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PLEISTOCENE ART OF THE WORLD

Short articles



ANIMATION IN PALEOLITHIC ART:

Recent Observations

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The images of animals represented by Upper Paleolithic artists are often animated. Sometimes spectacular, sometimes discrete, these movements express precise behaviors whose association within graphic arrangements, on walls or on objects, shows the existence of an original form of graphic narration. Prehistoric humans also conceptualized sequential animation and finally... cinematography. Even better, recent observations of Magdalenian portable art objects, coupled with experimentation, appear to demonstrate the existence of a true optical toy, a Paleolithic “thaumatrope” that prefigured the concept of the camera!

Paleolithic graphic narration

A selection of graphic compositions shows the emergence of graphic narration during the Upper Paleolithic, as early as the Aurignacian.

In the Chauvet Cave (Ardèche), which was decorated approximately 31 000 BP, other than the Grand Panel, all of the End Chamber appears to have been devoted to cave lions. Throughout the underground space, felines are engaged in behavioral phases (sequences) mixing mating with acts of hunting.

La Baume-Latrone (Gard), contains an astonishing composition on its Great Ceiling in which a large lion roars and attacks a herd of mammoths by himself.

We can finish with two Magdalenian compositions that show that graphic narration was used throughout the Upper Paleolithic. The panel of the “little Sorcerer with the musical bow” in the cave of Les Trois-Frères (Ariège) and the Great Ceiling in Altamira (Cantabria) show a succession of behavioral sequences depicting a herd of bison during the rutting season.

Sequential animation: the first animated Paleolithic drawings

With their desire to bring their images to life, Paleolithic artists developed two processes for the decomposition of movement, the first consisting of the superimposition of successive images, and the second of the juxtaposition of successive images. Through these two processes, prehistoric humans foresaw the existence of one of the fundamental characteristics of visual perception, the persistence of vision.

The first process is visible in France in 53 figures. It implies the superimposition of positions successively taken by the animal. The decomposition of movement concerns the entire body or one part of it (the head, limbs or tail). This graphic process first focused on the movement of

the limbs, and in particular, rapid movements (trod, gallop), more often than on the movement of the head, or even less often, the tail. Most of the figures show only one part of the body animated in this way; it is rare to see the synchronization of movement decomposed with several body parts.

In the second process, the positions taken successively in time by the animal are juxtaposed, one after the other, and oriented in the same direction, following the principle of a row. At least one object, engraved at the end of the Magdalenian, attests to the existence of this process: a bovid rib discovered in the Upper Magdalenian layers of the cave of La Vache (Ariège) shows, from left to right, three consecutive phases of the course of a running lion.

Optical toys and pre-cameras in the Paleolithic!

Paleolithic artists pushed their graphic experiments even further and probably invented the first optical toys... at the origin of cinema. In 2007, Florent Rivère, an experimenter of prehistoric techniques, contacted me to inform me of observations made of Magdalenian disks, which confirmed my hypotheses in a spectacular manner.

Paleolithic artists appear to have invented the “thaumatrope”, and optical toy that we had believed until now to have been conceived in 1825, and which is the direct ancestor of the cinema camera. According to the scientific literature, this device was invented by the astronomer John Hershel. The thaumatrope, literally “wheel of miracles” (from the *thauma*, “miracle” and *tropion*, “turn”), is composed of a disk with a drawing on both faces and maintained above and below by a string. The illusion created when we make the disk pivot over itself can express the movement of an animal, performing a dance or an action.

Through experimentation, we have shown that several Magdalenian disks, including the disk with a chamois from the site of Laugerie-Basse (Dordogne), fulfill these conditions (figure).



Bone disk from Laugerie-Basse, on both sides there is a chamois whose movement is decomposed (diameter: 31 mm, Musée du Périgord, drawing: Roussot 1984, figure 3).

Conclusion

Using two procedures, graphic narration and sequential animation, Paleolithic artists more than 30 000 years ago, at the dawn of artistic representation, foresaw the foundations, the grammar and the technique of the shooting script.





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