THE BOARS FROM ALTAMIRA: SOLVING AN IDENTITY CRISIS

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Most scholars of prehistoric European cave art would regard correct species identification of depicted animals as the first step toward explaining the presence of animals in prehistoric imagery.   Whether one is attempting explanation via quantitative or qualitative means, via inductive or deductive methods, knowing the relative proportions of animals depicted in single caves or in all caves is a logical starting point, since the vast majority of identifiable images in cave art are of animals. But inventories of animals in caves differ from expert to expert due to numbers of images involved, and because the lack of preservation or poor technical rendition make identification difficult in many cases. Using the most recent counts is no indication of accuracy. The reluctance of governments to allow surveys to be made by any but their own nationals has complicated the issue, with the results that most scholars must use the counts of others, inevitably reinforcing errors. The underlying message remains clear: we can explain only as accurately as our data allow.

It is with this in mind that I question part of the recent reinterpretation of the Altamira ceiling by Leslie Freeman (1987). I do not question his goal of reinventorying the animal images; he is to be applauded for this venture. I do, however, question his conclusion that the three animals identified by Breuil in 1935 as 'wild boars' are bison (1987:81). Freeman contends that because some of the Altamira ceiling bison can be interpreted as dust-wallowing, which is often a displacement activity in modern bison for sexually excited animals, and one bison is interpreted as if at the peak of sexual excitement, the ceiling is a 'true "organic" composition which when seen as a whole depicts a herd of bison during the rutting season' (1987:78) . As evidence against the three animals being wild boars, Freeman suggests that wild boars are 'somewhat out of place in the Altamira decorative assemblage' (1987:81) , since boars and bison have different econiches.   As evidence supporting the three animals being bison, Freeman admits that though at least one figure is very pig-like, the pig characteristics are 'accidents of the ceilings', concluding that the 'figure resulting is a perfectly normal and characteristic bison, and nothing about it has the least resemblance to a wild boar'(1987:83). Just because boars would be out of place in a scene of rutting bison does not mean the animals in question were not intended by prehistoric artists to be boars. (And there are other interpretations of the Altamira ceiling that incorporate wild boars into their 'stories'.)

A long list of experts who believe the three animals are boars is not evidence that they are boars any more than a recent conclusion that "the boars on the Altamira ceiling are now generally thought to be 'streamlined' bison" (Bahn 1988:132) is evidence that they are bison. What is needed to solve this identity crisis is not more rhetoric, but rather an empirically-based analysis of animal morphology. Since we cannot get into the heads of prehistoric artist(s) to discover the identity of the animals, we must do the next best thing and look directly at the art itself, not what should or should not be there. Only then will the species identification of the bestiary in question be empirically verified.
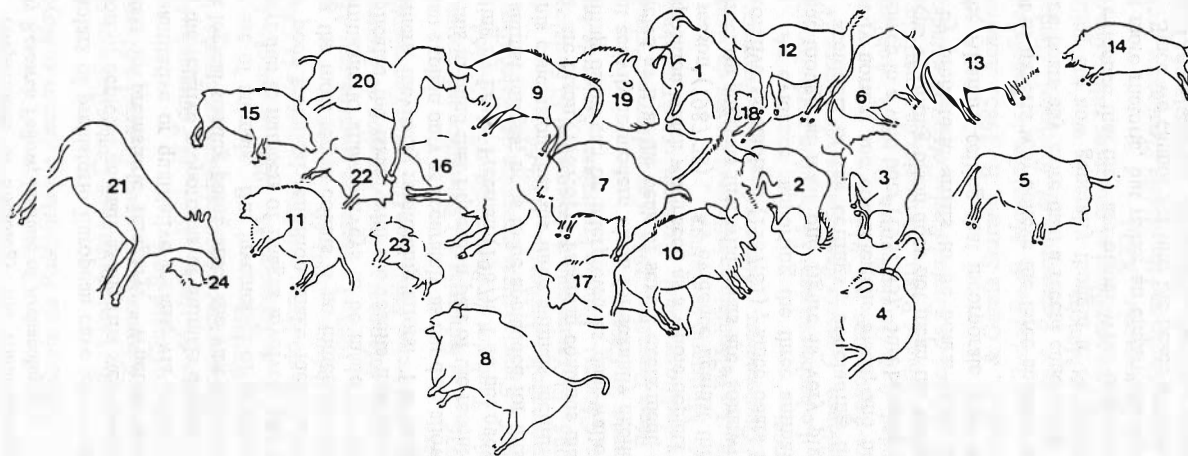
Fig. 1. The Altamira Ceiling (after Breuil 1935)   (from Apellaniz 1982)

It is assumed that prehistoric artists intended animals to look the way they appear in caves, except in cases of deterioration: i.e., if an image looks like a horse in every respect, it is assumed that the prehistoric artist intended the image to be a horse, not a bison in disguise as a horse!

Methods and Data

The central panel of the Altamira ceiling is made up of twenty-four animals. Because of the orientation of their legs and the overall unity of the panel, the animals appear to be in a single grouped 'scene'. The inventory consists of: one doe, one horse, nineteen bison, and three 'mystery' animals, called wild boars by many experts and bison by others (Breuil and Obermaier 1935; Freeman 1987; Leroi-Gourhan 1967; Sieveking and Sieveking 1962). Since two of the 'mystery' animals are shown in the same posture as twelve of the bison, morphological comparisons can be made between the two sets of animals. (The third 'mystery' animal will be discussed subsequently). Seven of the nineteen bison are not used in this comparison, as they are shown with their legs tucked up under their bodies, and are too incomplete for analysis. Figure 1 shows a rendition of Breuil's original drawing of the Altamira ceiling (after Apellaniz 1982), with the original numbering system. Animals numbered 14, 15, and 19 are the three 'mystery' animals. Animals numbered 14 and 15 will be compared to bison numbered 5, 6, 7, 8, 9, 10, 11, 12, 13, 16, 22, and 23, as they are comparable in posture.

Relative size of the animals is not used for comparison, since prehistoric people often did not use correct relative size in their art: medium sized horses can be seen next to very small mammoths or very large deer. The fact that the two 'mystery' animals are only slightly smaller than the twelve bison or the fact that the third 'mystery' animal - a head - is larger than some entire bison, is irrelevant.

Morphological comparisons are based on four ratios, the relative proportions of certain body parts of individual animals. The use of ratios instead of raw measurements compensates for different animal sizes. Originally, six ratios were made for each of the fourteen animals in the sample, and up to seven sources were consulted for each ratio. Multiple sources were consulted because the author was unable to take measurements at Altamira; photographs were used instead, and it is hoped that multiple sources will compensate for potential distortion caused by photography. In most cases, sources showed similar ratios; in a few cases, remeasurements were made. Two of the original ratios were dismissed because it was not possible to determine objectively where the artist intended the upper portion of limbs to end. Instead, ratios that involve limbs measure them from the feet or toes to where the limbs are clearly shown attached to the body of the animal.
1) Ratio between body length and body height. Maximum body length was measured from the animal's muzzle to its hindquarters (excluding the tail). Maximum body height was measured from the belly, using a 90 degree angle, to the maximum height at the top of the back.
2) Ratio between body length and total height. Maximum body length was measured from the animal's muzzle to its hindquarters (excluding the tail). Maximum total height was measured from an imaginary standing line between

the front and back legs, using a 90 degree angle, to the maximum height at the top of the back.

3) Ratio between total height at hindquarters and length of back legs. Maximum total height was measured from the back feet/toes to the top of the hindquarters. Maximum length of the back legs was measured from the feet/toes to where the limb meets the body. If two back legs are depicted, a point half way between them was used as the starting point.

4) Ratio between total height at forequarters and length of front legs. Maximum total height was measured from the front feet/toes to the top of the forequarters. Maximum length of the front legs was measured from the feet/toes to where the limb meets the body. If two front legs are depicted, a point half way between them was used as the starting point.

These four ratios provide two basic morphological indicators: 1) the shape of the animal's body (based on Ratios 1 and 2); and 2) the relative length of the legs (based on Ratios 3 and 4). These indicators can be used for both individuals and groups.

Findings

Table 1. Four Ratios+ based on morphological measurements of 16 animals on the Altamira ceiling

Animal # *	Ratio 1	Ratio 2	Ratio 3	Ratio 4
5	.54	.67	.53	.35
6	.62	.62	.38	.31
7	.66	.62	.48	.26
8	.69	.54	.44	.38
9	.56	.56	.42	.38
10	.54	.58	.53	.31
11	.50	.58	.43	.32
12	.49	–	.45	.39
13	–	–	.43	.35
16	–	–	.50	–
22	.53	.71	.40	.27
23	.46	.58	.35	.31
average	.56	.61	.45	.33
14	.38	.44	.71	.25
14a	.43	.51	.68	.24
15	.39	.50	.46	.37

* animals numbered as in original Breuil drawing.
+ see text for description of ratios used here.

The four ratios are shown in Table 1 along with an average for the twelve bison, as is possible to calculate. Item 14a is 'mystery' animal 14 as reidentified and redrawn by Freeman (1987, 84). Ratio 1 shows the ratio between an animal's body length and its body height. In the bison group, body height averages 56% of length; by contrast, the two 'mystery' animals show quite different ratios, 38% and 39% respectively.

Ratio 2 shows the ratio between an animal's body length and its total height. In the bison group, total height averages 61% of body length, while the total height of 'mystery' animal 14 is 44% of its body length and 50% for 'mystery' animal 15. Both ratios 1 and 2 suggest that the body mass of bison is 'chunky' and square shaped, while the body mass of the 'mystery' animals is longer, narrower, and rectangular shaped.

Ratio 3 shows the ratio between an animal's total height at its hindquarters and the length of its back legs. In the bison group, back legs average 45% of total height at the hindquarters, as compared to 71% in 'mystery' animal 14 and 46% in 'mystery' animal 15. 'Mystery' animal 14 appears to be an anomaly, with relatively long back legs and short front legs. Perhaps this is because the artist(s) attempted to show a leaping or running animal, with exaggerated back limb length.

Ratio 4 shows the ratio between an animal's total height at its forequarters and the length of its front legs. In the bison group, front legs average 33% of the total height at the forequarters, as compared to 25% in 'mystery' animal 14 and 37% in "mystery" animal 15. In general, Ratios 3 and 4 suggest that bison have relatively longer legs than the two 'mystery' animals.

It seems clear that animal 14 is not in the same category of animal as the bison group, since it falls outside the range of bison in every ratio. Even Freeman's redesigned 'streamline bison' (14a) does not fall within the range of any bison ratio. (See Table 1). Animal 15 is more ambivalent, as it differs from every bison in Ratios 1 and 2, but falls within the range of bison in Ratios 3 and 4.

If animal 14 is not a bison, as seems warranted from the comparison to bison ratios, what species is it? To help identify the species depicted, we must of necessity turn to a morphology comparison with contemporary animals. Since all three 'mystery' animals were originally identified by Breuil as being wild boars (1935), and at least animal 14 looks like a boar, a preliminary identification of wild boar is hypothesized, to be tested with empirical measurements.

The closest contemporary wild relative of *Sus scrofa* of the Upper Palaeolithic is the European wild boar, and the world-wide domestic pig is its descendant. If the ratios of any or all of the 'mystery' animals are similar to the ratios of both contemporary wild boars and pigs, it can be concluded that the 'mystery' animals are indeed wild boars. Ratios for contemporary bison will be compared to the ratios of the Altamira bison and act as a comparative group to the suids.

Data for these comparisons were obtained by photocopying pictures of contemporary wild boar, pigs, and bison from the literature as available. The same four ratios were compiled and are shown in Table 2 along with the ratios for the two Altamira 'mystery' animals and Altamira bison, obtained from

averaging ratios of all bison used in Table 1. As Table 2 suggests, the body shape of both 'mystery' animals is similar to contemporary suids and not similar to either Altamira or contemporary bison (Ratios 1 and 2). The two 'mystery' animals are relatively long and narrow like contemporary suids rather than square and "chunky" like either the Altamira or contemporary bison.

Table 2. Four Ratios+ of contemporary boars, pigs and bison compared to Altamira animals 14 and 15 and Altamira bison

Animal	Ratio 1	Ratio 2	Ratio 3	Ratio 4
domestic pig (N=6)	.38	.49	.40	.30
wild boar (N=4)	.34	.56	.42	.32
Altamira number 14	.38	.44	.71	.28
Altamira number 15	.39	.50	.46	.37
bison (N=7)	.50	.65	.52	.35
Altamira bison (average)	.56	.61	.45	.33

* ratios for pigs, boar and bison are given in averages.
+ see text for description of ratios used here.

Ratios 3 and 4 refer to relative length of legs. The apparent anomaly of 'mystery' animal 14's relatively long back legs is confirmed by the lack of similarity to either contemporary suid group in Ratio 3; animal 14 is not similar to bison in Ratio 3 either. 'Mystery' animal 15 is somewhat more similar to the two bison groups than to the suids in Ratio 3. But, in Ratio 4, which refers to the front end of the body, 'mystery' animal 14 is more similar to the suids than to either the Altamira or contemporary bison, as expected in a short legged animal. 'Mystery' animal 15 is more similar to contemporary bison than to suids in Ratio 4.

Conclusion

I conclude, like Breuil, that 'mystery' animal 14 is a wild boar. The morphology of animal 14 is very similar to contemporary suids in three of the four ratios, the anomaly of long back legs being the only non-suid trait. The species identity of 'mystery' animal 15 continues to be made difficult by its lack of preservation. Although it is similar to animal 14, now identified as a wild boar, in body shape (Ratios 1 and 2) and similar to contemporary suids in the same ratios, it is more bison-like in relative leg length (Ratios 3 and 4). Its overall appearance is neither bison nor boar-like, and it continues to have an identity crisis. As for the third 'mystery' animal, it will remain a mystery. It cannot be empirically measured for comparisons with either bison or boar, and the shape of the head defies certainty in species identification.

I look forward to seeing Freeman's promised monograph on the Altamira ceiling. It will be of interest to see if he justifies the differences in morphology between the bison and what has been empirically verified as a wild boar by this research. Given the continued identity crisis of the other two

animals on the Altamira ceiling, I am particularly interested in his treatment of those 'mystery' animals.

Acknowledgement

References

Apellaniz, J. M. 1982. *El Arte Prehistorico del Pais Vasco y sus Vecinos.* Bilbao: Deschee de Brouwer.

Bahn, P. G. and Vertut, J. 1988. *Images of the Ice Age.* New York: Facts on File.

Breuil, H. and Obermaier, H. 1935. *The Cave of Altamira at Santillana del Mar, Spain.* Santander: The Hispanic Society of America and the Academia de la Historia.

Freeeman, L. G. 1987. *Altamira Revisited.* Chicago: Institute for Prehistoric Investigations.

Leroi-Gourhan, A. 1967. *Treasures of Prehistoric Art.* New York: Abrams.

Rice, P. C. 1990. Rewiev of Images of the Ice Age. *Journal of Field Archaeology.* 17: 358-360.

Sieveking, A. and G. 1962. *The Caves of France and Northern Spain.* London: Vista Books.