the need to view the role of memory in social contexts in a dynamic and embodied

fashion, there is also the need to provide a framework to systematically conceptualize expressions of material culture in different contexts and connect them with different phenomena and dimensions of memory. It will also be necessary to approach the social construction of memory through individuals in a more systematic fashion. I want to argue here that such a framework is provided by the work of Jan Assmann and it is rather unfortunate that it has received virtually no attention in the literature on memory and archaeology in the last decade (see Holtorf 1996 for an exception). There can be little doubt that a lot can be gained from critically engaging with different aspects of Assmann's different contributions. There is consequently a lot of potential for further elaboration, especially when differences and similarities with other trends in examining the inter-relationships between material culture, practices, memory and ideology are taken into account. Obviously, I will not be able to do this in this contribution here. However, I will approach Assmann's idea of social memory from a theoretical position that is much informed by practice theory and authors such as Giddens (e.g. 1984) and Bourdieu (1977) (Porr 2003). There are numerous connections that can be established between the terminologies of these authors, especially Bourdieu's notion of *habitus* and Giddens's distinction between 'practical' and 'discursive' consciousness. Furthermore, there are also implicit implications concerning the dimension of materiality (DeMarrais *et al.* 2004) in the Aurignacian art of southwest Germany, which I have only briefly discussed elsewhere (Porr 2002) as well as the topic of identity (Gamble 2007). These aspects, however, have to be addressed more fully in subsequent explorations. Altogether, I understand this contribution not as a definite statement on the meanings of Palaeolithic art, but as the beginning of a new engagement with this topic. Therefore, while my main aim remains the demonstration of the relevance of social memory in Palaeolithic contexts, I also hope that the framework I develop here will add to theoretical and methodological aspects of the discussion of social memory in archaeology on a more fundamental level.

J. Assmann has been a prominent intellectual figure in the academic field of Egyptology for decades. He is probably best known for his controversial book *Moses the Egyptian* (1997) in which he traces the memory of Egypt in Western intellectual history. In this book the aspect of memory takes a central position. It is not about the historical person of Moses, but about Moses as a figure of collective memory. This idea is a product of a longer concern with the role of social memory, writing and political identity in Egypt and

the Near Eastern civilizations (J. Assmann 2000; 2003; 2005). This is also reflected in the collaboration with his wife, A. Assmann, who explores aspects of social memory in later historical periods into (post)modernity (A. Assmann 2003; 2008). Here, I would like to concentrate on the role of cultural memory in the constitution of individual and communal identity, and its significance as a technique of cultural reproduction. I will use some suggestions that were developed by J. Assmann (2005) with reference to the work of M. Halbwachs and, to a lesser extent, A. Warburg (see Winthrop-Young 2005 for a critical overview).

In his book, *Das kulturelle Gedächtnis [The Cultural Memory]*, J. Assmann (2005) stresses that memory is always socially constituted. Although only individuals can have memories, it is collectively constituted and developed in the process of socialization (J. Assmann 2005, 35–6). Every experience of the individual is evaluated in the ongoing process of actions and interactions that take place within a socially constituted framework of relevance. Individual memory is constructed within each individual person as a result of participation in social interactions and communication. The memories of the individual and the collective memory therefore depend on each other; they are connected to each other in a flexible relation. Stability of memory is achieved by the attachment of memories to material objects or structures. These can be called memory figures or mnemonic devices. To a certain extent, a fusion of content and form is achieved in memory figures when they are accessed by individual persons. Abstract ideas can consequently gain a materialized aspect and stable points of reference within the collective memory (J. Assmann 2005, 38–9).

In the context of archaeology the idea of material memory figures is certainly of particular interest. This interplay of content and form in this context creates several interesting characteristics.

- Memory figures are always related to a specific spatio-temporal framework. Collective memory needs places as collective points of reference. These places are linked to the experience of temporal sequences, e.g. annual festivities, or are linked to specific events in the real or mythical past. Social groups and social space constitute each other.
- Memory figures are always attached to specific social groups (J. Assmann 2005, 39). This is a consequence of the mechanisms of the dialectic development of individual and social memory. A social group is constituted as a group of collective memory (*Erinnerungsgemeinschaft*) (J. Assmann 2005, 40). The collective memory consequently mirrors the general ideology of the group, its values, strengths

and weaknesses. Reference to collective memory is consequently an important element of the construction of individual and collective identities. Groups therefore tend to be conservative, because the continuity of collective memory secures the continuity of the integrity of the group.

- From its attachment and reference to a certain group it also follows that there is nothing like 'pure memory'. All experiences are continuously adjusted according to the present interests of the group. In this sense, memory is not only organized and structured past. It also organizes and structures the present and the future of a social group (J. Assmann 2005, 42).

For the exploration of Palaeolithic contexts it is especially relevant how these general mechanisms operate in non-literate societies and how social memory is organized in contexts without written records. On a basic level, memory in non-literate societies is characterized by a dichotomy of either living or mythical memory. Living memory encompasses the pool of memories that are shared within contexts of co-presence and oral communication. It generally includes memories of three to four generations living together simultaneously. This kind of memory includes memories and knowledge of everyday life and practices. In non-literate societies living memory is sometimes surprisingly easily connected to a mythical past in which ancestors, gods, heroes and other mythical beings shaped the present world. The living memory usually reaches back 80–100 years. Beyond this 'floating gap' (Vansina 1985) only mythical events form the collective memory, which, however, have real consequences for the lives of people. They are also plainly visible to everybody in the landscape, in the presence of objects and monuments. The case of the Australian Aborigines demonstrates that even whole landscapes can gain significance in relationship to cultural memory. In the totemic landscapes of Australia, cultural memory is omnipresent and hidden at the same time. The 'Dreaming' in Aboriginal Australia is time-less, 'a doctrine of final things which were also first things' (Stanner 1984, 170). Cultural memory is inscribed in the landscape itself, but it can only be accessed at particular places at particular times and very often by restricted groups of participants in ritual contexts. The structure of the contents of cultural memory is beyond the on-going processes of every-day life but is still implicated in every aspect of reality (Morphy 1995; Ingold 2000, 111–31).

Social memory is therefore structured in a two-dimensional way. One dimension is provided by

biographical memory that is related and reproduced in social interactions on a continuous basis. Memory figures attached to this kind of memory are objects of everyday life. Assmann calls this kind of memory 'communicative memory' (J. Assmann 2005, 50). The other dimension of social memory is called 'cultural memory' and it is always related to origins, myths and material memory figures that are temporally situated: rituals, dances, tattoos, patterns etc. Cultural memory is not continuously reproduced but actively and consciously created and 'artificially implemented' (J. Assmann 2005, 52). It is a matter of institutionalized mnemonic techniques. Cultural memory is directed at fixed points in the deep past. For cultural memory real history is not important. In cultural memory history is transformed into myth and through this transformation it gains a different form of reality that affects the present and the actions of people. J. Assmann (2005, 53) suggests that the difference between communicative and cultural memory can be seen as a difference between the memory of everyday life and the memory of sacred times. It corresponds to a difference between ordinary and ceremonial time. In each case different aspects of memory are addressed.

It is important to stress that the characteristics of communicative and cultural memory also have significant social consequences. They have different structures of participation as well as different temporal structures. Social participation in communicative memory is diffuse. Most importantly, it is generally not restricted. It is acquired within the normal process of socialization, in the acquisition of language and everyday practices (J. Assmann 2005, 53). Access to cultural memory is, in contrast, always differentiated. It is socially restricted to a specific number of people that are especially introduced to this kind of memory. The position of cultural memory outside of everyday life corresponds to the position of its 'carriers' and keepers. Cultural memory has to be learned and their carriers have to be actively educated. These relations and distinctions can be summarized in the following way:

In non-literate societies cultural memory can only be reproduced and disseminated in communal ceremonies. The latter take place at certain points in time. Time is consequently divided into a ceremonial and an everyday time. In ceremonial time a link with the mythical and absolute past is established that gives meaning to the present and by rhythmically repeating the relevant rituals the rhythm of the world itself is preserved. Consequently, cultural memory is not separated from everyday life but is implicated in the fabric and structure of reality itself. Communicative and cultural memories are not two different orders, but different dimensions of one

Table 1. *Characteristics of communicative and cultural memory (modified after J. Assmann 2005, 56).*

	Communicative memory	Cultural memory
Content	Experiences of history within individual biographies	Mythical history, events in the deep and absolute past
Forms	Informal, within dynamic everyday social interactions	Established, conscious, high degree of formal control, ceremonial communication, feast
Media	Living memory in dynamic brains and bodies	Material structures, traditional codifications in rituals
Temporal structure	Continuous	Discontinuous
Temporal depth	80–100 years, 3–4 generations, ‘floating gap’	Mythical past
Participation	Diffuse, unrestricted	Restricted
Carriers	Unspecific, all members of a memory community	Specific carriers, ritual specialists

order with different temporal rhythms. Although the memory forms of cultural memory have no place in everyday life, cultural memory constantly infuses everyday reality with meaning and significance (J. Assmann 2005, 58–9).

It is obvious that not all of the complex elements of Assmann’s concepts can be convincingly traced in prehistoric and Palaeolithic contexts. However, as I will show below, central aspects of the distinction of communicative and cultural memory can indeed be demonstrated in the context of the mobiliary Aurignacian art of southwest Germany and contribute to an understanding of the tensions and the relations of significance within this extraordinary collection.

The Aurignacian art of southwest Germany

‘Aurignacian’ is one of the oldest designations in Palaeolithic archaeology and, accordingly, it has a long and complex history. Going back to the excavations of Lartet in 1860 in the *l’Abri d’Aurignac*, the term was finally established and accepted in 1906 to describe the earliest Upper Palaeolithic industry of Europe (Rouquerol 2007). Today, there is general agreement that this techno-complex is the first in Europe and the Near East that is exclusively associated with anatomically modern humans (Conard 2005; 2006; 2007a; Churchill & Smith 2001). The Aurignacian is broadly defined by the occurrence of a systematic lithic blade technology, micro-lithic blade tools, carinated and nosed scrapers, an extensive use of different organic materials to produce utilitarian (e.g. projectile points) or non-utilitarian (e.g. beads) objects, and an increase in the utilization of personal ornaments (e.g. shells). Finally, it is also the period in European prehistory that sees the first figurative depictions in the form of mobiliary art objects, parietal drawings and engravings. Elements of Aurignacian material culture can be found across southern, western and central Europe, north of the Black Sea and in the Levant. It is generally dated between 40,000 and 28,000 BP. Not surprisingly, there is a certain amount of variation across time and

space, which has been related to different typological, technological, environmental and social factors. Today, researchers agree that ‘the Aurignacian’ has to be understood as a very variable and complex phenomenon that is equally shaped by general traits and local factors (Zilhão & d’Errico 2003). This understanding also applies to the distribution of figurative and abstract imagery.

Compared to later phases of the European Upper Palaeolithic, the figurative art of the Aurignacian is clearly much more diverse and variable across regions. For a long time, the figurative mobiliary objects from the lime stone caves of southwest Germany could not be accommodated into the dominant schemes of the French chronologies, so that they were largely ignored in discussions about the development of European Palaeolithic art (Floss 2007). Today, after the discoveries of the female statuette of Stratzing/Krems-Rehberg (Austria) (Neugebauer-Maresch 2007), the rock paintings of the Grotta di Fumane (Italy) (Broglio *et al.* 2007) and, most dramatically, the paintings in the Grotte Chauvet (France) (Clottes 2003), a much more balanced, richer and diverse picture of Aurignacian figurative art has emerged. This picture, nevertheless, is still much more characterized by differences than similarities, which are difficult to interpret in terms of social and cultural factors. Vanhaeren & d’Errico (2007) have proposed that personal ornaments can be interpreted as expressions of ethnic social groupings, which seems to support the different local variants within the Aurignacian that have been reconstructed based on typological and technological characteristics (Le Brun-Ricalens & Bordes 2007, 39). The figurative art follows this general pattern of regional differences and similarities, which seem to point to a differentiated and regionalized structure of Aurignacian social relationships. They also demonstrate that the material culture of the Aurignacian has to be understood in relation to its local as well as wider regional context. These insights, of course, do not even take into account the problem of chronological developments and temporal depth, which have gained a whole new

dimension with the latest find of a 'Gravettian-style' female statuette in a basal Aurignacian occupation layer in Hohle Fels Cave (Conard 2009).

The research history into the European Aurignacian as well as the current state of knowledge has been expertly summarized in a recent edited volume (Floss & Rouquerol 2007). This volume also demonstrates that research into the Aurignacian so far has contributed relatively little towards an understanding of cultural, social and ideological factors. Research has been mostly concerned with technological and typological aspects within chronological schemes. These aspects form an important part in our understanding of the people of the Aurignacian. But this form of research also tends to separate different types of material culture and isolates them from their former life-contexts. My intention here is to re-integrate different forms of material culture and their associated practices within a framework of social memory to create a more holistic picture of Aurignacian life. The case study of the Aurignacian evidence from southwest Germany in this article will specifically concentrate on the figurative art. But it will also have implications beyond this specific context.

Southwest Germany is without doubt one of the best archaeologically researched areas of the world. This characterization applies to all periods of prehistory, but it especially has to include the Palaeolithic (Floss 2007). Research into the Palaeolithic has a long tradition in the region, beginning with the excavations of Oscar Fraas in 1866. This work established the co-presence of extinct fauna and humans for the first time in the region (Wagner & Wehrberger 1994, 10). In 1930, Riek excavated the richest Palaeolithic site so far known in the region. Vogelherd not only contained an occupation sequence from the Middle Palaeolithic to the Neolithic. In the two Aurignacian layers also a number of unprecedented animal ivory statuettes of Ice Age animals were found (Riek 1934). In 1939, the Aurignacian occupation of the near-by Hohlenstein-Stadel was also examined and the remains of a large therianthrope statuette, the so-called 'Löwenmensch' (Lion-man) (Fig. 2:3), were recovered from the deepest sections of the cave. However, this latter remarkable object was only pieced together during faunal analysis more than thirty years later by Hahn (1971). He also discovered further figurative statuettes in Geißenklösterle, which was examined in the 1970s and 1980s (Hahn 1988). Recently Conard was able to add three further statuettes during excavations of Hohle Fels: a horse, a water bird and a small therianthrope (Conard 2003). During a re-examination of the debris of Riek's excavations of the Vogelherd, Conard discovered five new statuettes. Only two of these, however, are

so far identifiable — a mammoth and a lion (Conard 2007b). The latest finds of figurative art were made in 2008. The most spectacular certainly is the so-called 'Venus' from Hohle Fels Cave, which has been recovered from Aurignacian levels dated to around 35,000 BP (Conard 2009). This find clearly suggests continuities of motives of figurative art and ideas between the Aurignacian and the Gravettian periods. Its considerable significance for our understanding of Early Upper Palaeolithic art, however, has to be discussed elsewhere (Porr in prep.). Finally, in the above-mentioned on-going excavations at Vogelherd cave three more figurative ivory statuettes have been recovered (Conard *et al.* 2009). Even though their stratigraphic association with the Aurignacian is not completely clear, their style and motives fit well into the known range of figurative objects from the region. The damage of these three statuettes makes a determination difficult. One seems to depict a bison and another statuette seems to represent a fish. Because only a preliminary report has been published so far (Conard *et al.* 2009), these latest finds are not included in the analysis here. This research history provides the background for the present study with an excellent amount of contextual data and a firm ecological, chronological and stratigraphic framework (Hahn 1986; 1993; Müller-Beck & Albrecht 1987; Holdermann *et al.* 2001; Bolus 2003; Münzel & Conard 2004; Floss 2007; Floss & Rouquerol 2007).

At present, there are altogether 41 pieces of mobiliary art (Floss 2007, 302). Among these objects 20 statuettes can be related to specific animal species. A further three objects can be identified with some certainty (Figs. 1 & 2; Table 2). They were all discovered in Aurignacian occupation contexts in cave and rock-shelter sites of the Swabian Jura. The four find-spots are located on two tributaries of the Danube River, in the valleys of the Ach and the Lone. With the exception of the horse head from Hohle Fels (Table 2, Fig. 2:8) (the stratigraphical position of which is ambiguous: Conard & Floss 2000), all figurative objects can be related to an established Aurignacian occupation of southwest Germany. According to radiocarbon data this settlement phase has to be placed at approximately 34,000 years BP. The available radiocarbon and thermoluminescence dates allow no further temporal differentiation so I will regard these statuettes as a single collection. The data leave no doubt that this collection of statuettes belongs to one of the oldest artistic traditions in the world (Conard & Bolus 2003; 2008; Conard 2007b).

In this article I will concentrate on a contextual exploration of the figurative objects of the Auri-



Figure 1. Figurative statuettes from Aurignacian occupation layers of the Vogelherd, southwest Germany (after Floss 2007, 298) (1–10, 13: Photo H. Jensen, Universität Tübingen; 11–12: Photo P. Frankenstein, H. Zwietasch, Landesmuseum Württemberg, Stuttgart).

gnacian of southwest Germany, which exclusively contain mobiliary objects (Figs. 1 & 2; Table 2). The statuettes vary in quality and technological sophistication. Every piece is unique. There is no repetition or copying of forms (Floss 2007, 309). The raw materials used were ivory and, in two cases, bone. One quite insecure piece was carved into a stone. All raw

materials occur in larger quantities in all four sites as well as substantial amounts of production debris. Ivory was also used for the production of a number of other objects, such as points, batons and beads. With two exceptions (the large therianthrope from Hohlenstein (Table 2, Fig. 2:3) and a large mammoth from Vogelherd (Table 2, Fig. 1:2)), the statuettes



Figure 2. Figurative statuettes from Aurignacian occupation layers of the Vogelherd (1–2), Hohlenstein-Stadel (3), Geißenklösterle (4–7) and Hohle Fels (8–10) (after Floss 2007, 300) (1–2, 8–10: Photo H. Jensen, Universität Tübingen; 3: Photo Thomas Stephan, Ulmer Museum; 4–7: Photo P. Frankenstein, H. Zwietasch, Landesmuseum Württemberg, Stuttgart).

are small enough that they could have been carried around all of the time. Some figures are pierced, others show clear signs of longer use and polish so that it is evident that they were handled, carried or attached to clothing or other objects for a considerable amount of time (Floss 2007, 308–10). There is generally very little evidence for an intentional deposition of the statuettes (Porr in prep.). Almost all figurative statuettes were found among occupation debris and were associated with objects of personal

ornamentation (beads, pendants, and pierced animal teeth) (Floss 2007, 306). It is possible that they were discarded while still attached to decorated clothes or other objects (e.g. bags, containers etc.).

The Aurignacian art of southwest Germany as cultural memory

From a methodological point of view Assmann's ideas provide a number of interesting starting points for an

Table 2. *Figurative mobiliary art objects from the Aurignacian of the Swabian Jura (after Floss 2007, 298–301).*

Fig. no.	Site	Layer	Figurine	Raw material
1:1	Vogelherd	V	Mammoth	Ivory
1:2	Vogelherd	V	Mammoth	Ivory
1:3	Vogelherd	V	Horse	Ivory
1:4	Vogelherd	V	Felid (?)	Ivory
1:5	Vogelherd	V	Felid	Ivory
1:6	Vogelherd	V	Bear	Ivory
1:7	Vogelherd	IV	Mammoth	Bone
1:8	Vogelherd	IV	Bison	Ivory
1:9	Vogelherd	IV	Felid	Bone
1:10	Vogelherd	IV	Anthropomorph	Ivory
1:11	Vogelherd	?	Mammoth (?)	Stone
1:12	Vogelherd	?	Felid	Ivory
1:13	Vogelherd	?	Mammoth (?)	Ivory
2:1	Vogelherd	?	Felid	Ivory
2:2	Vogelherd	?	Mammoth	Ivory
2:3	Hohlenstein-Stadel	IV	Therianthrope	Ivory
2:4	Geißenklösterle	Ila	Mammoth	Ivory
2:5	Geißenklösterle	Ila	Bear	Ivory
2:6	Geißenklösterle	Ilb	Anthropomorph	Ivory
2:7	Geißenklösterle	Ilb	Bison	Ivory
2:8	Hohle Fels	IId/IIIa	Horse	Ivory
2:9	Hohle Fels	IV	Therianthrope	Ivory
2:10	Hohle Fels	IV	Water bird	Ivory

exploration of cultural memory in prehistoric contexts. As I have mentioned above, in the field of prehistoric archaeology they have been virtually ignored and only Holtorf (1996) has specifically addressed the former aspect in an analysis of megalithic monuments in northern Germany. In Palaeolithic archaeology the aspect of social memory has not been explored so far, although forms of parietal art certainly have a high potential as media of cultural memory. On the one hand, they are very often characterized by a physical separation from everyday practices and were apparently only periodically visited by a restricted group of people. On the other hand, the decoration of some caves certainly was a structured and communal project. These characteristics seem to point to some of the central elements of Assmann's idea of cultural memory, which were discussed above. An interpretation that addresses these aspects without explicit references to the idea of social memory was recently proposed by Lewis-Williams (2002, 237–67) for the cave of Lascaux. The elements of monumentality and fixed spatial structuration that are obviously most important for a social interpretation of parietal art are not applicable in the case of the Aurignacian mobiliary art of southwest Germany. The establishment of the

position of the figurative objects within the dynamic processes of Aurignacian society and social life consequently has to be achieved in a different way.

In the case of items of material culture the depositional context only reflects the final stage in the life-history of an object and it is the final stage of its dialectical relationship with human practices. To establish the social significance of material objects it is necessary to reconstruct the complete processes of raw material acquisition, production, use and discard, and to contextualize them within the network of practices that emerges from the general analysis of the contemporary archaeological record. Elsewhere, I have discussed the need to distinguish analytically the interplay of material structures, dynamic practice and ideology in the understanding of material culture and Palaeolithic art (Porr 2002; 2003; 2004a,b). I want to propose here that these analytical distinctions can also be used to understand cultural and communicative memory in the Aurignacian art of southwest Germany.

In Assmann's characteristics of the two kinds of social memory (see Table 1), communicative memory has a continuous temporary structure. It is produced and reproduced in everyday practices and in face-to-face interactions. In contrast to Assmann's original view, however, I want to argue here that communicative memory indeed has material expressions. Rather than just residing in the brains and bodies of actors, communicative memory constantly is produced and reproduced in dynamic reference to material objects and material structures. These objects will be largely of a repetitive nature. They will have a continuous distribution, because they are neither temporally nor spatially restricted in their production, use and discard. In the case of the Palaeolithic material record this category is to a large extent filled with stone tools and debitage (Fig. 3). Both are produced on a daily basis and as part of subsistence activities. They are part of the flow and rhythms of everyday life. The skills that are necessary for their production are learned in informal contexts. Finished stone tools can to a certain extent be seen as memory figures for communicative memory and might have served as templates for the production of similar tools. But I would suggest that they were largely unnecessary as reference media for a skilled person. The effects of the products of everyday life on the practices of people are largely unconscious and are not reflected upon. Communicative memory can therefore be seen as a form of memory that is embodied rather than consciously reflected upon.

In the Aurignacian of southwest Germany a number of objects can be understood as products of communicative memory. All of them are characterized

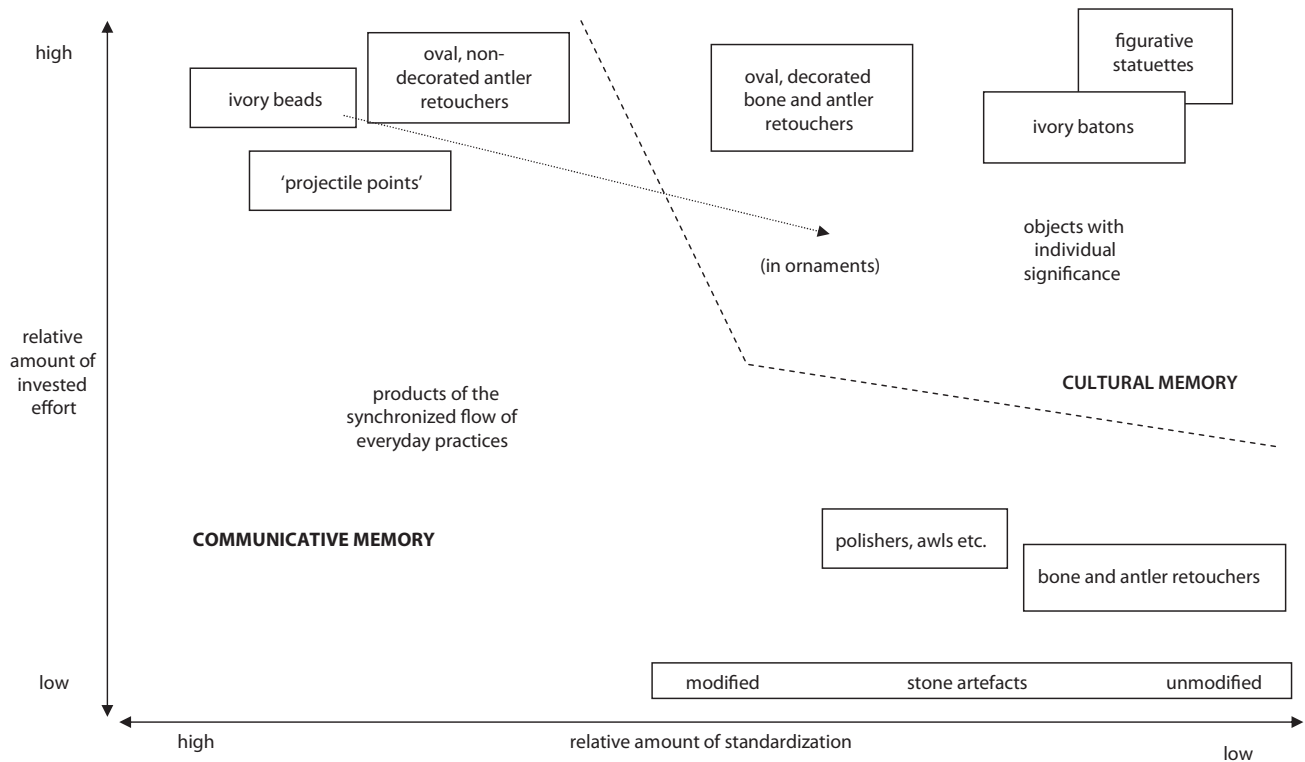


Figure 3. *Products of cultural and communicative memory in the Aurignacian of southwest Germany.*

by a repetition of form or are products of repetitive practices. Stone tools generally fall into the latter category, mostly because there are only a few weakly standardized forms (such as carinated scrapers) in this time period. A number of other organic artefacts can also be understood in this way. These are bone and antler retouchers, polishers and awls. These objects were produced by recurring practices but with very little concern for their final shape. Their relative similarity is generally guided by functional necessities and the properties of the raw material. Because of these characteristics, objects within this class all share a relatively low investment of effort. This latter element distinguishes these artefacts from the other products of communicative memory, which do exhibit a repetition of form. Probably the most striking objects in this respect during the Aurignacian are the ‘projectile points’ that were produced in larger quantities from antler or ivory. These objects are very similar in form and size. This feature also applies to the numerous ivory beads that are either basket-shaped or oval with two perforations. The operational chain of the ivory beads has been well reconstructed, and demonstrates that these objects were products of standardized practices (Hahn 1988). The products of communicative memory consequently all share the element of repeti-

tive practices in their production. Some, in addition, do share a repetition of form, which can be correlated with a higher amount of invested effort. Nevertheless, they can all be seen as products of the synchronized rhythms of everyday practices, which is the domain of communicative and embodied memory.

In contrast, within the artefact spectrum of the Aurignacian of southwest Germany there are a number of objects that are characterized by a relatively high degree of idiosyncrasy as well as a relatively high level of invested effort (Fig. 3). Most prominently, this class of objects contains the figurative statuettes. It also includes two batons from Vogelherd and Geißenklösterle, two oval retouchers (one is decorated with a relief of a mammoth: Table 2, Fig. 1:7), the bone and ivory flutes, and a small number of idiosyncratic pendants and pierced objects (which are decorated with abstract designs). Because of lack of space I will only concentrate on the figurative statuettes. One can certainly argue that these objects were produced with well-established practices of raw material treatment and manipulation. Their makers were certainly very skilled craftsmen or -women. However, as I have mentioned above, all objects in this context are unique. There is no repetition of form. This observation suggests that the processes and motivations leading to

these objects and, consequently, their social position within Aurignacian life, were different from the objects discussed above. Clues in this direction can be gained from an analysis of the characteristics of their production, use and discard.

Looking at the earliest stages of the operational chain, we can see that the raw material of the statuettes is not exotic. In the form of production debris as well as blanks, ivory (and bone) can be found in larger quantities in all sites of the southwest German Aurignacian. There is no evidence to suggest that the acquisition of ivory was not embedded in normal everyday subsistence activities and that their physical production was spatially separated or secluded. Ivory was apparently mostly chosen because of its raw material properties. Its homogeneous texture allows for the carving of three-dimensional delicate forms. Even though it appears as if the production of the statuettes did take place within everyday activities, each seems to be an individual project that is based on individual decisions. The level of conscious control and conscious concern is obviously much higher than in the production of, for example, antler points and stone tools. This interpretation of the statuettes as reflections of individual projects corresponds to their mobility. Almost all objects are quite small and they probably were carried around most of the time. Some of the statuettes are pierced for suspension and most show clear evidence of polish. Taking these two lines of evidence together I want to suggest that the figurative statuettes in the Aurignacian of southwest Germany were not only the products of specific individual actions, but that they were also attached to individual persons during their use. This interpretation is further supported by the fact that the statuettes were found associated with other objects of personal ornamentation and were probably discarded while still attached to personal belongings and/or clothes. A spatial separation, however, cannot be observed in this context. Therefore, it seems that during the Aurignacian, the significance of the statuettes was seen in their production and use, during their material and dynamic connection to individual persons. These lines of evidence strongly suggest that individual statuettes were socially connected to individual human beings during the Aurignacian.

The presented interpretation of the statuettes is in agreement with flexible and mobile social formations within a landscape without strong social boundaries and fixed communal locations. In later periods, painted caves most certainly served as sites for the periodic reproduction of cultural memory of Palaeolithic groups. Sites with this kind of potential, however, have not been identified in the Aurignacian

of central Europe (but see Porr in prep.). This situation does not mean that there was no element of cultural memory present at that time. I rather want to suggest here that the Aurignacian statuettes of southwest Germany are reflections of cultural memory and that they allow insights into its complex and unstable relationship with everyday life. Indeed, so far I have only stressed individual forms and variability in the collection. These elements obviously do not fit very well into the concept of cultural memory that was established above and which emphasizes stability and codification. However, while the statuettes do show an important element of freedom and individuality, they also reflect a structured set of relations of significance. I want to argue here that the statuettes are not unreflected reproductions of cultural memory. They are products of an individual and intense concern with the field of meanings and associations of cultural memory. They have to be seen as individual variations of a socially shared meaningful ideology, which now needs to be examined in greater detail.

Structure and freedom in the Aurignacian art of southwest Germany

In 1986, Hahn originally argued that the Aurignacian art of southwest Germany reflected meanings of '*Kraft und Aggression*' (power and aggression). However, I am convinced that this interpretation is only a part of the whole picture (see also Floss 2007, 304). To understand the meaning and significance of the statuettes I will analyse them in two ways. First, the statuettes must be viewed in relation to their stylistic and material characteristics. Second, these observations must be seen in relation to the ecological and behavioural characteristics of the depicted species (including human beings) (see e.g. Bandi *et al.* 1984). As hunter-gatherers Aurignacian people were certainly very familiar with the anatomical as well as the behavioural and social features of the animals in their environment. It can therefore be expected that these characteristics also guided the artists in their choices and were central to the meaning of the collection.

As in many other cases of Palaeolithic art, the statuettes of the southwest German Aurignacian are neither a faithful reflection of the economic importance of the depicted species nor a representative sample of the fauna of the contemporary environment (comp. Niven 2003; 2006). The composition of the statuettes is rather a matter of careful and conscious choice. Apart from the water bird (Table 2, Fig. 2:10), all chosen species have in common that they are large terrestrial mammals. As far as can be determined, only adult

individuals were depicted. With the exception of the Vogelherd horse (Table 2, Fig. 1:3), all these large species tend to react aggressively or stand their ground when challenged. In this sense, the collection as a whole evokes an ideology of strength. This impression is further emphasized by the observation that the most often represented species are mammoths and lions. The mammoth was the largest herbivore and the lion was the largest predator in the ecosystem of the Interpleniglacial. Apart from their dominant size, these animals also shared a gregarious and socially complex hierarchical behaviour. Obviously, the latter aspects cannot be directly observed in the archaeological record. They can, however, be reconstructed from bio-ecological parameters and comparisons with the behaviour of African elephants and lions (Schaller 1972; Haynes 1991; Kahlke 1994; Uerpmann 2001; Maschenko *et al.* 2006) with some certainty.

It is very likely that these two impressive animal species — felines and mammoths — displayed one extraordinary difference in their social behaviour, which could hardly have escaped the attention of Aurignacian people. Haynes (1991) has provided an extensive discussion of the most likely behaviour of mammoths, based on referential models that are generalized from knowledge about modern elephants. Taking into account a large number of factors, including a common ancestry, similar habitat structures and reproductive/maturation patterns, Haynes (1991, 102) argues that mammoths most probably ‘behaved as do modern *Loxodonta* and *Elephas*’. It follows that female mammoths ‘would have formed long-lasting associations with other females (including their own mothers)’, while adult males ‘probably were loners much of the time’. Therefore, mammoths mainly lived in hierarchical groups, which were organized around older females and which consisted of adult females and their sub-adult offspring (Maschenko *et al.* 2006). As these groups had reproductive contacts with variable males, they can be described as ‘matrilineal’.

No comparable works are available for Pleistocene felids (see Kahlke 1994, 75 for references). However, if it is accepted that cave lion (*Panthera leo spelaea*) was depicted (which is present in the contemporary fauna), extensive similarities with modern lion populations can be assumed (Uerpmann pers. comm.). Kahlke (1994, 75) argues that the increase in open landscapes during the Pleistocene not only caused the extensive distribution of the species in Eurasia; it also provided the basis for its gregarious behaviour (*‘entscheidende Voraussetzung zur Entwicklung geselliger Verhaltensstrukturen’*). Just like modern lions, Pleistocene lions were probably adapted to open

landscapes, although they also occurred in gallery forests along river valleys, preying on the associated medium- to large-sized mammals (e.g. reindeer, red deer, bison, horse, and possibly young mammoths and rhinos: Uerpmann 2001). The structural ecological similarities between Pleistocene and modern lions are consequently numerous, so that one can assume further similarities concerning social behaviour. In modern African lions, which also live in open landscapes, ‘the male is dominant over the females on the basis of priority in feeding and aggressive behaviour’ (Rudnai 1973, 53). I regard it therefore as very likely that European Pleistocene lions (like all modern lions) lived in hierarchically organized groups, which were dominated by single male individuals. Because all offspring within one group is directly related to one dominant male individual, these groups can be described as ‘patrilineal’.

It needs to be stressed that the male dominance in this case is very much of a social nature (feeding, reproduction) and not directed at activities such as hunting. This dominance might be reflected in the statuettes themselves in the depiction of aggressive intra-group behaviour. Two felids do not show an aggressive behaviour that might be directed at humans (Table 2, Figs. 1:5 & 1:9). They seem to depict an act of intra-specific threatening behaviour, as Hahn (1993, 234) pointed out: ‘lions defending their prey against each other’. The case of ‘aggression’ in the collection is consequently far from straightforward. The theme is less connected to the acts of hunting, killing, destruction etc., but to intra-specific social behaviour, and possibly refers rather to ‘strength’ in a social sense: an ability to stand one’s ground in inter-personal contexts and conflicts.

The possible significance of a male–female distinction finds further support in the conventions of the statuettes in the fact that the makers never attempted to depict any tusks in the mammoths. This is clearly a contradiction to the observation that only adult animals are represented. There can be no doubt that adult female mammoths grew clearly visible tusks. But it is also likely that, like modern elephants, male mammoths used their tusks in conflicts during the mating season (comp. Haynes 1991, 102). Taking these lines of evidence together, I argue that the deliberate non-representation of tusks in the mammoths was a convention to emphasize their femaleness by making use of an unrealistic exaggeration of the sexual dimorphism found in these animals. This can, in the end, not be proven. However, technical explanations — the inability or difficulty to carve detailed anatomical traits — can certainly be excluded as an



Figure 4. Head of a lion from Vogelherd. The erect ears show that an alert animal is depicted (Photo: P. Frankenstein, H. Zwietsch, Landesmuseum Württemberg, Stuttgart).



Figure 5. The 'adorant' from Geißenklösterle shows an elongated shape with feline proportions and with raised arms (Photo: P. Frankenstein, H. Zwietsch, Landesmuseum Württemberg, Stuttgart).

explanation for this curious feature. The other statuettes clearly represent a level of skilled competence in the Aurignacian artists that enabled them to find an appropriate representation if they had intended one. Unfortunately, the most clear morphological trait that would have allowed an easy distinction of the sexes in modern lion populations can apparently not be assumed for Pleistocene cave lions, *Panthera leo spelaea*, and this is the presence of a mane (Wehrberger 1994, 66; Uerpmann 2001).



Figure 6. The mammoth statuette from Geißenklösterle depicts the animal in a symmetrical and neutral fashion (Photo: P. Frankenstein, H. Zwietsch, Landesmuseum Württemberg, Stuttgart).

The two groups of statuettes are also clearly separated by a differential depiction of behavioural traits (see also Hahn 1984). Both are certainly carved with great expertise and an intimate knowledge of their natural appearance. However, only in the felids detailed and specific behaviours are depicted. In contrast, the mammoths appear neutral, with no evidence of a particular behaviour at all. It was already mentioned that in two felids a characteristic expression of intra-species aggression is depicted, the 'tense open-mouth face' (Schaller 1972, cited by Hahn 1993, 234), which modern lions display in conflicts with each other. The two other felids are also depicted with a specific behavioural expression: cocked and erect ears indicate in both cases alert or wary animals (Fig. 4).

Analysis of the differences in the depictions of mammoths and felids and their behavioural characteristics suggests that Aurignacian people made conceptual links between males/maleness and lions on the one side and females/femaleness and mammoths on the other. Mammoths were depicted in neutral and symmetric postures, while felids are shown with unusual or identifiable realistic behaviours. Felids can also be seen as more 'open' with elongated bodies and longer extremities. These latter characteristics are also linked to the fusion of human and animal characteristics that are restricted to the felines. For example, a small therianthropic relief (Table 2, Fig. 2:6) presents a frontal shape with raised arms (Fig. 5). No comparable features can be observed in the mammoths, which appear rounded, symmetrical and closed (Fig. 6; see also Fig. 1:1).



Figure 7. A bison statuette from Geißenklösterle depicts the animal in symmetrical and neutral position (Photo: P. Frankenstein, H. Zwietasch, Landesmuseum Württemberg, Stuttgart).



Figure 8. The ivory statuette of a horse from Vogelherd depicts the animal in an active fashion and represents possibly a male behavioural trait expressed during the mating season (Photo: H. Jensen, Universität Tübingen).

In my view, mammoths and lions form the core of this collection. Their differences and similarities, both in terms of stylistic conventions and animal behaviour, allow the reconstruction of general relations of significance that guided the creation of the whole collection in terms of a distinction between male/female, carnivore/herbivore, active/static, fast/slow and open/closed (Fig. 10). Within these structural relations the other statuettes can also be placed. As one would expect, the bison statuettes (as herbivores) do follow the conventions of the mammoths (Figs. 1:8 & 7), while the bear (as a carnivore: Richards *et al.* 2008) (Table 2, Figs. 2:5 & 9) is depicted in an unusual and open way with raised arms.

This analysis makes the Vogelherd horse (Table 2, Figs. 1:3 & 8) the most interesting and unusual statuette in the collection. It is the animal with the most pronounced fleeing behaviour and is certainly least likely to act aggressively when threatened. Even though it is an herbivore, it is faster and more dynamic than mammoths or bison. The horse is furthermore the only herbivore in the collection with a single stomach. And, although both the horse and the possible rhinoceros are perissodactyla, the horse is the only animal in the collection in which 'only one functional digit is retained on each foot' (Vaughan 1972, 228). Finally, the social behaviour of the horse was most likely similar to the Przewalski's horse by a harem system that was dominated by males (Boyd & Houpt 1994). This combination of anatomical and behavioural traits is indeed reflected in the statuette itself. Unlike the other herbivores its depiction follows the conventions of the felids. It is depicted not only during the display of a certain kind of behaviour, but



Figure 9. The statuette of a bear from Geißenklösterle is depicted in an unusual position with outstretched arms (Photo: P. Frankenstein, H. Zwietasch, Landesmuseum Württemberg, Stuttgart).

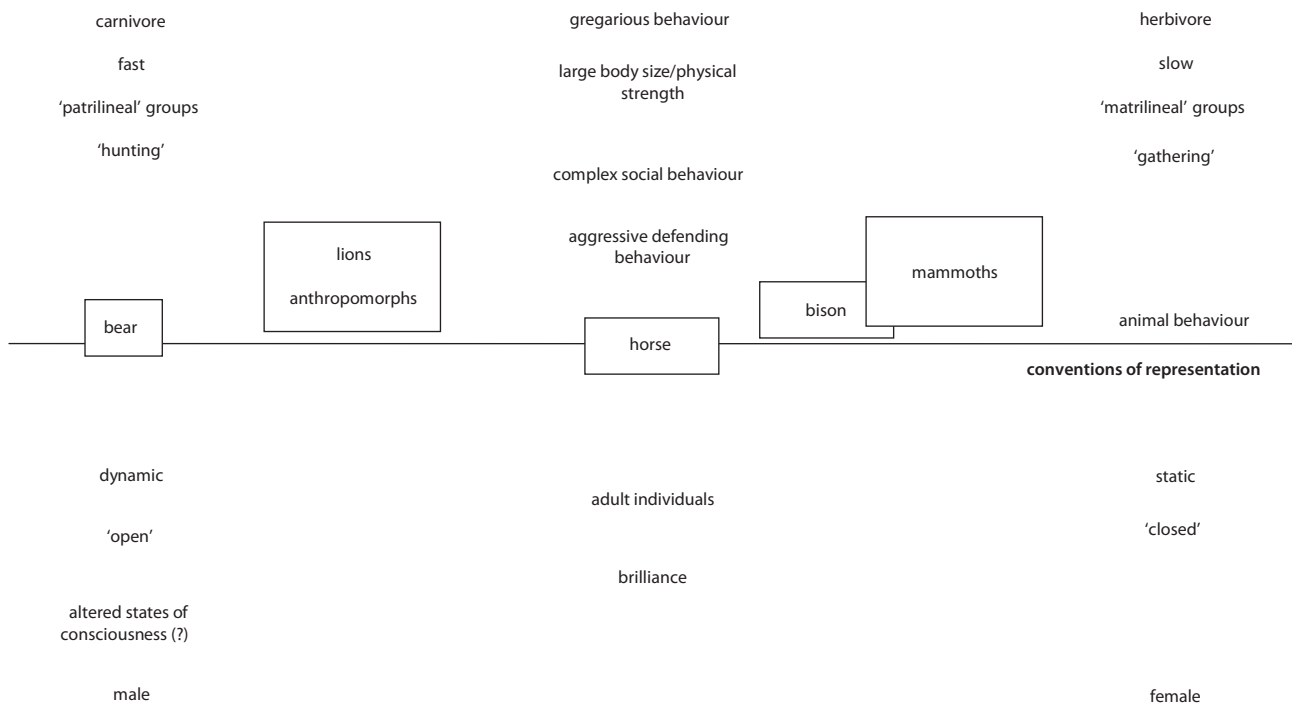


Figure 10. *Relations of significance in the cultural memory of the Aurignacian art of southwest Germany.*

an intra-specific aggressive behaviour. According to Hahn (1986; 1993, 235), the statuette of the Vogelherd horse shows the behaviour of a stallion impressing females. This feature makes it the only statuette where a sex determination is possible and it further emphasizes the ambiguous nature of this object. The Vogelherd horse demonstrates in an extraordinary way the tension between structure and individuality contained within the collection. I interpret this tension as a product of the tension between established themes of cultural memory and individual interpretation. The analysis of the Aurignacian statuettes therefore produces significant connections with Assmann's distinction of cultural and communicative memory but also some important differences that I will now discuss in greater detail.

Obviously, not all aspects of Assmann's distinction of cultural and communicative memory can be examined in this case. It especially needs to be modified and discussed in relation to a social formation that has to be assumed for the central European Aurignacian, a highly mobile and flexible hunter-gatherer society. This flexibility imposes certain limitations on the mechanisms of reproduction of cultural memory. J. Assmann's approach (see Table 1) emphasizes aspects of temporal and spatial separation as well as strong codification in the reproduction of cultural memory. As I have mentioned above, these aspects will be most

obvious in the structure and/or location of monuments as well as accompanying evidence for their (restricted) use. In the Upper Palaeolithic of Europe painted caves most likely formed locales for the periodic reproduction of cultural memory and the Grotte Chauvet clearly demonstrates that these processes were already in existence during the European Aurignacian (Clottes 2003). However, in central Europe no 'monuments' have been identified and virtually no locales could have served as 'aggregation sites' for the same purpose (Conkey 1980). This structure of the evidence suggests that either these places have not been found so far, that they were destroyed or that the reproduction of cultural memory operated in a different form. In the absence of further evidence I want to suggest that in central Europe cultural memory was not bound to fixed locales in the social landscape, but was reflected in mobiliary art objects.

As I have argued above, the analysis of the dynamic processes of the Aurignacian art of southwest Germany suggests that they were produced consciously with great care and attention and with reference to a structured system of significant meanings (Fig. 10). This structured set of meanings, as an abstract and codified system, has to be located within the cultural memory of the Aurignacian of southwest Germany. It contains idealized images of animals and therianthrope beings that are representations of an ideal reality as well as

ideal relationships between imagined creatures. The statuettes therefore refer to an idealized order that structures the visible world; they refer to a reality behind reality. Although J. Assmann's distinction emphasizes the difference between communicative and cultural memory, it is also clear that both cannot be easily separated. The two forms of memory have to be understood as two dimensions of the order of the world that have different rhythms, but are also constantly informing each other. This two-dimensionality is also present in the statuettes. On a superficial level they only refer to specific species of animals (e.g. mammoths), but on an additional level each statuette also refers to a whole range of meanings that are connected with each animal (e.g. female protective strength). The statuettes are consequently memory figures in their reference to these abstract meanings. The analysis of the statuettes therefore shows how Aurignacian people viewed certain animals in their environment beyond their economic relevance (Ingold 1996a). It draws attention to the perception of the environment of Aurignacian people, because not only the statuettes themselves have to be seen as memory figures, but the real animals (mammoths, lions, bison etc.) as well. It does not follow that those animals were not hunted or used. It rather shows that the perception of the environment by Aurignacian people was a complex affair and contained different layers of meaning. The world was not only a distribution of different resources that were important for survival. It was also a place that was saturated with complex meanings, which encompassed animals and humans. As a background to everyday life, it provided guidelines for a deep understanding of the world (cf. Ingold 1996b).

The interrelationship between animals and humans is further reflected in therianthropic depictions within the collection (Dowson & Porr 2001), but is also contained in the production and use of the statuettes. The Aurignacian collection of southwest Germany allows a unique insight into the mechanisms of the integration of meanings of cultural memory into everyday life in a Palaeolithic context. Each statuette was produced in an individual act which accesses cultural memory. They show an intense concern with the structures of meaning that are contained in the reservoir of cultural memory. The variability of the statuettes shows that a certain amount of negotiation was taking place in these processes. Individuals made choices within the structured set of meanings and they produced individual variations on the available themes. This aspect clearly differs from Assmann's idea of the highly controlled reproduction of cultural memory in non-literate

societies. But it can be explained as a consequence of the flexible and individualistic social formation in which the production of the statuettes was certainly embedded. The production of the statuettes therefore is characterized by a clear element of tension between tendencies of individual variability and the necessities of the learning and reproduction of the structures of cultural memory.

Both in the production and in their use, individual people are constantly reminded of the meanings that are reflected in the statuettes, meanings about men and women and their position in the world. The statuettes are memory figures, which remind people of the ideal order that is the background to the past and present of both animals and humans. The statuettes are therefore the very mechanism that secures the presence of cultural memory within the rhythms of everyday life and communicative memory. It is important to understand that the idea of cultural memory also provides a convincing explanation why Aurignacian people chose to attach material markers to individual persons at all. They provide a solution to the problem of integrating structures and themes of cultural memory into everyday life (J. Assmann 2005, 85).

The complexities of cultural memory are obviously beyond the necessities of everyday life. In fact, most of the time, they have no immediate relevance to the mastery of ordinary problems. In J. Assmann's framework, cultural memory is periodically reproduced in rituals within restricted contexts of ceremonial time. Between the periods of ceremonial time cultural memory is not forgotten, but is stored as a background in the memory of each individual person (J. Assmann 2005, 85). In the Aurignacian art of southwest Germany the contexts of production and the creation of individual statuettes may indeed have been periodic occasions. Although there is no evidence to suggest that the statuettes were in any form secluded or separated from everyday life, this observation does not exclude the possibility that the statuettes were connected to a form of restricted knowledge. Introduction into the themes and stories of cultural memory might not have been open and accessible to everybody all of the time, but was connected to extraordinary circumstances (secluded rituals, initiations, altered states of consciousness or other forms of the acquisition of visions etc.). In any case, the statuettes have the unique potential to transport and preserve themes of cultural memory without breaking the rhythm of ordinary and ceremonial time. As material objects, they can simultaneously hide and reveal (cf. Wingo 1998) the themes, secrets and structures of cultural memory.

Conclusion: stability and instability of Palaeolithic cultural memory

Compared to J. Assmann's original framework, it is clear that the model presented here proposes a greater flexibility in the mechanisms of reproduction of cultural and communicative memory, and the roles of both social participation and material objects. These differences must be seen in relation to the societies that provided the basis for J. Assmann's ideas. It has been repeatedly stressed that J. Assmann (2005) specifically emphasizes elements of stability, continuity and separation in the relations of cultural and communicative memory (everyday life). In Pharaonic Egypt the constant reproduction of this distinction provided one of the major mechanisms to establish the social and cultural stability of this highly stratified society. In the Aurignacian of southwest Germany we are looking at contexts that were radically different. They reflect different potentials and limitations for the structuring of social life and the reproduction of different forms of social memory. Mobiliary art provided continuity in cultural memory under conditions of high social flexibility and mobility.

The new find of the female statuette in Hohle Fels Cave (Conard 2009) has most recently given a whole new dimension to the topic of continuity and change in Early Upper Palaeolithic art. The most important consequence of this find is possibly the demonstration of deep continuities between Aurignacian and Gravettian figurative expressions and related elements of cultural memory. This find therefore opens up the possibility to view these two periods of the European Palaeolithic no longer as separate entities, but within a single framework of developing similarities and differences in material expressions and social memory. It is of course impossible to fully discuss the implications of this new orientation in this context here (see Porr in prep.). However, even before the new find in Hohle Fels Cave continuities between Aurignacian and Gravettian figurative expressions could be inferred from the stylistic similarities between the depictions of mammoths in the Aurignacian and the fundamental characteristics of the depictions of mature women during the Gravettian (the so-called 'Venus statuettes'), which could both be related to an ideal ideology of female experience and maturity. I consequently argued a couple of years ago that the 'Gravettian statuettes and the values and ideas connected with them possibly have their roots in an Aurignacian ideology of female defensive, calm and protective strength' (Porr 2004a, 268).

The female statuettes from the Gravettian (*Périgordien supérieur*, Pavlovian) period are certainly

among the most widely known and studied figurative expressions of European Palaeolithic art. They are traditionally dated to between c. 29,000 and 20,000 BP (Conard & Bolus 2003; White 2003; Svoboda 2007). Soffer *et al.* (2000) have correctly noted that most interpretations of these statuettes have not taken into account their variability in style and expression as well as in depositional contexts. I believe that the elements of communicative and cultural memory, corporeal culture and the relevance of metaphorical connections between animals and humans do provide the right set of methodological tools to have a fresh look at these statuettes, both in their individual contexts as well as in relation to their position in the long-term developments of the European Palaeolithic (Porr in prep.).

In different forms and in different socio-economic contexts, the Gravettian female statuettes refer to the same core values that were connected to the depictions of mammoths in the Aurignacian of southwest Germany. During the Gravettian in central and eastern Europe larger social groups developed with a greater emphasis on larger and more permanent settlements (see Gamble 1982; 1986, 322–31; 1999 for a summary of the evidence). Obviously, this had important implications for the values attached to locales and places and the relationships between people and places. Social groups were probably less flexible and connections of groups and individuals to particular places grew stronger. The Gravettian statuettes reflect this shift in two ways. In comparison to the Aurignacian mobiliary art, they are larger and therefore less mobile. They were also often intentionally deposited in pits and next to fireplaces in habitation structures (Soffer 1989; see Soffer 1985 for a general overview). White (2003, 137–41) has argued in a similar spirit that the statuettes were important for the spiritual protection of the inner domestic sphere. These characteristics show that their main area of reference was no longer an individual person but a social space. However, the ideology connected with them remained essentially similar. They still expressed an ideology of protection, strength and experience connected to the theme of female reproduction. In this sense, they provide a powerful piece of evidence for the continuity in cultural memory that resisted the changes in everyday life and material culture and the expressions of communicative memory. These differences can be explained with reference to Assmann's characterization of these forms of social memory. While cultural memory (and its memory figures) is actively reproduced in conscious (ritual) processes, communicative memory is reproduced without much conscious involvement and conscious intentions to resist change. Therefore, cultural memory

can be expected to show greater continuity through time and other socio-economic changes.

Archaeology is in the unique position to examine cultural developments and change over very long periods of time. In Palaeolithic archaeological research this characteristic has always taken a central role. In the history of research into Palaeolithic art an emphasis on long-term developments has most often overshadowed variations in contextual information. J. Assmann's framework of cultural memory can be a tool to examine both stasis and change in Palaeolithic art. In this case, archaeology can not only be a passive recipient of explanatory concepts. It can also be a critical partner in the examination of new historical contexts. I mentioned above that in non-literate societies only communal rituals can provide continuity in the tradition of cultural memory (J. Assmann 2005, 103). The core of the ritual is therefore always exact repetition, a task that has to be learned and consciously transmitted. By periodically re-establishing the link with the absolute past, communal and individual identity is simultaneously created. In the Aurignacian art of southwest Germany the results of these processes are visible. The statuettes are both communal and individual. Over long periods of time and under the influence of changing socio-economic conditions, this tension has slowly transformed the Aurignacian themes of cultural memory and its reservoir of expressions into the Gravettian themes of cultural memory and its own reservoir of expressions. The re-creation of cultural memory is therefore not just ritual repetition as a technique of cultural reproduction (J. Assmann 2005, 89). The framework of cultural memory allows us to view the Palaeolithic as a time where active individuals made choices within their social and cultural environment (Gamble 1999; Gamble & Porr 2005). The perspective of social memory makes it necessary to see the art from a social perspective, and to place it into its dynamic contexts of production, use and discard. It allows us to see both the ideal concepts that were motivating individual artists as well as the variations that were put into each individual statuette. Each statuette represents the result of an individual reflection of contemporary themes of cultural memory.

What do these insights tell us about people and social relationships during the Aurignacian? In general, this question cannot be appropriately addressed in this contribution. However, it seems to be clear that the Aurignacian statuettes and all expressions of Palaeolithic art do form an important aspect of the conscious and active creation and negotiation of identities. This aspect has been recently highlighted by Gamble (2007), although neither the relevance of the

interrelationship between animals and humans in this context played a central role or figurative representations during the Palaeolithic. Although I indeed think that both were key elements for the constitution of identities during the Upper Palaeolithic (and before), Gamble's (2007) exploration draws attention to the fact that the issue of identity cannot be restricted to particular material expressions, but informs all aspects of life and interactions with the environment. Therefore, the future examination of Palaeolithic art has to be embedded in an understanding and the reconstruction of these processes.

The aspects of sex and gender will continue to be of central importance for our understanding of Palaeolithic lives and people. This will certainly also include a critical exploration of the relationships between ideology expressed in figurative representations and everyday life. In the approach adopted here, there can be little doubt that the structure of cultural memory had a deep significance for the people's understanding of themselves and their relationships with the world. Therefore, the ideal characteristics of maleness and femaleness that were expressed in the figurative art certainly corresponded to everyday life and activities. However, the adoption of a perspective of negotiated cultural memory allows for a much more rich and flexible approach to this field, beyond the search for gender-specific subsistence tasks. The construction of cultural memory around the similarities and differences between animals and humans opens up a rich field of complex metaphors and meanings, which is at the same time ordered by a core structure and open to individual negotiation. This interplay of structure and freedom that is visible in the Aurignacian mobile art of southwest Germany corresponds to the characteristics of Aurignacian material expressions across Europe in general. This, again, emphasizes the fundamental structure of the Aurignacian between influences of unity and diversity (Le Brun-Ricalens & Bordes 2007). The related processes of differential social learning and social transmission, conservatism and innovation are still poorly understood, although there can be little doubt that the available data on the Upper Palaeolithic of Europe provides a rich reservoir for the exploration of these themes.

Acknowledgements

I would like to thank Linda R. Owen for valuable comments on an earlier draft of this paper. Clive Gamble and H. Müller-Beck provided important advice and inspiration for this study over the years. I also would like to thank three anonymous reviewers for their detailed and encouraging

suggestions. The rights to reproduce the illustrations in this article have been kindly provided by N.J. Conard, H. Floss, M. Malina (Universität Tübingen), E. Keefer (Landesmuseum Stuttgart) and K. Wehrberger (Ulmer Museum).

Martin Porr
Archaeology
M405

The University of Western Australia
35 Stirling Highway
Crawley
Western Australia 6009
Australia
Email: martin.porr@uwa.edu.au

References

- Assmann, A., 2003. *Erinnerungsräume. Formen und Wandlungen des kulturellen Gedächtnisses*. München: C.H. Beck.
- Assmann, A., 2008. Transformations between history and memory. *Social Research* 75(1), 49–72.
- Assmann, J., 1997. *Moses the Egyptian: the Memory of Egypt in Western Monotheism*. Cambridge (MA): Harvard University Press.
- Assmann, J., 2000. *Religion und kulturelles Gedächtnis. Zehn Studien*. München: C.H. Beck.
- Assmann, J., 2003. *Die Mosaische Unterscheidung oder der Preis des Monotheismus*. München: Hanser.
- Assmann, J., 2005 [1992]. *Das kulturelle Gedächtnis. Schrift, Erinnerung und politische Identität in frühen Hochkulturen*. München: C.H. Beck.
- Bandi, H.G., W. Huber, M.-R. Sauter & B. Sitter (eds.), 1984. *La contribution de la zoologique et ethnologique à l'interprétation de l'art des peuples chasseurs préhistorique*. Fribourg: Éditions Universitaires Fribourg.
- Bolus, M., 2003. The cultural context of the Aurignacian of the Swabian Jura, in *The Chronology of the Aurignacian and the Transitional Technocomplexes: Dating, Stratigraphies, Cultural Implications*, eds. J. Zilhão & F. d'Errico. Lisboa: Instituto Português de Arqueologia, 153–64.
- Bourdieu, P., 1977. *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- Boyd, L. & K. Houpt (eds.), 1994. *Przewalski's Horse: the History and Biology of an Endangered Species*. Albany (NY): State University of New York Press.
- Bradley, R., 2002. *The Past in Prehistoric Societies*. London: Routledge.
- Broglio, A., G. Giachi, F. Gurioli & P. Pallecchi, 2007. Die aurignacienzeitlichen Malereien aus der Grotta di Fumane, in *Les chemins de l'art Aurignacien en Europe – Das Aurignacien und die Anfänge der Kunst in Europa*, eds. H. Floss & N. Rouquerol. Aurignac: Éditions Musée-forum Aurignac, 157–70.
- Le Brun-Ricalens, F. & J.-G. Bordes, 2007. Die Anfänge des Aurignacien in Westeuropa: Einheit oder Diversität? Vom Subsistenzraum zur Kulturlandschaft, in *Les chemins de l'art Aurignacien en Europe – Das Aurignacien und die Anfänge der Kunst in Europa*, eds. H. Floss & N. Rouquerol. Aurignac: Éditions Musée-forum Aurignac, 37–62.
- Churchill, S.E. & F.H. Smith, 2001. Makers of the early Aurignacian of Europe. *Yearbook of Physical Anthropology* 43, 61–115.
- Clottes, J. (ed.), 2003 [2001]. *Return to Chauvet Cave. Excavating the Birthplace of Art: the First Full Report*. London: Thames & Hudson.
- Conard, N.J., 2003. Palaeolithic ivory sculptures from southwestern Germany and the origins of figurative art. *Nature* 426, 830–32.
- Conard, N.J., 2005. An overview of the patterns of behavioral change in Africa and Eurasia during the Middle and Late Pleistocene, in *From Tools to Symbols: from Early Hominids to Modern Humans*, eds. F. d'Errico & L. Blackwell. Johannesburg: Witwatersrand University Press, 294–332.
- Conard, N.J. (ed.), 2006. *When Neanderthals and Modern Humans Met*. Tübingen: Kerns.
- Conard, N.J., 2007a. Cultural evolution in Africa and Eurasia during the Middle and Late Pleistocene, in *Handbook of Paleanthropology*, eds. W. Henke & I. Tattersall. Berlin: Springer, 2001–37.
- Conard, N.J., 2007b. Neue Elfenbeinskulpturen aus dem Aurignacien der Schwäbischen Alb und die Entstehung der figürlichen Kunst, in *Les chemins de l'art Aurignacien en Europe – Das Aurignacien und die Anfänge der Kunst in Europa*, eds. H. Floss & N. Rouquerol. Aurignac: Éditions Musée-forum Aurignac, 317–30.
- Conard, N.J., 2009. A female figurine from the basal Aurignacian of Hohle Fels Cave in southwestern Germany. *Nature* 459, 248–52.
- Conard, N.J. & M. Bolus, 2003. Radiocarbon dating the appearance of modern humans and timing of cultural innovations in Europe: new results and new challenges. *Journal of Human Evolution* 44, 331–71.
- Conard, N.J. & M. Bolus, 2008. Radiocarbon dating the late Middle Paleolithic and Aurignacian of the Swabian Jura. *Journal of Human Evolution* 55, 886–97.
- Conard, N.J. & H. Floss, 2000. Eine Elfenbeinplastik vom Hohle Fels bei Schelklingen und ihre Bedeutung für die Entwicklung des Jungpaläolithikums in Südwestdeutschland. *Archäologisches Korrespondenzblatt* 30, 473–80.
- Conard, N. J., M. Malina & T. Verrept, 2009. Weitere Belege für eiszeitliche Kunst und Musik aus den Nachgrabungen 2008 am Vogelherd bei Niederstotzingen-Stetten ob Lontal, Kreis Heidenheim. *Archäologische Ausgrabungen in Baden-Württemberg* 2008, 21–4.
- Conkey, M.W., 1980. The identification of prehistoric hunter-gatherer aggregation sites: The case of Altamira. *Current Anthropology* 21, 609–30.
- Conkey, M.W., O. Soffer, D. Stratman & N. Jablonski (eds.), 1997. *Beyond Art: Pleistocene Image and Symbol*. Berkeley (CA): University of California Press.
- DeMarrais, E., C. Gosden & C. Renfrew (eds.), 2004. *Rethinking Materiality: the Engagement of Mind with the Material World*. (McDonald Institute Monographs.)

- Cambridge: McDonald Institute for Archaeological Research.
- Donald, M., 1991. *Origins of the Modern Mind: Three Stages in the Evolution of Culture and Cognition*. Cambridge (MA): Harvard University Press.
- Dowson, T.A. & M. Porr, 2001. Special objects — special creatures. Shamanistic imagery and the Aurignacian art of southwest Germany, in *The Archaeology of Shamanism*, ed. N. Price. London: Routledge, 165–77.
- Van Dyke, R.M. & S.E. Alcock (eds.), 2003. *Archaeologies of Memory*. Oxford: Blackwell.
- Floss, H., 2007. Die Kleinkunst des Aurignacien auf der Schwäbischen Alb und ihre Stellung in der paläolithischen Kunst, in *Les chemins de l'art Aurignacien en Europe – Das Aurignacien und die Anfänge der Kunst in Europa*, eds. H. Floss & N. Rouquerol. Aurignac: Éditions Musée-forum Aurignac, 295–316.
- Floss, H. & N. Rouquerol (eds.), 2007. *Les chemins de l'art Aurignacien en Europe – Das Aurignacien und die Anfänge der Kunst in Europa*. Aurignac: Éditions Musée-forum Aurignac.
- Gamble, C.S., 1982. Interaction and alliance in Palaeolithic society. *Man* (N.S.) 17, 92–107.
- Gamble, C.S., 1986. *The Palaeolithic Settlement of Europe*. Cambridge: Cambridge University Press.
- Gamble, C.S., 1999. *The Palaeolithic Societies of Europe*. Cambridge: Cambridge University Press.
- Gamble, C.S., 2007. *Origins and Revolutions. Human Identity in Earliest Prehistory*. Cambridge: Cambridge University Press.
- Gamble, C.S. & E.K. Gittins, 2004. Social archaeology and origins research: a Paleolithic perspective, in *A Companion to Social Archaeology*, eds. L. Meskell & R. W. Preucel. Oxford: Blackwell, 96–118.
- Gamble, C.S. & M. Porr, 2005. From empty spaces to lived lives: exploring the individual in the Palaeolithic, in *The Hominid Individual in Context: Archaeological Investigations of Lower and Middle Palaeolithic Landscapes, Locales and Artefacts*, eds. C.S. Gamble & M. Porr. London: Routledge, 1–12.
- Giddens, A., 1984. *The Constitution of Society: Outline of the Theory of Structuration*. Cambridge: Polity.
- Hahn, J., 1971. La statuette masculine de la Grotte du Hohlenstein-Stadel (Württemberg). *L'Anthropologie* 75(3/4), 233–44.
- Hahn, J., 1984. L'Art mobilier Aurignacien en Allemagne du Sud-Ouest: essai d'analyse zoologique et ethologique, in *La contribution de la zoologie et ethologique à l'interprétation de l'art des peuples chasseurs Préhistorique*, eds. H.G. Bandi, W. Huber, M.-R. Sauter & B. Sitter. Fribourg: Éditions Universitaires Fribourg, 283–94.
- Hahn, J., 1986. *Kraft und Aggression. Die Botschaft der Eiszeitkunst im Aurignacien Süddeutschlands?* Tübingen: Archaeologica Venatoria.
- Hahn, J., 1988. *Die Geißenklösterle-Höhle im Aichtal bei Blaubeuren I. Fundhorizontbildung und Besiedlung im Mittelpaläolithikum und im Aurignacien*. Stuttgart: Konrad Theiss.
- Hahn, J., 1993. Aurignacian art in central Europe, in *Before Lascaux: the Complex Record of the Early Upper Palaeolithic*, eds. H. Knecht, A. Pike-Tay & R. White. Boca Raton (FL): CRC Press, 229–41.
- Haynes, G., 1991. *Mammoths, Mastodons & Elephants: Biology, Behaviour and the Fossil Record*. Cambridge: Cambridge University Press.
- Holdermann, C.-S., H. Müller-Beck & U. Simon (eds.), 2001. *Eiszeitkunst im Süddeutsch-Schweizerischen Jura. Anfänge der Kunst*. Stuttgart: Konrad Theiss.
- Holtorf, C.J., 1996. Towards a chronology of megaliths: understanding monumental time and cultural memory. *Journal of European Archaeology* 4, 119–52.
- Ingold, T., 1996a. The optimal forager and economic man, in *Nature and Society: Anthropological Perspectives*, eds. P. Descola & G. Pálsson. London: Routledge, 25–44.
- Ingold, T., 1996b. Hunting and gathering as ways of perceiving the environment, in *Redefining Nature: Ecology, Culture and Domestication*, eds. R. Ellen & K. Fukui. Oxford: Berg, 117–55.
- Ingold, T., 2000. *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill*. London: Routledge.
- Jochim, M., 1983. Palaeolithic cave art in ecological perspective, in *Hunter-Gatherer Economy in Prehistory*, ed. G.N. Bailey. Cambridge: Cambridge University Press, 212–19.
- Jones, A., 2007. *Memory and Material Culture*. Cambridge University Press: Cambridge.
- Kahlke, R.-D., 1994. *Die Entstehungs-, Entwicklungs- und Verbreitungsgeschichte des oberpleistozänen Mammuthus-Coelodonta-Faunenkomplexes in Eurasien (Großsäuger)*. Frankfurt am Main: Waldemar Kramer.
- Leroi-Gourhan, A., 1965. *Préhistoire de l'Art Occidental*. Paris: Mazenod.
- Lewis-Williams, J.D., 2002. *The Mind in the Cave: Consciousness and the Origins of Art*. New York (NY): Thames & Hudson.
- Malafouris, L., 2004. The cognitive basis of material engagement: where brain, body and culture conflate, in *Rethinking Materiality: the Engagement of Mind with the Material World*, eds. E. DeMarrais, C. Gosden & C. Renfrew. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research, 53–62.
- Maschenko, E.N., S.S. Gablina, A.S. Tesakov & A.N. Simakova, 2006. The Sevska woolly mammoth (*Mammuthus primigenius*) site in Russia: taphonomic, biological and behavioural interpretations. *Quaternary International* 142–3, 147–65.
- Miller, D., 1991. Primitive art and the necessity of primitivism to art, in *The Myth of Primitivism: Perspectives on Art*, ed. S. Hiller. London: Routledge, 50–71.
- Mills, B.J. & W.H. Walker (eds.), 2008. *Memory Work: Archaeologies of Material Practices*. Santa Fe (NM): School of Advanced Research Press.
- Mithen, S., 1991. Ecological interpretations of Palaeolithic art. *Proceedings of the Prehistoric Society* 57(1), 103–14.
- Morphy, H., 1995. Landscape and the reproduction of the ancestral past, in *The Anthropology of Landscape*.

- Perspectives on Place and Space*, eds. E. Hirsch & M. O'Hanlon. Oxford: Clarendon Press, 184–209.
- Müller-Beck, H. & G. Albrecht (eds.), 1987. *Die Anfänge der Kunst vor 30000 Jahren*. Stuttgart: Theiss.
- Münzel, S.C. & N.J. Conard, 2004. Change and continuity in subsistence during the Middle and Upper Paleolithic in the Ach Valley of Swabia (south-west Germany). *International Journal of Osteoarchaeology* 14, 225–43.
- Neugebauer-Maresch, C., 2007. Die Statuette von Stratzing und das Aurignacien in Niederösterreich, in *Les chemins de l'art Aurignacien en Europe – Das Aurignacien und die Anfänge der Kunst in Europa*, eds. H. Floss & N. Rouquerol. Aurignac: Éditions Musée-forum Aurignac, 145–56.
- Niven, L., 2003. Patterns of subsistence and settlement during the Aurignacian of the Swabian Jura, Germany, in *The Chronology of the Aurignacian and the Transitional Technocomplexes: Dating, Stratigraphies, Cultural Implications*, eds. J. Zilhão & F. d'Errico. Lisbon: Instituto Português de Arqueologia, 199–211.
- Niven, L., 2006. *The Palaeolithic Occupation of the Vogelherd Cave: Implications for the Subsistence Behavior of Late Neanderthals in Early Modern Humans*. Tübingen: Kerns-Verlag.
- Porr, M., 2002. Reflections of Individual Beings. The Aurignacian Art of Southwest Germany. Unpublished PhD. Thesis, University of Southampton.
- Porr, M., 2003. Ideologie, Praxis, Materialität. Überlegungen zu einem nicht-reduktionistischen Ansatz zum Studium materieller Kultur, in *Spuren und Botschaften. Interpretationen materieller Kultur*, eds. U. Veit, T. L. Kienlin, Ch. Kümmel & S. Schmidt. Münster: Waxmann, 71–87.
- Porr, M., 2004a. Individual reflections: gender and the Aurignacian art of southwest Germany. *Ethnographisch-Archäologische Zeitschrift* 45 (2–3), 257–69.
- Porr, M., 2004b. Stochern im Dunkeln? Anmerkungen zum Schamanismus als Motiv in der Interpretation paläolithischer Darstellungen, in *Erkenntnisjäger. Kultur und Umwelt des frühen Menschen*, eds. J.M. Burdukiewicz, L. Fiedler, W.-D. Heinrich, A. Justus & E. Brühl. Halle: Landesamt für Archäologie Sachsen Anhalt, 457–65.
- Porr, M., in prep. Mammoth as metaphor: implications of the recent discovery of a female figurine from the Hohle Fels Cave, southwestern Germany.
- Renfrew, C. & C. Scarre (eds.), 1998. *Cognition and Material Culture: the Archaeology of Symbolic Storage*. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research.
- Richards, M.P., M. Pacher, M. Stiller *et al.*, 2008. Isotopic evidence for omnivory among European cave bears: Late Pleistocene *Ursus spelaeus* from the Peștera cu Oase, Romania. *Proceedings of the National Academy of Sciences of the USA* 105, 600–604.
- Riek, G., 1934. *Die Eiszeitjägerstation am Vogelherd im Lonetal. Erster Band: Die Kulturen*. Tübingen: Akademische Verlagsbuchhandlung Franz F. Heine.
- Rouquerol, N., 2007. Édouard Lartet, Aurignac und das Aurignacien, in *Les chemins de l'art Aurignacien en Europe – Das Aurignacien und die Anfänge der Kunst in Europa*, eds. H. Floss & N. Rouquerol. Aurignac: Éditions Musée-forum Aurignac, 21–36.
- Rudnai, J.A., 1973. *The Social Life of the Lion: a Study of the Behaviour of Wild Lions (Panthera leo massaica) [Neumann] in the Nairobi National Park*. Lancaster: Medical and Technical Publishing.
- Schaller, G.B., 1972. *The Serengeti Lion: a Study of Predator-Prey Relations*. Chicago (IL): University of Chicago Press.
- Soffer, O., 1985. *The Upper Palaeolithic of the Central Russian Plain*. Orlando (FL): Academic Press.
- Soffer, O., 1989. Female imagery in the Palaeolithic: an introduction to the work of M.D. Gvozdover. *Soviet Anthropology and Archaeology* 27(4), 3–8.
- Soffer, O., J.M. Adovasio & D.C. Hyland, 2000. The 'Venus' figurines: textiles, basketry, gender, and status in the Upper Paleolithic. *Current Anthropology* 41(4), 511–37.
- Stanner, W.E.H., 1984. Religion, totemism and symbolism, in *Religion in Aboriginal Australia: An Anthology*, eds. M. Charlesworth, H. Morphy, K. Maddock & D. Bell. St Lucia: University of Queensland Press, 137–74.
- Svoboda, J., 2007. Upper Palaeolithic anthropomorphic images of northern Eurasia, in *Image and Imagination: a Global Prehistory of Figurative Representation*, eds. C. Renfrew & I. Morley. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research, 57–68.
- Ucko, P.-J. & A. Rosenfeld, 1967. *Palaeolithic Cave Art*. London: Weidenfeld and Nicholson.
- Uerpmann, H.-P., 2001. *Der Höhlenlöwe und seine Rolle in der eiszeitlichen Umwelt*. Unpublished paper presented at the Urgeschichtliches Museum Blaubeuren (Vortragsreihe 'Rulamans Welt'), 29th May 2001.
- Vanhaeren, M. & F. d'Errico, 2007. Der aurignacienzeitliche Schmuck als Ausdruck ethno-kultureller Einheiten, in *Les chemins de l'art Aurignacien en Europe – Das Aurignacien und die Anfänge der Kunst in Europa*, eds. H. Floss & N. Rouquerol. Aurignac: Éditions Musée-forum Aurignac, 233–48.
- Vansina, J., 1985. *Oral Tradition as History*. Madison (WI): James Currey Publishers.
- Vaughan, T.A., 1972. *Mammalogy*. Philadelphia (PA): W.B. Saunders.
- Wagner, E. & K. Wehrberger, 1994. Höhlenforschung auf der mittleren Schwäbischen Alb., in *Der Löwenmensch. Tier und Mensch in der Kunst der Eiszeit*, eds. B. Reinhardt & K. Wehrberger. Sigmaringen: Jan Thorbecke, 9–27.
- Wehrberger, K., 1994. Raubkatzen in der Kunst des Jungpaläolithikums, in *Der Löwenmensch: Tier und Mensch in der Kunst der Eiszeit*, eds. K. Wehrberger & B. Reinhardt. Sigmaringen: Jan Thorbecke Verlag, 53–75.
- White, R., 2003. *Prehistoric Art: the Symbolic Journey of Mankind*. New York (NY): Harry N. Abrams.
- Wingo, A.H., 1998. African art and the aesthetics of hiding and revealing. *British Journal of Aesthetics* 38(3), 251–64.
- Winthrop-Young, G., 2005. Memories of the Nile: Egyptian traumas and communication technologies in Jan

Assmann's theory of cultural memory. *New German Critique* 96, 103–33.

Yoffee, N. (ed.), 2007. *Negotiating the Past in the Past: Identity, Memory and Landscape in Archaeological Research*. Tucson (AZ): University of Arizona Press.

Zilhão, J. & F. d'Errico (eds.), 2003. *The Chronology of the Aurignacian and the Transitional Technocomplexes. Dating, Stratigraphies, Cultural Implications*. Lisbon: Instituto Português de Arqueologia.

Author biography

Martin Porr is Assistant Professor in Archaeology at the University of Western Australia. He is interested in the archaeology and anthropology of hunters and gatherers and is currently engaged in research on Aboriginal rock art of Northwest Australia and a re-evaluation of the 'origins of modern humans'. He is co-editor of *The Hominid Individual in Context* (together with C. Gamble), published in 2005.