

THE CAVE OF ALTAMIRA

22,000 YEARS OF HISTORY

It happened here, in Altamira, in 1880. Mankind's first art, the oldest we know of, that known as cave art, which is preserved in Europe, was discovered, identified and published with scientific rigor in the cave of Altamira. All of this, simultaneously and for the first time, is due to Marcelino Sanz de Sautuola, a methodical person, enormously curious, cultured and with diverse and profound knowledge.

Location and description of the cave and its surroundings

The cave of Altamira is found at the top of one of the smooth limestone hills that surround

Santillana del Mar (Cantabria), the subsoil of which is formed of parallel, horizontal strata of calcarenites. The cavity has flat ceilings and trapezoidal sections; this shape is not due to the dissolution of the limestone by water, but to gravitation sinking, a consequence of the karstic activity and the water in the deepest beds (fig. 1). The only opening is towards the north, 156 metres above the current level of the sea, which is 5 kilometres away, and only two kilometres from the River Saja. The cave is 270 metres long; in general, its height varies between two and twelve metres, and its width between six and twenty metres. The final gallery is a narrow corridor of 50 metres length

Fig. 1. Interior of the cave of Altamira. The geological structure favours the collapse of layers of rock which leave angular features in the wall. ©Pedro Saura





Fig. 2. Aerial view of the Museum. The point marks the place of the cave entrance.

and scarcely one and a half metres height and width, all of which is sprinkled with engraved or drawn figures and signs.

The landscape which currently frames Altamira corresponds to the humid climate of the European Atlantic façade and is completely different to that of the Palaeolithic (fig. 2). During the end of the Pleistocene – between about 25,000 and 10,000 years ago, the temperatures reached averages of up to ten degrees below the present in the glacial periods and therefore the climate, although temperate due to the proximity of the sea, would have been colder and more humid than the current one. This created a “park” type landscape on the coastal fringe, characterised by a prairie dotted with trees dispersed depending on the relief and the unevenness of the terrain. In the valleys, the forest would have developed on the slopes and according to their orientation and height; riparian forest would have picked out the watercourses. This vegetation sustained species of fauna which are still found in the region (such as deer and chamois), which are found today in other regions (reindeer and bison) or which are extinct

(like the *auroch* and the mammoth). Climate, relief, flora and fauna created an adequate landscape for those groups of humans which hunted and gathered wild fruit.

History and controversy of a discovery

The prehistory of Altamira ended about 13,000 years ago. Then the first six metres of the roof collapsed over the area that the group of Palaeolithic humans had used as a place of habitation; the opening remained closed and the cave inaccessible until its chance discovery in the second half of the XIX Century¹.

The discovery of Altamira and of the first art is very appealing, as it was the result of planning with a dash of coincidence. Around 1876, a local found a crack through which he accessed a cave which he showed to Marcelino Sanz de Sautuola, an important person who had a large and luxurious house in the nearest village. He was a graduate, with a degree in law, and his scientific curiosity led him towards archaeology, history and botany. He undertook the model excavation of a roman



Fig. 3. Detail of the pastel drawing of the bison of Altamira, requested by Sautuola for the publication in the *Breves Apuntes*.

villa in Santander, he investigated the medieval institutions of Cantabria and introduced the cultivation of eucalyptus as an economic forestry resource. His general interest motivated the first reconnaissance of the cave, in which he observed some strange black drawings to which he attached no importance.

In 1878, in the Universal Exhibition of Paris, Sautuola saw the collections of prehistoric objects recently discovered in France, which were being shown publicly for the first time. He then decided to look for the same things in his region; he visited various caves and, in 1879, returned to Altamira to explore it in detail. Next to the entrance he collected stone and bone objects as well as other remains. During the excavations, it was his seven year old daughter, Maria, who was the first to see the figures painted on the ceiling: "Papa, oxen!" were her first words.

Sautuola was amazed: there were about thirty large, polychrome figures and an enormous number of drawings and engravings; although nothing to equal it was known, he appreciated the significance and impact that

this discovery would have and the difficulties for its acceptance.

In the following year –1880– he published a pamphlet entitled *Breves apuntes sobre algunos objetos prehistóricos de la provincia de Santander*² devoted to his investigation in Altamira. In it he described the stone and bone tools (reproduced in two plates with precise drawings), as well as the personal ornaments – pendants –, mineral pigments and the bones of animals eaten for food. One plate accurately reproduced the group of figures from the great ceiling and various other drawings from among the numerous figures and signs found throughout the cave. The analysis of the paintings identified extinct bison and attributed great artistic merit to the group and its authors. He linked the archaeological objects to those that he had seen in the exhibition in Paris; the mineral pigments which he found in the excavation with the colours of the figures, and these with the objects of prehistoric art, engraved onto bones, discovered and published in France. For Sautuola there was no doubt: all of it, objects and paintings,

were from the Palaeolithic, the earliest times of mankind, and it was art.

His own words were precise and eloquent. He compared the Palaeolithic tools with those which "are still used today by some very backward tribes"; from the paintings he claimed that "the author was practised... each feature was made all at once", and that "the author did not lack artistic instinct". With regard to the sculpted or engraved Palaeolithic objects published in 1865 by J. Lubbock³ he said that "it will not be adventurous to admit that if in that epoch such perfect reproductions were made, engraved upon hard surfaces, there is no justifiable reason to deny completely that these paintings – those from Altamira – also have such an ancient origin", and belong "without a doubt to the epoch known as Palaeolithic"⁴ (fig. 3).

It was the geologist Juan Vilanova y Piera, professor of the University of Madrid, who presented the discovery in different prehistory conferences in Portugal, Germany, France and Spain among others, but such an amazing scientific contribution was rejected and ostracised. In France, where the most reputable prehistorians were concentrated, the reaction to the discovery oscillated between caution and scorn. And why? It was difficult to absorb everything at once: the antiquity, the magnitude and the quality of the paintings, as well as their excellent preservation. It happened too soon; nobody – almost nobody – was prepared; it was not foreseen and, in consequence, mankind's first artistic milestone, the first art, was ignored for more than twenty years.

It is interesting to remember the sequence of some of the landmarks of the birth of prehistory as a science. It was in 1849 when Boucher de Perthes published the first treatise on prehistory entitled *Antiquités Celtiques et Antédiluviennes*; in 1856 Neanderthal remains were discovered, and in 1859 there was an excavation in Saint-Acheul (France). In the same year, Charles Darwin published *On the Origin of Species* and in 1871 *The Descent of Man*, and *Selection in Relation to Sex*. There was an intense debate and prehistory started to have its own place within the sciences. In

these moments of scientific effervescence, the exact link between the theory of evolution and geology, palaeontology and prehistory had not yet been established, and, for the evolutionary scientists – which the majority of the prehistorians were – Altamira was, because of its unique character and magnitude, an obstacle which was difficult to incorporate into their limited vision of evolution. In fact, Mortillet thought that "*it was a farce; a simple caricature. They have been created and shown to the world to ridicule the honest palaeontologists and prehistorians*"⁵, and E. de Cartailhac (who had the most prestige and authority as a prehistorian) thought that it was the work of conservative Spanish clerics, defenders of creationism. These attitudes were cautious, and perhaps a little prideful in their distrust.

The data about the prehistory of mankind were accumulating too fast and adding to the Darwinian upheaval. In few years it was necessary to assimilate biological and cultural evolution opposing the idea of "creation"; the existence of an *antediluvian man*; the beautiful objects on bone of Reindeer Age found in Perigord (France), and a great masterpiece such as Altamira. The latter was impossible; it was thought that the level of development reached by prehistoric man could not be compatible with the existence of art, a word which was also not accepted in Europe for anything which was not European (thinking of the ideology that supported colonialism). The situation changed with the discovery in France of various caves with paintings and engravings, the Palaeolithic chronology of which was evident; the discovery in 1901 of the Les Combarelles and Font-de-Gaume caves, with similar bison to those of Altamira, left no room for doubt.

In 1902 Emile de Cartailhac was forced to publish –with some humility– an article entitled "*Les cavernes ornées de dessins, La Grotte d'Altamira (Espagne). Mea culpa d'un sceptique*"⁶. In this article he admitted being part "*of an error, committed twenty years ago, of an injustice which is necessary to recognise and publicly put right... It is necessary to bend before reality and, for my part, I must see justice is done to M. de Sautuola*". In the



Fig. 5. View of the Altamira site, where the different collapses that affected can be seen. ©Pedro Saura

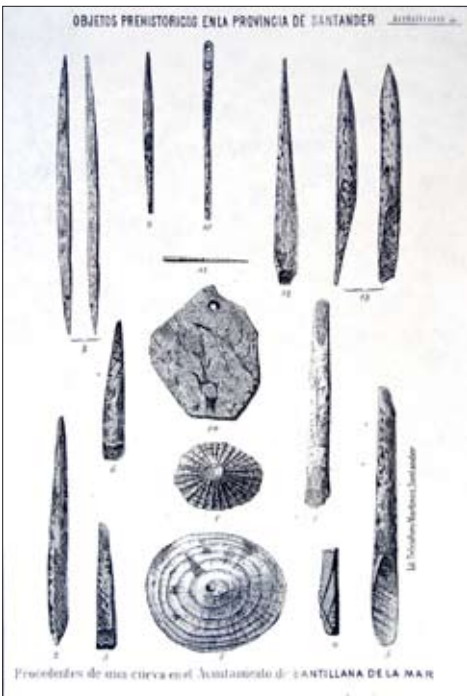


Fig. 4. Plate 2 from the *Breves apuntes*; Sautuola published in 1880 together with the paintings and the objects that he had found at the site.

same year Cartailhac visited Altamira for the first time. He introduced himself to Maria, who as a child had been the first to see the polychrome figures, as her father, Marcelino Sanz de Sautuola, had died in 1888. As a result of this visit, Hermilio Alcalde del Río conducted the first archaeological excavation of the cave, the observations of which were incorporated into the two monographs edited in 19067. Dechelette, in his work of 1908 *Manuel d'Archéologie préhistorique celtique: archéologie préhistorique*, coined the expression "The Sistine Chapel of Quaternary art" for the magnificent ceiling.

Altamira was fundamental for the general theories on Palaeolithic art of H. Breuil, A. Laming-Empeaire and A. Leroi-Gourhan, as well as the suggestive article of Max Raphael⁸, and occupies a corresponding place in Art History. As regards M. Sanz de Sautuola, his scientific merit is frequently tarnished –the

conclusion and publication of the fact that the paintings of Altamira were Palaeolithic art- mentioning that in France other caves with paintings and engravings were known, even though these were not published as Palaeolithic until fifteen years after Sanz de Sautuola did. This inaccurate assessment still remains in some recent work denying that Sautuola assigned his important discovery to the Palaeolithic⁹.

The archaeological site

Marcelino Sanz de Sautuola undertook that which he himself called "rummages in the vestibule"; he collected from the surface stone and bone tools, pigments and the remains of animals and shells which served to date the paintings as Palaeolithic (fig. 4).

The first person to excavate was H. Alcalde del Río, a recognised painter and director of the Escuela de Artes y Oficios of Torrelavega (a near town) who decided to participate on

the site between 1903 and 1905, as a result of the visit of E. Cartailhac¹⁰. He excavated about 20 m² of the vestibule, moving a large amount of soil and boulders. He described two large levels or stages, *Solutreana* and *Magdaleniana* (sic), which he differentiated by the colour, texture of the soil and for the greater or lesser presence of limestone pebbles, bones and marine shells. The first blackish level, of 0.35/0.45 m thickness, characterised by limpet shells (*Patella vulgata*) and the second level, of 0.40/0.80 m thickness, more clayey and with rock pebbles, in which the inhabitants who were more inclined to artistic activity left objects of Portable Art and Solutrean projectile points of flint.

In 1924 and 1925, H. Obermaier widened the area dug out by Alcalde del Río by about 10 m². He excavated to 2.5 m, where the rocky strata of the soil prevented him going deeper. He recognised a Magdalenian level and another Solutrean, without modifying that which had been established; only the discovery of

Fig. 6. New stratigraphy and absolute dates obtained after the review of the archaeological record preserved at the entrance of the cave.

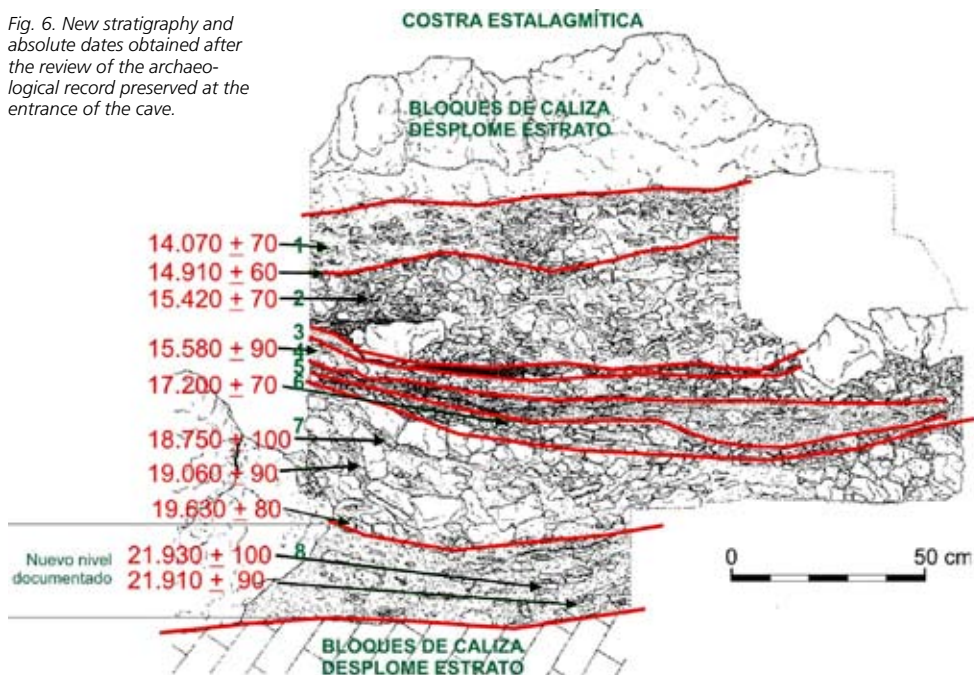




Fig. 7. Great Ceiling of the cave of Altamira. ©Pedro Saura

some projectile points of Font Robert type at the base of the excavation affirmed that there must have been previous occupations that he did not detect¹¹ (fig. 5).

In 1980, J. González Echegaray and L.G. Freeman returned to Altamira to excavate. Their work was limited to only 4 m² and to the upper part of the Magdalenian level, in which they distinguished different strata¹². The dating that they obtained, and those later collected from other bones and a deer shoulder blade engraved with hinds, vary between 18,500 BP and 13,900 BP.

Since 2004 the Museum of Altamira has been revising and analysing the stratigraphic sequence revealed by the previous excavations and eight strata have been distinguished: five correspond to the Magdalenian, with 50/70 cms of total thickness and with a timeframe varying between 14,070 BP and 15,580 BP and two Solutrean levels of 20/30 cms thickness and dates of between 17,200 BP and 19,630 BP. The main innovation lies in the detection of a basal level, well differentiated, but unseen before our work, from which two dates of 21,930 BP and 21,910 BP have been obtained, which correspond to the Gravettian. This extension in the period of human occupation is something that must be related to the art of the cave, and some of the figures and signs¹³ (fig. 6).

Ars, Art: The palaeolithic art of Altamira

Today, people from all over the world recognise these bison and they identify them as a masterpiece of the first artists of the prehistory. Altamira is now a universal cultural icon.

Before the collapse which closed it, during the Upper Palaeolithic the cave had a wide opening oriented to the north. It had a width of about fifteen metres and a maximum height in the centre of the opening of about two metres. The broad vestibule space widens towards a rectangular annex of 23 m length and 10 m width; the inclination of the roof means that the highest point was nearly



Fig. 8. Ortho image of the ceiling of Altamira

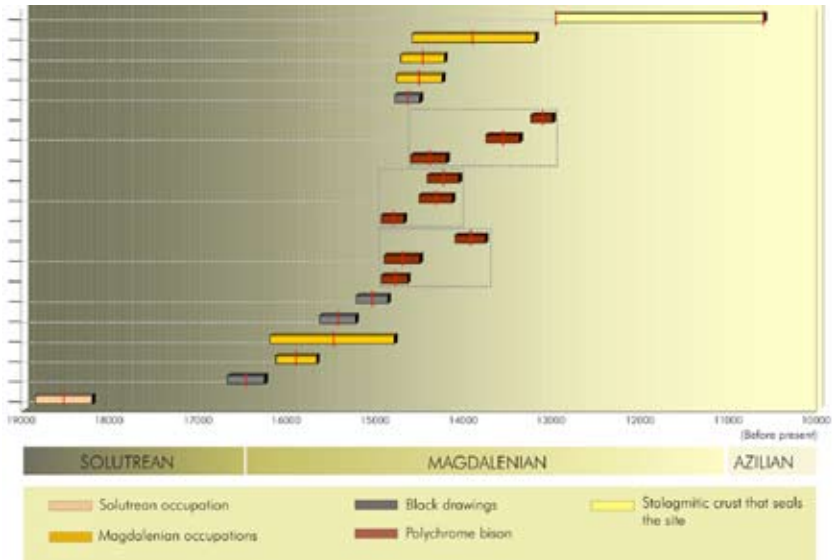
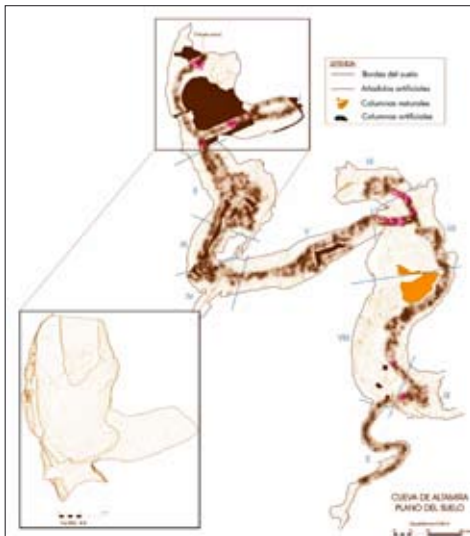


Fig. 9 Absolute dates obtained up to 1991. In red, those that correspond to rock art

3 m, decreasing towards the back to scarcely 80 cm. The ceiling of this vestibule annex has the most spectacular painted and engraved figures of Altamira, among which stands out the impressive group of polychrome figures starring the famous bison (fig. 7).

Fig. 10. Plan of the cave of Altamira with the different galleries with rock art



Day-to-day life took place in the wide vestibule, a space lit by daylight but protected from the elements and the rigors of the outdoors. Towards the interior of this zone, even under the great ceiling of the bison, the cave was only used for drawing, painting and engraving figures of animals and signs, and the celebration of rituals associated with making them or those necessary from their previous existence.

The Muses of classical culture represented “the best”, the excellence exclusive to the human condition, that relating to word and thought (theatre, song, poetry, history etc.). Later, from ancient Rome, the term art (ars) was given to the ability, the skill to do any activity. For this reason art refers to that which is specific to our species, *Homo sapiens*, to that which is artificial and, in all cases, alien to the natural world. For us, and in this way we will refer to it, art is the plastic and symbolic product of a specific culture, which takes place in a distinct space.

It is in the polychrome ceiling where Altamira reaches its peak of spectacle and interest (fig. 8). The entire roof was a wide canvas on which the Palaeolithic occupants of Al-

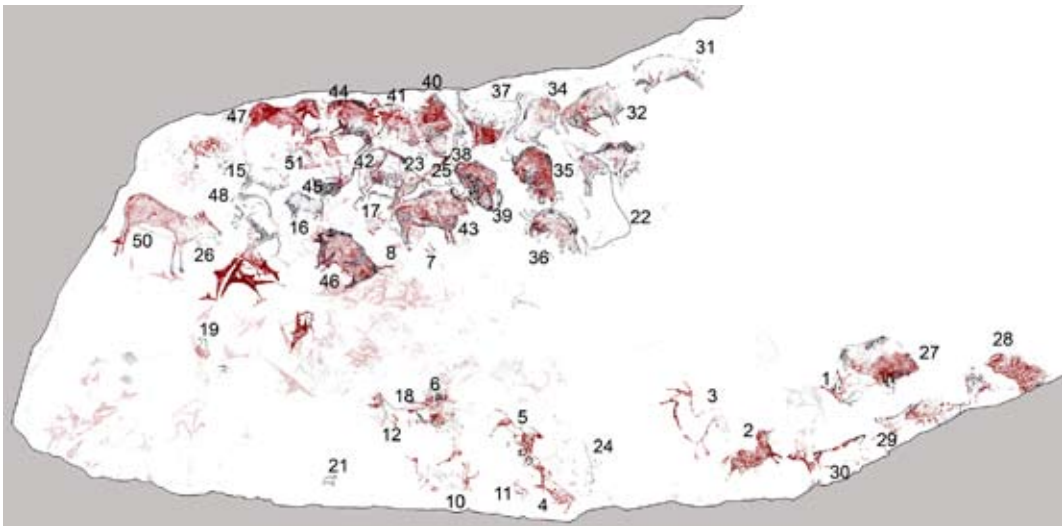


Fig. 11. Plan of the Great Ceiling of Altamira with the identification of the paintings mentioned in the text.

Altamira captured the image of their important interests throughout almost 9,000 years.

The knowledge which we currently have from Altamira and from the Palaeolithic art and, in particular, the contribution of the absolute dates obtained from the pictures themselves, allows the chronological description of the artistic displays which exist in the cave of Altamira (fig. 9). We assume, as a starting point, that the paintings and engravings which exist in Altamira correspond to the same time frame as the archaeological deposits of the vestibule. Both – the site and art – form part of the same moments of occupation during which the cave had, simultaneously, a habitation space next to the entrance and one of symbolic expression towards the interior. Without contrary evidence, it seems logical to accept that the art of Altamira was undertaken in the period which encompasses the end of the Gravettian to the lower Cantabrian Magdalenian, from 22,000 to 13,000 years.

It is typical in the publications referring to the cave of Altamira, to describe the art with a topographic criteria, from the entrance to the back of the cave, which allows and justifies dealing first with the polychrome paintings (fig. 10). We would propose a tour

in accordance with the general chronological sequence, with the subjects and the artistic techniques dealt with afterwards, followed by their distribution within the space of the cave (Fig. 11). This article does not attempt to be exhaustive.

The ceiling of the red horses

The right side of the roof displays a series of painted figures and engraved signs which, in function of their stylistic characteristics, seem to correspond to the former human occupation of the cave, in the Gravettian or Solutrean. In this area seven horses can be easily identified (figs. 1 to 6 on the plan), the dimensions of which vary between 150 and 180 cm in length.

The biggest of them, is projecting his forelegs perpendicular to his chest, the neck is contracted and the head raised, the dorsal flexure is also contracted while the abdomen is stretched out and the forelegs are opened like a compass: the horse is rearing, raised on its hind legs, while the tail hangs detached from the hindquarters (fig. 12, n°3 on the plan). A similar posture can be seen in an adjacent horse (fig. 13, n°2 on the plan), whose silhouette is entirely painted in red.



Fig. 12. Galloping horse corresponding to the former phase of Altamira (n° 3 on the plan). ©Pedro Saura



Fig. 13. Horse in flat red dye (n° 2 on the plan). ©Pedro Saura

Fig. 14. Facing horses. Picture taken in the Neocave of Altamira. ©Pedro Saura



Fig. 15. Galloping red horse, hand in positive, goat and hand in negative. ©Pedro Saura



The remaining figures of this group are also painted with a very similarly coloured red dye, uniform, with no shades, flat. Two of the horses are also in a dynamic posture, facing one another. Freeman and Echegaray interpret this as a representation of two rampant stallions fighting¹⁴ (fig. 14). Horses 1, 6, 7 and 8 are partially covered by polychrome bison that conceal them, or are lost due to preservation problems. N°10 was interpreted by Breuil as a Megaceros elk, from which could be seen the head and antler. None of these figures

seems to be produced incorporating the relief or other natural characteristics of the ceiling. On the contrary, a bulge of the roof next to the back of horse n°10 notably makes difficult the examination of it.

Below the facing horses (n°4 and n°5), appears a goat (*Capra pirenaica*) (fig. 15), painted with a thick red stroke, standing up, still (n°11). In another place (n°12) there is a crude and rudimentary head of a horse (fig. 19). Moreover, in the area covered by poly-



Fig. 16. Airbrushes on bird bone from the cave of Altamira. ©Pedro Saura (above)

Fig. 17. Detail of the great sign painted in red, in a small gallery. ©Pedro Saura (left)

Fig. 18. Deeply engraved horse on a stalagmitic flowstone. ©Pedro Saura (below left)

Fig. 19. Black horse and head of a horse in red ©Pedro Saura (below right)



chrome bison, at various points underneath the polychrome group are observed red stains which correspond to remains of similar figures contemporary with those described here.

As part of the oldest drawings existing on the painted ceiling, we can consider a hand

in positive, and several series of points made with fingertips, aligned forming straight lines, curves or "v"s and which appear in several locations on the great ceiling (fig. 15). There are also two hands in negative which are superimposed on horse n°5 which were, therefore, created later and perhaps using the airbrush



Fig. 20. Black horse painted on a fallen boulder from the final gallery. ©Pedro Saura



Fig. 21. Painted goats in the La Hoya gallery. ©Pedro Saura

Fig. 22. Hind painted in black, in the La Hoya gallery. ©Pedro Saura



Fig. 23. Goat engraved on the ceiling of the hall of the polychrome paintings. ©Pedro Saura



technique. Thus we interpret some intentionally cut empty bird bones with ochre-dyed interiors¹⁵ (fig. 16).

Towards the interior of the cave, at about 65 m from the mouth, a small blind gallery is found, full of red signs (fig. 17). This small space of little more than a metre width and five metres length, has, at the top, a sign composed of four irregular internally divided ovals. Halfway up, on the interior face of one ledge, is a large sign which reaches a length of three metres and up to 50 cm width; it is formed of large bands of parallel lines crossed by small transverse strokes. In order to see it is necessary

to bend down and even lie down on the floor to appreciate it in its entirety. The narrowness of the space makes the contemplation of this and other signs which are on one of the walls difficult, and does not allow the simultaneous presence of more than two people, which makes one reflect upon its function or original use.

On a stalagmite flow-stone of gallery II are engraved three aligned figures, of great size. The central one (fig. 18) has a length of more than 150 cm and represents a standing horse. Of the others, almost lost by natural decomposition of the rocky crust, only the ventral line of a horse can be identified. By

its size, by being engraved in a deep groove and by stylistic considerations, they have been attributed to the Solutrean¹⁶.

The figures and signs which we have just described can be related to the former occupation of the cave, to the Gravettian and Solutrean dates from the site. The representation of hands in negative from other caves (El Castillo, La Garma, Cudón, La Fuente del Salín) has been attributed to the Gravettian, as well as the series of points and paired traces (Chufín, El Castillo and La Garma (all from Cantabria) and from La Peña de Candamo, or Llonín (both in Asturias). In the Cantabrian region the paintings made with dotted lines and totally or partially flat dyes, associated or not with engraving (El Pendo, caves of the Carranza gorge, La Pasiega) or from Les Pedroses (Asturias) are attributed to the Gravettian or old Solutrean¹⁷.

The animated cave

The total thickness of the Magdalenian levels doubles those of the Solutrean and the Gravettian levels; it seems that there were longer and more frequent occupations, or that the groups were more numerous and, moreover, it appears that these groups took over the whole cave. From the inhabited vestibule to the most remote and deepest part of the last gallery, the cave is brought to life by the presence of figures engraved or drawn in black which sprinkle the walls. There is no space which is not used; there is no place without animals or signs, without art.

All of the black figures are drawn with charcoal, which has permitted dating using carbon-14 AMS. The resulting timescale, together with a certain stylistic and technical uniformity – the carbon as a pigment and line drawings – means that, according to Breuil, they can be considered as belonging to a single group. However, their uniformity is relative and they could have been undertaken at different moments and with a large time gap. In every case, the dates obtained are clearly before those of the polychrome images.

During the Magdalenian the themes became more varied and the number of animal

species represented increased. There continued to be horses, but there also appeared aurochs (bulls, *Bos primigenius*), bison (many), more mountain goats, deer (stags and hinds; the most represented species), semi-human faces and signs. Moreover, an enormous number of small black strokes made with charcoal are distributed throughout the galleries. Their function is impossible to specify as neither order nor rhythm nor regularity can be perceived; they could simply be marks of transit and frequentation, although sometimes they are concentrated in specific places, grabbing the attention of whoever was wandering about the cave.

On the great ceiling various horses similar to one another stand out. One of them is 80 cm long (fig. 19, n°18) while the remainder are smaller. Another horse forms part, together with two goats, of a frieze drawn next to the enclosure of the great red sign but they are almost lost and it is difficult to see them. In the beginning of gallery V is found another horse, and the deepest of them appears in the first curve of gallery X (fig. 20). This is one of the strange figures of which it is difficult to affirm the naturalism. The thinness of its legs and the disproportion between its front and its haunches, confronts us with a personal creation which, in a singular way, notably alters the natural model.

Various goats of a similar size, form and stroke, seem dispersed and occupy distinct places in the cave. There was one in the vestibule (which disappeared in a natural collapse in 1924); others appear on the great ceiling (n°21); in the frieze of gallery III, at the back of gallery IX and at the end of gallery X. In gallery VI there are another three goats, between which is inserted the head of a hind (figs. 21, 22). Two of them are contiguous, in movement, with the horns towards the back. The lower one is racing or jumping to a lower place. This goat displays an elongated body, an open inguinal angle, the tail raised, the neck and the head aligned with the dorsal line and the enormous horns parallel to this; the chest and the legs, not represented, seem to disappear from sight as if they are hidden by something due to the jump. The capture



Fig. 24. Auroch engraved with the fingers on the soft clay of gallery III. Tracing H. Breuil, 1935.

of natural movement is amazing, made even more so if one considers the economy of strokes with which it is achieved.

Apart from the painted goats, there are a few more engraved ones. One on the ceiling

of the Hall of Paintings, which is reduced to a head (fig. 23), two at the end of gallery V, similar to the series of goats drawn with charcoal, and the deepest appears in the centre of gallery X on a rocky projection, because of which it seems to descend or be preparing to jump.

There are only four aurochs in the entire cave. Each one of them has its own particular technical and formal singularities. On the great ceiling there is an enormous bull of 270 cm length, partially hidden beneath a polychrome bison, of which we can see the head (n°22); the dorsal line is a wide band of multiple engravings, almost a sgraffito; the line of the belly is made to coincide with a natural crack and it is strengthened with black drawing to accentuate the sex.



Fig. 25. Auroch engraved in gallery V ©P. Saura



Fig. 26. Bison painted in black in the La Hoya gallery. ©Pedro Saura

Fig. 27. Bison next to the great hind, in the polychrome ensemble. ©Pedro Saura



Fig. 28. Signs painted in black in the Final Gallery. ©Pedro Saura



Adhered to the roof of gallery II is preserved the fine film of clay which separates some of the limestone strata which from which the cave is formed. This soft surface of some ten metres squared has been engraved, covered by finger marks in an apparently chaotic manner, the strokes interwoven until they form a tangled mess. At one extreme the head of a bull is clearly distinguishable, the forehead of which measures almost a metre. Its outline is achieved using the index, middle and ring fingers together (fig. 24). Close to this, on the front of a stratum, positioned between irregularities, is the 50 cm drawing of a bull. A final bull, engraved at the beginning of gallery V (fig. 25), carries its head high exhibiting a muscular neck.

The deer is the most represented species in Altamira, but almost all are engraved. On only three occasions was the colour black used: one head of an engraved hind, with a black stroke on the forehead; a head of a deer drawn next to the horse of gallery X, and a hind between the goats of gallery VI (fig. 22). This was drawn with a continuous stroke that we can follow from the snout through the forehead, the ears, the nape of the neck and the withers, which is reinforced with a dot; the lower edge of the projection on which it is drawn forms the line of the jaw and neck.

The bison now start to populate the cave. There is one drawn on the great ceiling, a very strange one in gallery V and another in

VI, facing the hind and the goats (fig. 26). On the ceiling there is a small bison (fig. 27, n°26 on the plan) below the neck of the polychrome hind (perhaps one of the last figures to be created there so it seems to occupy a hole between the pre-existing figures), and an enormous head followed by the profile of the hump, without which the rest of the animal would be seen (n°24). To make the right horn of this bison it was drawn on a stalagmitic ribbon of rock. It seems obvious that the bison was conceived from this horn, from the discovery and transubstantiation of this natural micro relief of the rock into the horn of a bison. The remaining black bison of the ceiling (n° 15, 16, 17 and 25 on the plan) cannot be associated to this series of black drawings and they will be dealt with later on in relation to the polychrome paintings.

A group of black signs (fig. 28) and that which is known as the "masks" (fig. 29) correspond to this Magdalenian moment and characterise the final gallery – X – of little more than a metre in height and width. The signs, more or less quadrangular or oval, with highly divided interiors, are drawn associated with the most notably concave sides of this gallery. Close to them, some natural prominences of the rock, sometimes convex dihedrals, are transformed into elongated animal faces, or shorter ones, into humans. As long as the lamp separates light and shade only a touch of black is enough to suggest the eyes, the eyebrows or the snout; only light and some touches for blurred faces to emerge and become visible where before there was no one.

Fig. 29. Masks painted in black in the Final Gallery. ©Pedro Saura



The engraved cave

Today the Palaeolithic engravings are difficult to see and difficult to photograph well, but freshly created, the wound opened in the rock with a harder stone, flint, created a line as contrasting as pencil line on paper. Only the patina of time has hidden these figures which thousands of years ago would have jumped out at anyone who penetrated the cave with an oil lamp or torch. Engraving is a more enduring action than drawing, so it wounds and alters the rock even more evidently; perhaps from some period or in a certain moment the

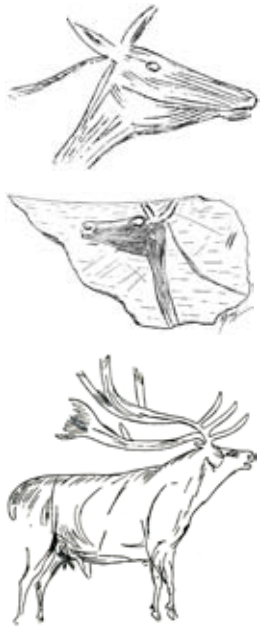


Fig. 30. Engraving of hind on the Great Ceiling of Altamira. Tracing H. Breuil, 1935 (left up)– Fig. 31. Hind engraved on a deer shoulder blade. From the cave of Altamira. Tracing H. Breuil, 1935 (left middle)– Fig. 32. Roaring stag, engraved on the ceiling of the polychrome hall. Tracing H. Breuil, 1935 (left below)– Fig. 33. Hind engraved on one of the walls of gallery III. ©Pedro Saura (above right).

use of this technique had a more significant meaning than drawing.

Drawing, painting and engraving were artistic techniques used indistinctly and simultaneously throughout the upper Palaeolithic. Engraved figures and signs must have formed part of the same groups that we have defined above but, as they cannot be directly carbon dated like the paintings, it is difficult to establish their relation or integration in synchronous units. In the absence of direct chronology, and according to style criteria, the great majority of the engravings of Altamira are from the Magdalenian occupations.

We find engraved horses that are no greater than 50 cm in size on the great ceiling and in galleries II, III and VII. Three very similar bison are found in galleries III and X. They seem incomplete, formed only by the line of their head and hump to the start of the tail. On the nape of their necks, the horns are clearly visible as if they had their heads turned somewhat

towards the observer; they lack legs but we see them whole: they are lying down, ruminating in the prairie, and only the silhouette of their quiet forms and the brilliance of their horns cuts above the level of the grass.

There is, moreover, an important group of irrefutably Magdalenian engravings. We refer to the hinds (and in a lesser number, the stags) which display a notable family atmosphere. Many of them have the interior of the body, the head and the neck, above all, filled with shaded striations (fig. 30). They are, therefore, analogous with the engravings on the shoulder blades of deer, discovered in Magdalenian levels of El Castillo and Altamira itself, which have been AMS carbon dated to 14,480 BP (fig. 31). Despite the fact that the interior, is shaded (engraved), all of these representations of hinds from Altamira have a common appearance, and the same can be said of the stags; it seems that the inhabitants of the cave of Altamira would have covered it with hinds



Fig. 34. Detail of the ensemble of polychrome figures of the Great Ceiling. ©Pedro Saura

(and of stags) and that this happened a little before or almost at the same time as the great ceiling was filled with polychrome bison.

Males and females are always distinguishable, and not only by the antlers which are exclusive to the stags, but by the greater delicacy of the snout and the neck exhibited by the females, just as in the natural model. Among all the engraved deer, a great male of 70 cm length stands out, located opposite the head of a hind made in the same way (fig. 32).

There are more than twenty hinds on the great ceiling and others on the wall of the same gallery (recently discovered); thirteen throughout galleries III (fig. 33), IV and V, and almost as many in gallery X, of which six are in a group put together in a small panel which

constitutes the deepest artistic intervention in the cave. As opposed to this, there are only stags on the ceiling – already cited –, eight in the intermediate galleries and five in the narrow final gallery.

These engravings with striated details in the head and neck represent a regional artistic phenomenon, limited to a central area of the Cantabrian region (San Román de Candamo and Llonín in Asturias; La Pasiega and Altamira in Cantabria, among others).

The great ceiling of the polychrome bison

This ceiling is the reason for the fame of Altamira (fig. 34). Its polychrome paintings are an exceptional work of art. The impact of

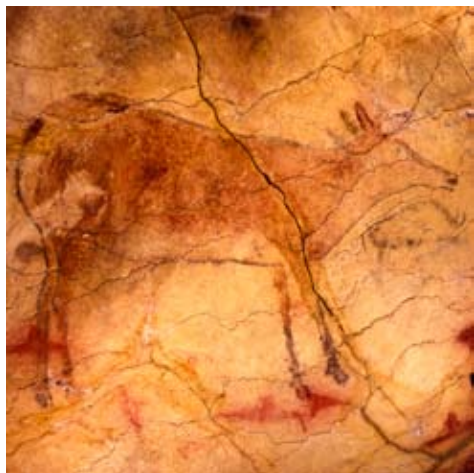


Fig. 35. Big hind. ©Pedro Saura



Fig. 36. Bison n° 48. ©Pedro Saura

Fig. 37. Curled-up bison. ©Pedro Saura





Fig. 38. Bison n° 43. ©Pedro Saura

gazing at it is enormous; only the Great Hall of the Bulls in Lascaux, the Black Room of Niaux or the great panels of Chauvet give a similar impression.

There are 25 large figures, predominantly bison, which measure between 125 and 170 cm in length, and still the hind (fig. 35, n° 50) stands out which reaches two metres. The figures are created by engraving their outline and charcoal black line drawing. Both methods were used simultaneously. The majority were filled principally by a red paint – yellow ochre in bison nos 42 and 48 (fig. 36) – which,

originally, completely covered the rock surface, just as is preserved in the shrunken bison n° 35 (fig. 37) and n° 39 and in the neck of bison n° 40. In some bison a colour change was also effected on the belly with black charcoal paint (nos 33, 34, 43, 48), or charcoal pencil was used to detail the hair of the chest, the forelegs or the hump (fig. 38). Certain reservation of colour served to separate the legs from the chest, the haunches from the belly or one leg from another (fig. 39). As well as functioning as an outline, engraving was involved in the creation of other details such as the eyes, the horns and the hair of the neck. Bison n°17



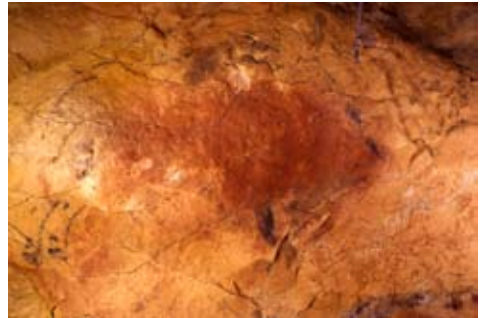
Fig. 39. Bison turning his head n° 40. ©Pedro Saura (left)

Fig. 41. The natural relief is incorporated into the work of art execution. ©Pedro Saura (left below).



Fig. 40. Black painted bison in the Great Ceiling, n° 17. ©Pedro Saura (above).

Fig. 42. Bison n° 27, right side of the Great Ceiling. ©Pedro Saura (below)



(fig. 40), onto which were superimposed the polychrome paintings 42 and 43, seems to be contemporaneous in style with these – form, stroke and smudging of the black –, despite being created using only black.

The natural shapes within the ceiling (fig. 41), such as semi spherical bulges hanging up to 30 cm proud from the ceiling, are incorporated into the figures to give them volume in the chest (fig. 42, bison n° 27), or the whole body in the bison which seem to be tumbling

on the floor (bison n° 35, 36 and 39). The belly of the great hind (n° 50) is superimposed on a gentle relief perhaps using it to suggest that she is pregnant. Also the cracks, as we have indicated in other cited figures, were used to draw the outline of the animals (n° 34). The incorporation of the rock surface and its natural irregularities in a repetitive and constant manner is not accidental and is not only used to give the effect of volume. It obeys, without doubt, other significant motivations; it is related, rather than with the artist, with



Fig. 43. Bison n° 34. ©Pedro Saura

the celebrant who – together with the picture – creates life where there was none, or where it was dormant; it has to do with the celebrant making the picture an instrument of narration and connection with other realities existing in their beliefs, imagination and thoughts.

The description of the paintings as polychrome is inexact, the figures transmit that appearance but none of them use more than two pigments: charcoal black and a red or brown ochre as a fill. The pigments were used

dissolved in water and must have been applied with the fingers, as Breuil suggested, or with the hand, as has been experimentally tested by M. Muzquiz and P. Saura¹⁸. The polychromy impact comes from the incorporation, in our gaze, of the colour of the stone, the transparencies and glazes of the rock through the paint. These transparencies, the sensation of gradation, shades or glazes of the paint are not a Palaeolithic creation, but rather the result of the natural process, constant throughout the millennia, of the condensation and



Fig. 44. Black monochrome bison, n° 16. ©Pedro Saura



Fig. 47. Claviform signs in the Great Ceiling. ©Pedro Saura

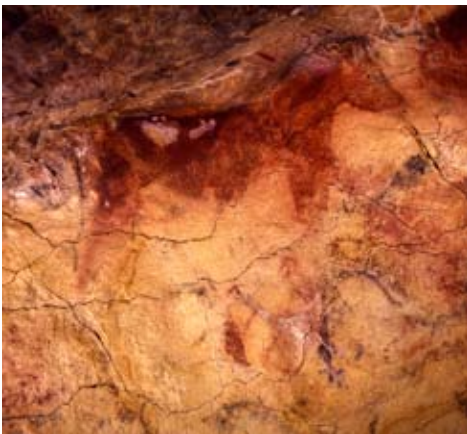
Fig. 45. Polychromes bison on the southern side of the great ceiling. ©Pedro Saura



Fig. 48. Black monochrome bison facing to the bison of figure n° 44, both of similar chronology. ©Pedro Saura



Fig. 46. Horses from the polychrome ensemble of the Great Ceiling, n° 47. ©Pedro Saura



precipitation of water vapour in the air onto the paintings. The water has condensed in the convex areas and points, and there, drop-by-drop, it has dissolved and washed away the paint. On the contrary, in the minute concavities and pores in the limestone, the surface tension allowed fixing of the drops and, through their evaporation, the ochre deposit of which they were loaded. Both effects combined have altered the original work, so it should be considered that the red paint of the polychrome pictures was, basically, flat uniform dye, without shading. The time that has passed since their creation has affected the paintings and, despite their good state of preservation, their current aspect is very different from the original, which would have



Fig. 49. Bison n° 37 ©Pedro Saura

been much more vivid and intense, perhaps also, simpler and more emphatic such as has been preserved in the neck of bison 40 (fig. 43). There would also have been a great difference between the remaining earlier figures and the last figures to be created, the polychrome ones. This difference would have been reinforced by the freshness that the engravings would then have displayed, of the outline and details, without the patina that they later acquired. The tangle of signs, stains and engravings of earlier figures, the present superposition of paintings and engravings, the resulting confused aspect of them, has much more to do with present circumstances than

with the result of the original Palaeolithic creation. The aforementioned would affect all of the mineral pigments, which were used dissolved in water. The charcoal, which would have been applied directly much as charcoal sticks are used today, would permit, by smudging, control of the intensity of the expression and masterful creation of the volume and the light and shade of the bison 15, 16 and 17 (fig. 44).

The crack that runs along and divides the ceiling longitudinally determined the work of the Palaeolithic painters. No figure or sign crosses or incorporates this crack. It is not a

coincidence that the majority of the well-identified red figures – horses – are on the right hand side (south), and that 20 of the 24 polychrome figures are on the left. The different appearance of the four bison on the right of the ceiling (fig. 45, n°27 to 30 on the plan) is due to the distinct texture of the rock and, fundamentally, to the different preservation conditions, which have almost caused their disappearance. It is evident that, as has already been pointed out, this part was exposed to the wind, which would have entered through the mouth of the cave, open towards the north, and this would have affected them from their creation until the collapse of the opening. As an interpretation, it seems probable to us that these were the first polychrome bison to be painted and that the “discovery” immediately afterwards of the natural volume moved the framework of the symbolic creation. Neither their shapes, the technique of execution, nor detail makes them different to the rest of the herd. They are, in all ways, contemporary with the others, despite their creation being, strictly or not, simultaneous. The incomplete bison, perhaps unfinished, was created on top of horse n° 2 (represented in fig. 13) and can be associated to the group of polychrome bison.

The polychrome group is completed by the enormous head of a horse (n° 41), with the figure of a colt (n° 47), identified as such by Freeman and Echegaray¹⁹ (fig. 46), and with a great number of claviform signs (fig. 47). These reach a considerable size and seem to superimpose each other and some polychrome figures, for which reason they must be considered contemporary. Their typology, and the grid sign on the loin of bison 37 also correspond to the Magdalenian.

The last bison, the last artists

The date of the monochrome bison 16 (figs. 44, 48) is the most modern of those obtained until now. The technique of charcoal smudging stands out, with direct application smoothed to achieve grey tones or the use of the hand to extend or diminish producing particular shades to create volume. They seem to occupy a free space between the polychrome

figures. Certain characteristics are related to the polychrome paintings and they include them in “their” ceiling but others are closer to later types more characteristic of the late middle Magdalenian.

The collapse occurred a little after and the impossibility of returning to the cave, made these bison the epilogue of a masterpiece.

Nature versus Art

Art is one of the few inheritances exclusive to our species, *Homo sapiens*, our own. When the species colonised Europe 40,000 years ago it brought with it intellectual capacity (neurobiological) and a technical and cultural knowledge which included or made possible that which we have defined as art. This became evident in the beginning, starting from the Aurignacian, as a reality full of itself, technically complete (looking at the central European sculptures; the Chauvet cave paintings, etc.) and conceptually diverse including naturalistic imaginings and abstract expression (signs). It is probable that there was a formative period, perhaps faltering, but no clear traces of this have been preserved or we have not yet found them. If this testing phase or general learning existed it was in the time between our African origin and our arrival in Europe. The “artistic objects” known from before the Aurignacian are limited, they are too isolated from one another in time and space and do not allow us to illustrate an embryonic or formative period.

Palaeolithic art is the work of people who had hunting at the base of their existence, and to a great extent, their lives must have revolved around this. It is very probable that hunting influenced their social structure and symbolic system, but it is not possible to understand this art through symbols associated exclusively with hunting. It is the art of groups strictly bound to nature, who hunt, fish and gather; an art which is expressed with humility, discretely, in the half-light and obscurity of the caves, in meagre shelters, or in some areas rocks in the open air. It is an art which does not dominate, does not impose itself and does not mark the landscape unlike the post Palaeolithic cave paintings or the audacious

Neolithic megaliths which transformed hills into doorways and meadows into pastures. Palaeolithic art does not build the landscape, does not appropriate it, it does not humanise the natural terrain. Perhaps man did not dare to do so; perhaps he did not consider it. The Palaeolithic groups did not substantially alter nature but they related to it through their symbolic creation in private; in the privacy of the light that they created and transported to the cave, and not through intimidation imposed by the darkness.

It is an art which, seen from a distance, is expressed with great unity which spans the Urals (to date), in Russia, to Gibraltar, in Spain and from more than 30,000 years ago until 10,000 years ago, when a generalised cultural change, associated to the end of the last glaciation, consigned it to uselessness and oblivion. In all this time it was painted and engraved in caves and shelters with the same techniques, the same animals (deer and reindeer, bison and bulls, horses and goats), the same human figures, blurred and smudged, and the same types of signs.

It is an art of hunters and of nature, but it neither reproduces nature, nor serves hunting. It does not represent the vegetation or the relief. They represent only animals and they select only some from the existing fauna: bison, deer, horses, goats and bulls, and no other in Altamira. They are all represented in profile; on occasions the profile acquires perspective which allows us to see four legs and both horns in a natural way, as if the animal was looking at the observer, without ever spoiling the figure as a cubist or deconstructivist would. All of them reflect the same procedures but each animal has its own character, there are no stereotypes in parietal art. Some bison gallop or charge (n° 27, 31 and 44), others are ruminating, lying down on the ground (n° 36 and 39), n°37 (fig. 49) is sexually excited, and others (n° 46 and 43), the powerful male and female, seem outside everything.

The so-called conventions of Palaeolithic art, terminology reiterated and recurring in the bibliography, are in many cases, an accurate reflection of nature. For example, it

seems surprising that the line of the floor is not represented – sometimes it is implicit in the rock surface (the case of the goats of figure 21) – when this line is one of the most artificial that has been adopted historically. The natural thing is that the animal rests upon a plane, – the ground, the prairie – and we know that a line never defines a plane: they, then, also knew that. In the same sense, the change of colour which is seen in some bison (n° 42, 43 and 48) from a line that links the start of the tail and the forelegs, is also interpreted as “convention”, when what it does is to exactly reproduce the effect of moisture and mud on the skin of a bovine when it stands up, after ruminating lying down on the ground. The same happens with the “twisted perspective” which is normally used to explain the representation of the bovine horns and the ears of the hinds when, in reality, it is more difficult when observing an animal in profile to see only one of his horns rather than two. Moreover, deer move their ears indiscriminately, and it is common that they orientate one forwards and the other backwards. The nature of the model is overwhelmingly imposed on the art of the caves, much more than the convention, the stereotype and the style.

Nature also imposes accurate reflection – despite the technical artistic virtuosity of each author – both in the figures and in that which can be considered scenes. With the exception of the horse, males and females are well distinguished by their typometry, the representation of the sexual organs in the males, by their horns or by their size, among other distinctive details. Sometimes it is possible to differentiate the adults and the young, such as the polychrome colt together with the head of an adult horse which could be his mother (n° 47 and 41). Perhaps bison n° 30 is also an example of a sub-adult, without a hump, with almost no neck and slender horns in comparison with those of his well-armoured companions (fig. 50).

The stags, on the ceiling and in galleries II, III and X, are raising their heads and their horns are parallel to their backs, never oblique: they are in rut, projecting their snouts forward, bellowing – they even have their mouths



Fig. 50. Juvenile bison from the right side of the Great Ceiling, n° 30. ©Pedro Saura

open –, and they are next to the hinds with which they have to mate. Two red horses appear to confront one another perhaps as a consequence of the rut. The bison herd has gathered together males and females for reproduction; afterwards they will separate. The polychrome hind displays with her bulging belly, a natural relief, the fruit of fertility. The idea of fertility and not that of any animal; fertility as a concept associated with the perpetuation of the human group seems to be celebrated on the ceiling of Altamira, as also occurs in other caves.

Another constant that intimately unites nature with art is found in the use, premeditated, reiterated, subtle or evident that the artist makes of the rocks, their relief, their irregularities and cracks and even their texture. This is something that occurs frequently in Magdalenian figures, but not those of the Solutrean, which perhaps is not an observation limited to Altamira but should be seen in the whole of Palaeolithic art. Perhaps the most beautiful is the wallowing bison (fig. 39, n°40 on the plan), turning its head to roll sideways

on the ground, in the dust. This posture was conceived seeing – and to incorporate – the rocky projection on which the head was drawn, turning backwards, over his own neck.

Another clear example is that which we selected on the ceiling of gallery X where, a sinuous highlight, of just a centimetre difference, without any retouching, is converted into the cervicodorsal line of a deer enclosing the engraving of the neck, the belly and the legs (fig.51).

Painters, engravers...artists? We have avoided using the term "artist". Is that what they were in Altamira? Without doubt the answer is yes. Someone created all of those figures from nothing, with plastic elements such as the paint and the lines and did this with great ability and skill. Not all of them are masterpieces but it is difficult to find any trace of clumsiness or lack of skill. There are no mistakes and hardly any correction; whoever painted or engraved in a cave had remarkable confidence, the result of practice and learning. It is not easy, without sufficient experience,



Fig. 51. Stag engraved on the ceiling of the Final Gallery. ©Pedro Saura

to paint or engrave with those means on such surfaces and in those conditions. The worst of the figures is the exception which proves the rule of the technical and artistic quality of those who drew, engraved and painted in the caves during the Palaeolithic. We shouldn't question the ability of those who with those elements, under those circumstances, and with those "canvases" achieved the figures which, almost always, transmit something.

Never has an art been ornamental, at least until modern times. The plastic artists as we conceive them now, with rare exceptions from the classical Mediterranean world, are an invention of the International Gothic or Renaissance periods. So what were these cave artists?

Palaeolithic art was associated with cosmogonies, to myths and the rituals related to them. Their own creation could be "the ritual", and perhaps this explains the inaccessible paintings such as those of the enclosure of the great red sign (fig.17), and others linked to social rituals participated in collectively in more spacious areas. Clottes and Lewis-Williams propose a

fundamental link between shamanism and cave art²⁰. According to the analysis that they make, going back to the ethnological references with which they can establish analogies, the art would be the plasmation of the imaginary arising from the trance and not the result of its creation during the trance.

Currently, with remarkable concurrence, the reading of the symbiosis between art and nature, between the created figures and their natural support, such as we have been noting, is proposed in relation to the animism which underlies the ancient religious systems, and, in general, mythical and pre-philosophical thinking. It refers to, in any case, an eloquent detail of the artistic technique or expressionism which reaches its maximum generalisation in the Magdalenian, just as happened in Altamira with the paradigm of the reliefs and cracks of the ceiling being incorporated into the bison.

It's usual among hunter-gatherer people a pre-philosophical thinking based on a multitude of spirits rather than deities. They do



Fig. 52. Bison nº 46. © Pedro Saura

not use the cracks, reliefs and forms to add greater realism to the figures, but using them, resorting to them, they intimately relate the animate and inanimate. Through this gesture of creation they brought into contact the outside and the inside, light and darkness, but, above all, art established a relationship between apparent reality –that which they could see and touch- and those other realities that we know existed because of imagination or dreams. Those other realities, not obvious but significant, are those which bring order to chaos, they explain the unexplainable and belong to an intangible domain, self-defining, which expresses, transmits and is perpetuated through art.

The communication which is established between different distinct levels of reality requires a celebrant, intercessor, shaman or priest, who connects with the small spirits which give life to everything, and who intervenes in or influences the apparent reality, that

which is all around us and which we see all the time. It would be the celebrant-artist or the shaman who would discover in the reliefs of the ceiling the bison, the deer and the horses of Altamira, who would connect them to the things they represented. Palaeolithic art had a particular bestiary linked to an oral tradition, to particular common stories – myths – that explain their coherence and presence in the vast European landscape throughout the millennia (fig. 52).

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