

## BIG CATS AND HUMANS – SOME REMARKS ON THE INTERACTION WITH BIG CATS IN PREHISTORIC ART

Today, over 400 million cats accompany us in the western world and they are our favorite pets, rivaled only by dogs. Our close companionship with cats is the result of a long development. When felids were first domesticated is unknown, but cat bones on the island of Cyprus provide important information: at the settlement site Klimonas cat remains were identified in building 1, which is dated to the Pre-Pottery Neolithic (PPN A; c. 8800-8600 cal BC). Due to the lack of a wild form of cat present on the island, the recovered remains were undoubtedly brought to the island over the sea (Vigne et al. 2012). Further evidence for a more prominent role of cats during the PPN is available from sites such as Jericho (Zeuner 1958).

Similar to the domestication of the wolf, the first cat remains found in archaeological assemblages were from wild animals presumably killed for their furs and found subsequently together with hunted remains of other carnivores like fox, lynx, bear or wolf. In contrast to the pack of wolves, who are believed to have followed the campsites of men, the theory behind the domestication of cats is probably tied together with the hunting of adult cats and the subsequent discovery of orphaned kittens, who stayed in the care of humans. The early remains of cats found in the Neolithic show that these animals may have already been valued human companions, but it was still a wildcat belonging to the *lybica* race.

However, mankind's fascination for cats is much older than its domestication of a companion and their use as an aid against vermin in Neolithic societies. Our hunter-gatherer ancestors already held the large Pleistocene cats in high esteem. Regularly occurring depictions in the Ice Age cave art are known throughout Western Europe with over 120 drawings (Serangeli 2006, 45). In part this fascination with the big cats is rooted in the fact that for a long period of our evolution we were the hunted and not the hunter. Early evidence for a big cat victim is the calvarium from Swartkrans, South Africa, with two perforations (fig. 1).



**Fig. 1** Hominin skull from Swartkrans with the two perforations, probably caused by *Dinofelis*. – (Photo M. Peel, Creative Commons).

The puncture marks in the parietal bone and their distance matched the spacing of the canines of a fossil sabre-toothed cat of the genus *Dinofelis*, the skull of which was found in the same part of the cave. It is reasonable to assume that the young *Australopithecus africanus* was killed by the sabre-toothed cat and that it was carried off to the feeding place in the cave (Brain 1969; 1981). Another example for a hominin killed by a large carnivore was discovered at the famous site of Dmanisi in Georgia: At the base of skull 2282 two perforations were found, which may indicate that the small *Homo georgicus* perhaps fell prey to the *Megantereon*, also present in the fossil assemblage of the site (Johanson/Wong 2010).

## VICTIMS BECOME HUNTERS?

After the examples of our ancestors being prey the question arises: when did humans reach a stage of cultural development in which they were not only prey but could compete with large predators? Here, finds from the last decades provide interesting insights. The discovery of the Schöningen spears in 1994 and 1995, the oldest complete, unambiguous hunting weapons of mankind, as a clear material sign of the ability of our ancestors to compensate their physical deficits with innovations. The question arises whether these weapons were not also used for defensive purpose (Serangeli/van Kolfschoten/Conard 2014).

Basically, finding carnivore remains in Middle Pleistocene sites is nothing unusual. Many carnivores regularly used caves as a refuge or to raise their young (Sutcliffe 1970; Fosse 1996; Graham et al. 2013). Thus, for archaeological sites, especially in caves, the presence of carnivore remains must be examined in order to differentiate between three different find circumstances: First of all, the carnivores as accumulators and the use of the site as a den; secondly, the carnivores as scavengers of for example hominid waste; and lastly, and more difficult to assess, carnivores as hominids' prey. Already in the Middle Pleistocene, an indirect reference to the changing relationship between hominins and large predators can again be concluded through a find from Schöningen (Lkr. Helmstedt/D). In the immediate vicinity of the spears, a humerus of a sabre-toothed cat was found with scrape and percussion marks in 2013 (see contribution Verheijen et al. in this volume). Similar single finds of carnivore bones with traces of human manipulation are known throughout Europe, ranging from cutmarks on bear bones from Boxgrove (West Sussex/GB; Roberts/Parfitt 1999, 398) or Taubach (city of Weimar/D; Bratlund 1999, 113) to cutmarks on cave lion bones from the Gran Dolina at Atapuerca (prov. Burgos/E; Blasco et al. 2010) or a burned and worked fragment of a leopard bone from Cova Negra (prov. Valencia/E; Sanchis et al. 2015). The late Middle Palaeolithic open air site of Salzgit-ter-Lebenstedt (Lower Saxony) provided two well-preserved lion remains: a metacarpus and a canine. No clear cut marks are visible on the finds but they are probably the results of Neanderthal selection and the canine might have been used as a pendant (Staesche 2017).

The finds mentioned prove the long-lasting evidence for the use of predator bodies to obtain resources. The cut marks on the bones might be related to hunted individuals. By the beginning of the Upper Palaeolithic, the relationship with big cats becomes more important and is expressed in different ways. First of all, the use of hides and the acquiring of meat inferred through cut marks on bones of carnivores, secondly the use of carnivores bones as tools and finally ornament production from carnivore teeth and depicting them in art. The first example is well documented in carnivore exploitation in Western Europe like the Swabian Jura (Camarós et al. 2015) or Central European sites like Pavlov (Moravia/CZ; Wojtal et al. 2020), even though predominantly cave bears, wolves and foxes, and very rarely lions and hyenas were exploited (Camarós et al. 2015, 4). The same holds true for bone tools. Some beautiful retouchers made from lion canines were discovered in the Hohle Fels (Alb-Donau-Kreis/D) and Vogelherd (Swabian Jura/D) (Kitagawa et al. 2012).



**Fig. 2** Ivory felid figurine from the Vogelherd Cave on the Swabian Alb. – (Photo J. Lipták, University of Tübingen).

While the Upper Palaeolithic is characterized by the increasing abundance of ornaments and art, felid remains used as raw material are uncommon. Although the use of lion remains by Upper Palaeolithic people lacks those of other carnivores, they occupy a special position in Palaeolithic art.

### **BIG CATS AND ART – SOME LESSONS TO LEARN**

»Power and aggression« (Kraft and Agression) was the title of a publication by late Joachim Hahn, specialist on early art (Hahn 1986). He noticed the prominent role of wild animals in general and big cats in special among the sculptures made of mammoth ivory found in the Aurignacian levels of the well-known caves of Vogelherd and Hohlenstein-Stadel in the Lone Valley and the Geissenklösterle and Hohle Fels in the Ach Valley on the Swabian Alb (Alb-Donau-Kreis/D). The c. 50 figurines belong to the most ancient finds of Palaeolithic art, dating to about 35 000-32 000 cal BC (Conard/Bolus 2003, 336). The first sculptures discovered in 1931 in the Vogelherd Cave by Gustav Riek, indeed depicted carnivores like lions and bears (Riek 1932) and persuaded Hahn to postulate his message and stressing the importance of these powerful animals (**fig. 2**).

In the last decade, renewed excavations at the Vogelherd Cave led to the discovery of a sizable number of figurines depicting smaller animals like fish, birds or herbivores. They contribute to a more varied and balanced image of animals (Floss 2018). In conclusion, the sources of inspiration for the artists were not only dangerous species, but a broader spectrum of animals with very different attributes. The elegant animals carved in perfect craftsmanship may indicate strength, but no aggression is clearly visible. This is further emphasized if we take into account the interpretations of the hybrids – in part humans, in part animals – like the Lion-man of Hohlenstein-Stadel or the adorant from the Geissenklösterle (Wehrberger 2013). The relatively large Lion-man was not a pendant to be carried around and the hypothesis that it was placed at the back of the cave, removed from the light of day, as a »stationary« object of art seems plausible. These pieces may indicate a metaphysical state, which is often referred to as belonging to shamanism (Zeeb-Lanz/Rey-



**Fig. 3** Lion panel in the Grotte Chauvet. – (Photo P. Aventurier, Caverne-du-pont-darc).

mann 2019). The transcendence of man to an animal form is not a state of mind that is generally associated with aggression or violence. However, there is little doubt on the subject of power in early art, which is also reflected in the animal tooth pendants, due to the choice to often use the canines of carnivores.

The prominent role of big cats in the earliest phase of art is corroborated by the Grotte Chauvet (dép. Ardèche/F) in the Ardèche Valley (**fig. 3**). Discovered in 1994, the Grotte Chauvet yields a fascinating body of early cave art and an outstanding number of drawings of large felids (Clotte 2003). The engravings and paintings on the walls of the cave are unrivalled. Direct dating of the Grotte Chauvet raised considerable scientific discussion (Züchner 1996; Pettitt/Bahn 2003; 2015). However, a more recent evaluation of the radiocarbon evidence suggests two phases of occupation (37 000-33 500 years ago and 31 000-28 000 years ago) and the paintings are definitely older than 28 000 years (Quilesa et al. 2016). In conclusion we perceive a mastery of composition and perspective from the very beginning of cave art. At the same time this demonstrates that there is no evolution of art and no perceived trend towards more elaborate and skillfully applied paintings during in the Pleistocene.

There are further examples of felid representations in cave art and a famous example is from the site of Lascaux in the Dordogne. The images of Lascaux are partially painted, drawn and there are engraved figures done with a high degree of skill. Nearly 600 animals were discovered. Again the herbivores like bison, reindeer, mammoths or ibex dominate the drawings of horses alone make up nearly one quarter. Carnivores, bears and lions, are few in number. In the case of Lascaux one can argue that the carnivores were of special interest to the painters: all of them are placed in the most remote parts of the widely branched cave. Even though, there is no clear trend in the cave art of Western Europe of carnivores purposely being situated in the darker, more removed areas of the caves (Leroi-Gourhan 1973, 569). Some incredible examples of cave



**Fig. 4** Felids (bottom center) from the Chambre de Felines in Lascaux who are probably wounded by projectile. – (After Leroi-Gourhan et al. 1979, 327).

art can only be seen after an arduous trip through narrow spaces. Interestingly, one of the most important ivory figurines, the Lion-man from the Swabian Alb was also discovered at the far end of the cave. During the re-examination from 2009 to 2013 the original sediments were found and due to the recovery of some *in situ* ivory splinters, the position of the Lion-man in 1939 could be affirmed (Beutelspacher/Kind 2013).

What kind of felids are depicted in Pleistocene cave paintings is often unclear. Some attributes, like the hair tuft at the end of the tail and the drawings of a group of felids, for example in the Grotte Chauvet or La Vache, may indicate lions which are the sole modern felid species that lives in groups i.e. a pride of lions (Hunter 2015, 11).

The depiction of large felids in the cave art of Western Europe within the Upper Palaeolithic is not as numerous as prey animals like bovids and horses but occurs regularly. The same holds true in later periods. For example, Mary Leakey showed in the Tanzanian rock art in Kandanoa that of 474 depicted animals, 12 % were carnivores (Leakey 1983), mostly lions and hyaenas. Similar observations can be made for historic Masai and Bushman rock art, where lions are depicted even in confrontation with the human hunters, but are way behind the large number of depicted cattle and herbivores (Kruuk 2002, 196; Vinnicombe 1976).

In contrast to the representation of carnivores in classical and historical art, for example in Roman mosaics, the Pleistocene depictions of felids are often not aggressive. The animals are mostly serene, walking or in the example of the final chamber of the Grotte Chauvet where the depiction of a pride is in the process of stalking the prey or drinking in a line at a waterhole. The aggressive act of hunting, especially the moment of killing the prey, is not depicted.

Due to the rare depiction of humanoid figures in Pleistocene cave art one could expect that a direct confrontation between man and felid is absent, but again Grotte Lascaux has a very telling example. Lines or bundles of lines are in direct contact with animals (fig. 4). These lines may be interpreted as arrows or spears wounding the prey, especially in conjunction with wiggly lines in front of the animals head. The later may be interpreted as blood spurting from the mortally wounded prey's mouth. A depiction of lions in the cham-

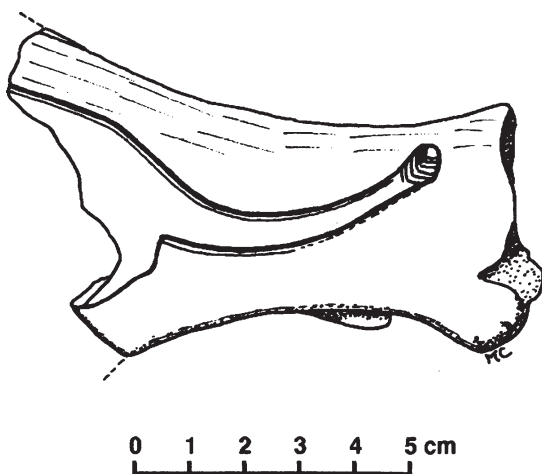


**Fig. 5** Engravings of a lions from the Grotte des Trois-Frères. – (After Bégouën et al. 2014, 109).

bre of felins shows a number of arrows pointing at their mid section, while one lion is »bleeding« from its muzzle quite heavily (Leroi-Gourhan et al. 1979).

Even more obvious in its evidence is an engraving of a lion from the Grotte des Trois-Frères (départ. Ariège/F; Bégouën et al. 2014), possibly more than one individual due to a well-made perspective, indicating a number of lions behind each other, with arrows clearly striking its torso (fig. 5).

In addition to the fascination we feel when perceiving Pleistocene art, it provides us with the unique chance to see extinct animals through the eye of the beholder. As mentioned above, the depicted art may give us insights into the appearance of life forms surpassing our knowledge derived from fossil finds. For example today's lion, in contrast to other big cats, has a hair tuft at the tip of its tail. Clearly visible on an engraving of



**Fig. 6** Engraving of a possible lion with a hair tuft at the tail from the site of Laugerie-Basse. – (After Crémades/Laville 1995, 259).

a possible lion from the site of Laugerie-Basse (départ. Dordogne/F; fig. 6). The lack of a mane in some of the paintings may indicate only female lions or the complete lack of a mane for Pleistocene male cave lions. The development of a mane in modern-day lions is a diverse topic. Climate, regional variation and behavior may be responsible (Yamaguchi et al. 2004). The African lion generally has a more developed mane than its Asian counterpart, with the exception of prides living in open and dry habitats. Male lions in the hot and extremely dry Tsavo National Park usually do not sport a mane. This observation is backed by the heavier manes of lions from European and North American zoos with their cooler ambient temperatures (West/Packer 2003).



**Fig. 7** Ivory felid figurine from the Vogelherd Cave on the Swabian Alb with x-markings. – (Photo J. Lipták, University of Tübingen).

Especially the later observation may indicate that a mane would be expected in Pleistocene cave lions, but up to now no mane is visible on the drawn figures in Western European rock art. The argument that only female lions are depicted is possible, because the brunt of hunting carried out by prides is borne by the female members, even though male lions are needed in bringing down very large prey like Cape buffalos, giraffes and even elephants. If we take the small ivory statuettes of the Swabian Alb into account, some additional details can be seen. Again no full mane is visibly carved, even though on the small lion head from the Vogelherd a line of x-markings is situated right at the position where modern-day tigers and lynxes sport their typical mutton chops. Similar x-markings are depicted on the famous horse from the Vogelherd, where one would expect its mane. Are the x-markings a possible mane? Two additional figurines of felids from the Vogelherd and the Hohle Fels Cave carry these x-markings. They are not restricted to the shoulder area, where one would expect the mane, but are present along the whole dorsal line. It would appear that these marks do not represent a mane, but perhaps discolorations of the fur like the eel back, the darkly colored stripe along the back (**fig. 7**). Again the Lion-man from the Swabian Alb and the realistic drawings from the Grotte des Trois-Frères can be consulted to ponder the question regarding cave lions and the absence of a mane. First of all, the drawing of a felid at Les Trois-Frères shows a detailed view of the frontal features: Around the face the vibrissae are drawn in a naturalistic way, but no mane is visible. Does this painting show a lioness? The question of gender can be solved by looking at the figurine of the Lion-man from Hohlenstein-Stadel Cave. For a long time the exact gender of the figurine was unclear. By the detection of new fragments and the reassembling of the figurine the crotch can now be identified. A polished ivory plate is visible and this part is offset from the lion. Because of this detail interpreted as the sex, the lion is interpreted as a male individual (Ebinger-Rist et al. 2013, 11).

If the Pleistocene artists were such astute observers of their world, then it is not surprising that not only anatomical attributes but animal behavior is reflected in their drawings. The occurrence of prides of Pleistocene lions can be observed on the perspective drawings of 16 heads in the Grotte Chauvet (Clottes 2003).



**Fig. 8** Comparison of Pleistocene art and modern-day behavior of felids. – (a after Clottes 2003, 131; b photo Alamy Stockfoto).



An additional interesting motive is found on the left wall of the end chamber. Two silhouettes of felids are drawn next to each other (**fig. 8**). There is a distinct difference in size, the larger one with a marked scrotum, and both seem to duck and rub each other. This drawing reminds one of the actual mating process of lions, where the larger male is herding the lioness. Another exciting image in the Grotte Chauvet from the Alcove depicts the head of two felids, where the upper one is snarling and the other one is taking on a submissive position with a covered head, avoiding any eye contact and sporting flattened ears. These behavioral and reproduced motions are not only represented in drawn art but are for example also present on a small ivory plaque from the site of Pavlov, where a felid is stretching in a lazy pose familiar to all who have their own house cat (Wojtjal et al. 2020, 11).

Pleistocene mobile and cave art of felids provides important insights into the interaction of humans and felids, as well as some interesting details of the Late Pleistocene big cats and their behaviour. The depictions are sometimes not unambiguous but invaluable in order to reconstruct the appearance of these extinct animals. Art allows a fascinating insight into the thoughts of our ancestors, even though our understanding remains fragmented.



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## SUMMARY / ZUSAMMENFASSUNG

### Big Cats and Humans – Some Remarks on the Interaction with Big Cats in Prehistoric Art

Using the excavation site in Schöningen and a few other middle Pleistocene sites we can observe the use of carnivore bones as raw material used in constructing tools. It is not clear whether or not the bones were selected purely through their suitability as a raw material or if there was a possible link to the types of species chosen. From Middle Paleolithic excavation sites we have several bones showing signs of having been worked with cut marks etc., this possibly bears witness to an active tendency to specifically hunt carnivores.

We must clearly pay thanks to excavation sites dating to the Upper Palaeolithic in providing clear evidence for the active hunting of carnivores such as the cave lion. In the Aurignacien pendants/necklaces made using teeth, and early works of art area points towards the special role of carnivores within the Human race. Next to the ivory sculptures recovered from the Aurignacien layers in caves faunal in the Swabian Alb/Jura, a special mention must be made of the 30,000 year old paintings from the Grotte Chauvet in southeastern France. Carnivores, using the example »Cave lions«, are often depicted as being a very strong species often portrayed in the context of a »pride« or an active hunting group. An aggressive tendency is not apparent. It is unclear whether or not the obvious closeness of a »lion mane«, reflects the actual appearance of Palaeolithic lions in general. Carnivores, in the context of Ice Age art are, in general a seldom repeated motive, but the position in which they are depicted in the caves and their context, show the special reference afforded them by humans, and that this reverence probably began in the Lower and Middle Palaeolithic.

### Großkatzen und Menschen – einige Anmerkungen zur Interaktion mit Großkatzen in der prähistorischen Kunst

An der Fundstelle Schöningen sowie an wenigen weiteren mittelpleistozänen Fundstellen beobachten wir die Nutzung von karnivoren Resten als Rohmaterial für Werkzeuge. Es ist unklar, ob die Knochen allein wegen ihrer Rohmaterial-eigenschaften gewählt wurden, oder die Spezies auch von Bedeutung war. Aus mittelpaläolithischen Fundstellen liegen vereinzelt Knochen mit Schnittspuren vor, die möglicherweise die aktive Jagd auf Karnivoren bezeugen. Klare Belege für die aktive Jagd auf Karnivoren wie Höhlenlöwe verdanken wir wiederholt jungpaläolithischen Fundstellen. Im Aurignacien lassen Tierzahnanhänger und frühe Kunstzeugnisse auf eine besondere Rolle von Karnivoren für den Menschen schließen. Neben den Elfenbeinskulpturen aus den Aurignacien-Schichten in Höhlen der Schwäbischen Alb sind hier vor allem die etwa 30000 Jahre alten Malereien aus der Grotte Chauvet in Südost-Frankreich zu erwähnen. Die Karnivoren bzw. Höhlenlöwen sind wiederholt als starke Tiere und wohl auch als aktive Jagdgruppe dargestellt; ein aggressives Verhalten ist jedoch nicht abzulesen. Es bleibt unklar, ob das Fehlen der Darstellung von Mähnen auf das tatsächliche Erscheinungsbild der Löwen zurückgeht. Karnivoren sind insgesamt in der Eiszeitkunst ein eher seltenes Motiv, aber u. a. die Position der Darstellungen in Höhlen sowie ihr Kontext weisen auf eine besondere Rolle dieser Tiere für den Menschen hin, die wahrscheinlich im Alt- und Mittelpaläolithikum ihren Ursprung findet.