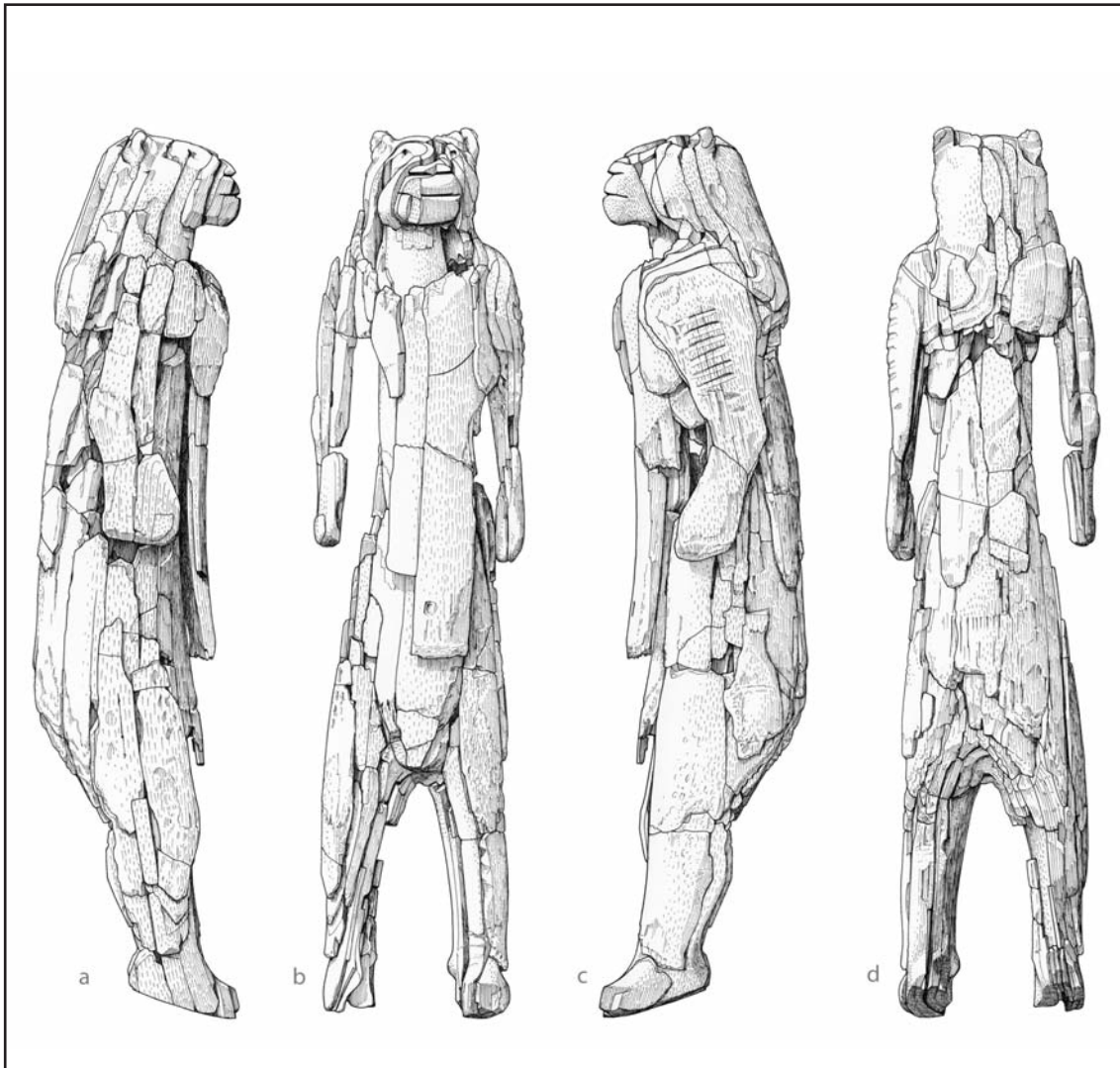


## THE EARS OF THE LION MAN



Figures 7 a-d  
*Drawings of the statuette from the front, back and both sides; compare structures of both arms*



## THE EARS OF THE LION MAN

*Early depictions of auricles in Ice Age figurative art*

by

Wolfgang Pirsig\* and Kurt Wehrberger\*

### Abstract

Main subject of this essay is the famous, about 40,000 years old Lion Man-sculpture from the Stadel-cave on the Swabian Jura near Ulm/Germany, which was carved from a tusk of a mammoth. By the combination of characteristics of a cave lion with human attributes this therianthrope figurine is considered to be a special proof for an evolved belief-system of early modern humans. Especially the precise, slightly different depiction of the left and right ear seems to indicate an animal listening in watchful tension. This proves not only a very detailed anatomical observation, but also the capability to give expression to a sensory function while carving the lion's head of the statuette. The auricles of the Lion Man are compared with those of some lion-figurines from the early upper palaeolithic, while we miss any depictions of human ears from this period.

### Key words

ear, Lion Man, Ice Age, Aurignacian, palaeolithic art

### Introduction:

The earliest ears carved by Homo sapiens were made from mammoth ivory and are part of small figurines from caves of the Swabian Jura near Ulm in Germany. It was in the period of the Aurignacian between approximately 40,000 to 35,000 years BP, when Homo sapiens most probably migrated into Europe along the river Danube. The tallest and most spectacular figurine is the so called "Lion Man" from Hohlenstein-Stadel Cave in the Lone valley, a therianthrope sculpture. Radiocarbon dates and the stratigraphic evidence in the cave suggest that Lion Man is about 40,000 years old, the time when early anatomically modern humans lived under the conditions of the Ice Age and nevertheless created figurative art and musical instruments like humans with a modern mind.

### History of discovery and restoration

Systematic archaeological excavations at the Stadel Cave started in 1937 under the leadership of Robert Wetzel (1898-1962) and his local excavator on site Otto Völzing (1910-2001). Wetzel was a prehistoric researcher from the Institute of Anatomy of the Univer-

sity in Tübingen. Excavations were stopped in 1939 because of the Second World War.

In 1956, Wetzel had deeded the entire material as a gift to the city of Ulm.

In 1969, the archeologist Joachim Hahn (1942-1997), working in the archives of the Ulmer Museum, discovered the worked ivory-fragments in this material. Together with two students he fitted together about 200 pieces of ivory to the animal-man-hybrid, almost 30 cm high, a long-shaped body with two legs, the left arm, the rudiments of a head with the left ear. In the 70s new fragments appeared from different sources. Thus an ivory statuette had been reconstructed from about 200 fragments during a first professional restoration in 1987/88, known since 1994 as the *Lion Man*<sup>1,2,3,4</sup>.

New excavations inside the Stadel Cave from 2009 to 2012 surprisingly yielded several hundred mostly tiny new ivory pieces belonging to the statuette, among them the most lateral lamella of the left ear (fig.7 left page). During the final restoration of the Lion Man in 2013, 44 fragments from the new excavations and 24 loose pieces from the older ones could be fitted to the sculpture<sup>5,6</sup>. Despite parts still missing the statuette now appears to be almost complete in main parts (fig.1 see next page).

#### \*correspondence:

Wolfgang Pirsig, M.D., University of Ulm, Mozartstrasse 22/1, D-89075 Ulm  
wolfgang.pirsig@extern.uni-ulm.de

Kurt Wehrberger, Ulmer Museum, Marktplatz 9, D-89073 Ulm  
k.wehrberger@ulm.de



*Fig.1*  
*The Lion Man after the new restoration 2013*

### **Short description of the Lion Man**

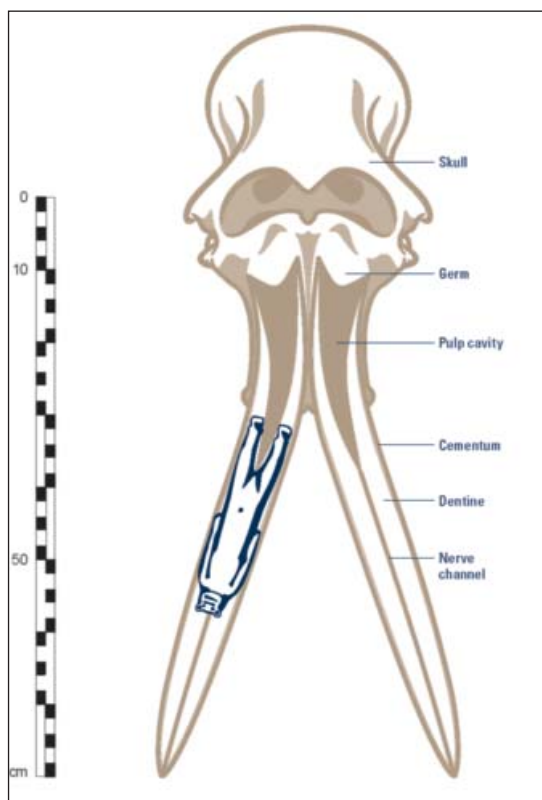
With a height of 31.1 cm, the Lion Man is to date the largest known sculpture of the Ice Age art. The ivory of the statuette came from the right tusk of a 12 to 15 year old mammoth bull or from the tooth of an adult mammoth cow whose teeth were fully developed.

For carving the statuette the tusk has been used in its whole diameter (fig. 2, next page). So on the surface of the arms and the upper back the outer cement layer is present, while most parts of the figurine consist of the massive dentin.

According to the circle-like growing of the tusk the ivory figurine, embedded in the cave sediments over thousands of years, broke apart along the natural growth lines due to the loss of collagen which was responsible for

keeping the tooth intact. That's why Lion Man today looks like being composed of ring-shaped ivory lamellae. For example at the lower part of the statuette 28 layers can be counted.

The statuette is a mixture of two creatures. The head is that of a big cat, very probably a cave lion. This is most clearly expressed by the snout and ears. While the upper body, the forelegs and the shoulder also fit this interpretation, the bellybutton, the legs and the upright posture are clearly human. The carefully worked out genital speaks for the male gender. As animal-man-hybrid the figurine evokes various interpretations about its purpose. Although nearly all ideas lead to a symbolic function in the spiritual world of ice-age hunter-gatherer communities, they must remain speculative<sup>7,8</sup>.



*Fig.2*  
*Position of the sculpture in a mammoth tusk*

### Description of the ears

When viewers observe a lion's head from the front they look into roundish ears mirror-inverted shaped and positioned with their conchs in a nearly frontal position or directed to medially or laterally. This is different with the ears of Lion Man as to their shape and position (fig. 3).

Lion Man's ears are typical for a lion and were carved to look rather natural and to show an alert animal<sup>6</sup>.

Both ears are roundish and enclose three lamellae. In the frontal view the horizontal diameter of both ears measures 7 mm each and the maximal height is 11 mm. The right ear shows a slightly concave cavity approximately sculpted in ovoid shape. The ear conch was made by scraping with a circular motion and the entrance of the external auditory canal of ca. one mm in diameter (!) has anatomically correctly been carved. The entrance of the left external auditory canal is also visible, however a little bit smaller. The smaller cavity of the left ear is more compressed and shallow and a bit disarranged due to the fissure between the lamellae. The back of



*Fig.3*  
*Lion Man's head, front view*

the ears reveals clear differences in form and position: the back of the right ear shows a furrow instead of the convex shape like the back of the left ear (fig. 4, 5 see next page). This furrow is caused by the contraction of several tiny muscles on the back of the auricles directed by ear cartilages which connect the auricle to the skull. Both ears are slightly directed to the right. The right ear is placed a bit deeper and more posteriorly than the left one (fig. 6, see p.34). From before, the viewer's eyes look at the concavity of the right ear which is turned more toward posteriorly than usually. All this supports the impression that both ears are slightly directed to the right side as if listening to a sound event coming from the right side of the Lion Man. In addition, the position of the eyes shows differences in their relation to the ears. On the lion's right facial side, the distance between the eye and the medial border of the ear is 12 mm, while on the lion's left facial side this distance is 10 mm. This means that the lion's snout is slightly turned to the left.



Fig. 4  
Lion Man's head, back view



Fig. 5  
Lion Man's head, view from the right side

Connected with this interpretation it seems worth while mentioning the movement indicated in the Lion Man figurine in contrast to its posture, which appears to be static by the first glimpse (fig. 1, 7 see resp. p.32 und 30). Main evidence for a movement are the shoulder blades pulled toward each other and the slanting foot-soles as if the lion man would stand on his toes. Both arms as front-legs and paws of a lion are slightly bent<sup>6</sup>.

Although the right arm appears more crude than the left one, it seems noteworthy, that the angle between upper and lower arm differs about 20°, from 123° (left arm; fig. 7 c, p.32) to 143° (right arm; fig. 7 a, p.32). In addition, the posterior edge of the left elbow is more pointed than the broader edge of the right elbow. This may indicate, that the right arm was slightly turned behind.

To conclude all observations one could imagine the Lion Man in watchful tension - listening to the right while moving a bit to the left. In contrary the perception of statuette's details after the new restoration led to the interpretation, that the right side of the figurine had been carved less carefully than the left one, due to the idea, that the carver started on the right side, perfecting his work on the left side<sup>6</sup>.

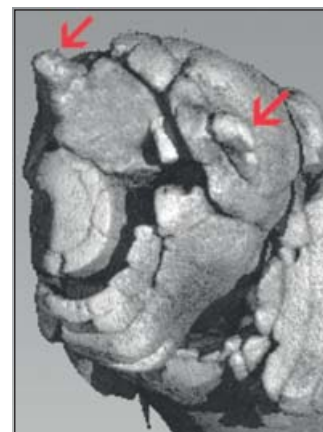


Fig. 6  
Lion Man's head as virtual 3D-image using multislice computer tomography; three-quarter view from above with ears (arrows)

At this point it seems also interesting, that parts of the figurine had been carved in a very naturalistic fashion like head, shoulders, elbows, upper thighs, knees, calves, heels and ankles, while other parts as the groin with the male gender, paws and feet, where no joints or toes had been depicted, seem stylized<sup>6</sup>. This looks as have been done by full intention. If following our new ideas, the difference between both sides can be interpreted as neither incidental nor contingent to carving-capabilities. Nevertheless one should take into account, that the preserva-

tion of the mammoth tusk may have also influenced the artist's work. So it cannot be excluded that one didn't use a fresh mammoth tusk, but an old one, which was partially already rotten<sup>9, 10</sup>.

The left ear was intentionally decorated on its outer surface with marks consisting of about one dozen horizontal lines, which angle downwards (fig. 8). There are more ornamented parts restricted to the left side of the figurine. Also the left upper arm and the sole of the left foot were decorated in a similar way with parallel notches, in case of the arm together with slightly raised areas forming a flat relief (fig. 9). The decoration of the Lion Man can be ranged to the ornaments which can be seen on most of the other Aurignacian figurines from the Swabian Jura. They are interpreted not as simple decoration, the figurines are thought to transmit informations via signs that of course can't be deciphered nowadays.

Especially the ears of the lion man prove, that the sculptor obviously was not only a sharp observer of the anatomical details, but was also able to depict the function of listening, an important function for survival of animals and man, by his different mode of carving the right and left auricle in relation to the position of the snout. And it is admirable how such fine details could be carved and scraped just using burins, slim flint bladelets and flakes.

### The lions from Vogelherd cave

Not only the fantastic Lion Man shows, that these predators seem to have been of eminent importance on the central Swabian Jura in the early upper Palaeolithic. In Vogelherd Cave, situated only about 2 km from Stadel Cave in the Lone Valley, which is known as the richest of all the Aurignacian sites of the Swabian Jura, a number of exquisitely carved small figurines of mammoth ivory with at least five lions among them have been excavated (fig. 10 see next page).

There is one example, the fragmented head of a lion, probably part of a bigger figurine and presented in two fragments from both head-sides, while one lamella in between is missing<sup>11</sup>. One recognizes the similar shape



Fig. 8  
Decorated left ear



Fig. 9  
Upper part with head and upper arm,  
view from the left side

and size of the roundish ears with the oval cavity compared to the ears of the Lion Man (7-11mm diameter). The diameters of the ears of the Vogelherd head measures 10 to 12 mm. Comparable to the right ear of the Lion Man, in both auricles of the fragments the entrance of the external auditory meatus is indicated



*Figures 10/1-5*

*Lion sculptures, ivory, head views.  
Vogelherd cave*

by means of a fine burin. Also the contours and the intentionally created pattern of rhombic notches of both fragmented head-sides bear a striking resemblance to the left profile view of the head of the Lion Man (fig. 10, 2).

One example is carved with pointed ears (fig. 10, 1). This figurine, originally thought as a semi-plastique, has been recently completed by a fragment from the right head-side from excavations in the back-dirt of the old dig<sup>12</sup>. The length of its pointed ear is 13 mm. Hahn<sup>13</sup> interprets the pointed shape of the ear as a gesture of threatening

the opponent. The rhombic pattern of notches on the flank of this lion is very similar to the rhombic pattern on the neck of the fragmented lion-head just mentioned. Also all three other fragmented lion-sculptures have been depicted with ears (fig. 10, 3-5). But they turned out smaller according to the whole size of the animal and appear less striking than the above mentioned ones.

---

### Human ears \*

Searching for works of art in which ears in human beings are depicted we could not find one single example for the Aurignacian, due to the extreme rarity of human figurines from this period.

Actually only a single female figurine from the Swabian Jura is known, the so called "Venus" from Hohle Fels cave in the Ach valley, where no head has been depicted. Even in the younger Gravettian and Eastern Europe cultures depictions of human ears are absolutely rare. Most of the figurines show a head part with a special hairdressing or a cap, which does not allow to recognize ears at all.

### Final remark

The depiction of the ears of the Lion Man leads us to the conclusion, that it is fascinating to see how our ancestors were able to create these outstanding figurines using flint stone and organic materials. The size of the described ears with their nature-like shape ranged within some millimeters!



*Fig.11:*

*Watching and listening:  
Lion Man's right eye and ear*

The sculptor combined the different shape and position of Lion Man's auricles to exactly depict not only the excellently observed anatomy, but also convincingly depict the function of these ears, namely listening. In addition, the Aurignacian artists decorated certain parts of the Lion Man and other animal-figurines with geometric patterns by

means of lines deeply incised into the carefully carved surface. It is a pity that we cannot explain the meaning of these marks. It also is admirable to realize that the brain and skill of our contemporary restorers achieved to reconstruct this elegant 31 cm high figurine out of about 300 pieces of the decomposed mammoth tusk. 40,000 years ago modern Homo sapiens had carved the tusk of a mammoth to create among others auricles of the Lion Man. Since the last half century the contemporary ear surgeons have carved rib cartilage of patients suffering from severe ear dysplasia to create a nature-like auricle for them. The same skill and art of Homo sapiens since 40,000 years with different purposes.

---

\* We thank Sibylle Wolf, University of Tübingen, for her friendly assistance and advice as for the knowledge of the unpublished catalogue of her Master's thesis.



---

**References**

- 1 Schmid E. Die altsteinzeitliche Elfenbeinstatueette aus der Höhle Stadel im Hohlenstein bei Asselfingen, Alb-Donau-Kreis. *Fundberichte aus Baden-Württemberg* 1989, 14, 33-96.
- 2 Ulmer Museum (Ed.). Der Löwenmensch. Tier und Mensch in der Kunst der Eiszeit. *Begleitpublikation zur Ausstellung Ulmer Museum* 11.9.-13.11.1994. Sigmaringen: Jan Thorbecke, 1994.
- 3 Wehrberger K. Der Löwenmensch. Die altsteinzeitliche Elfenbeinstatueette aus dem Lonetal bei Ulm. In: Banerjee A, Eckmann Ch (Ed.). *Elfenbein und Archäologie. INCENTIVS-Tagungsbeiträge 2004-2007, RGZM Tagungen* Bd. 7, Mainz: Verlag des Römisch-Germanischen Zentralmuseums, 2011, 137-145.
- 4 Wehrberger K. Luck and fancy. The (almost) never-ending story of a discovery. In: *Ulmer Museum* (Ed.) 2013, 36-41.
- 5 Ulmer Museum (Ed.). The return of the Lion Man. History, Myth, Magic. *Companion book to the exhibition Ulmer Museum* 15.11.2013-9.6.2014. Ostfildern: Jan Thorbecke, 2013.
- 6 Kind CJ, Ebinger-Rist N, Wolf S, Beutelspacher T, Wehrberger K. The smile of the Lion Man. Recent excavations in Stadel Cave (Baden-Württemberg, south-western Germany) and the restoration of the famous Upper Palaeolithic figurine. *Quartär* 2014, 61, 129-145.
- 7 Cook J. Ice Age art. Arrival of the modern mind. *Companion book to the exhibition at the British Museum* 7.2.-26.5.2013. London: The British Museum Press, 2013.
- 8 Floss H. Die Kunst der Eiszeit in Europa. In: Schürle W, Conard NJ (Ed). *Zwei Weltalter. Eiszeitkunst und die Bildwelt Willi Baumeisters. Ostfildern-Ruit: Hatje Cantz*, 2005, 8-69.
- 9 Steguweit L. Rotten ivory as raw material source in European Upper Palaeolithic. *Quaternary International* 2015, 361, 313-318.
- 10 Hein W. Lion Man & Co. Ivory experimentation. In: *Ulmer Museum* (Ed.) 2013, 150-153.
- 11 Wagner E. Eine Löwenkopffplastik aus Elfenbein von der Vogelherdhöhle. *Fundberichte aus Baden-Württemberg* 1981, 6, 29-58.
- 12 Conard NJ, Zeidi M. Ausgrabungen in der Fetzershaldenhöhle und der Lindenhöhle im Lonetal sowie neue Funde aus dem Vogelherd. *Archäologische Ausgrabungen in Baden-Württemberg* 2013, 63-67.
- 13 Hahn J. Kraft und Aggression. Die Botschaft der Eiszeitkunst im Aurignacien Süddeutschlands? *Archaeologica Venatoria* 1986, Bd. 7. Tübingen: Archaeologica Venatoria, 1986

**Picture credits**

1, 3-5, 8, 9, 11 Landesamt für Denkmalpflege Baden-Württemberg, Yvonne Mühleis/Ulmer Museum; 2, 7 Christina v. Elm, Tübingen; 6 Ulmer Museum (Basic dates: fem forschungsinstitut Schwäbisch Gmünd); 10/1.3-5 Universität Tübingen, Hilde Jensen, 2 Landesmuseum Württemberg, Stuttgart, Hendrik Zwietasch.