

Observations on Upper Paleolithic art: old problems and new directions

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PREAMBLE

The following are the observations and reflections of an archeologist specialized in the prehistory of the later Upper Paleolithic —not those of an «expert» in rupestral or mobile art— although the author has excavated and analyzed collections of fauna and artifacts from sites which contain both forms of artistic representation. In visits to about 80 caves with Paleolithic art over the last 11 years, I have profited from the experience and wisdom of numerous expert cave guides —notably Sr. Felipe Puente of Santander— and academic specialists in the field. I hope my remarks will be taken as reasonable suggestions for further thought and research.

INTRODUCTION

With new analytical directions (and a wealth of new discoveries), the study of Upper Paleolithic art is making valuable contributions to our understanding of human behavior in late Würm France and Spain. One of the most important recent developments is the investigation of distributions of art styles and themes within the Franco-Cantabrian region. Through this work, prehistorians may be able to grasp the geographical extent and boundaries of hunter-gatherer group territories and/or spheres of substantial inter-group contact.

Two major problems affect the study of Paleolithic art style distribution: 1) the definition of behaviorally meaningful stylistic similarities and differences; 2) accurate, independent dating of

works of art pertaining to particular styles —both on cave walls/ceilings and on portable osseous/stone objects. Undeniably, the definition of distinctive styles (or unique themes) depends on having extensive and intensive experience in viewing Paleolithic art, and on a degree of subjective judgement, as well as a keen eye and memory. At this early stage in the study of regional and local styles, when we are dealing with a few clear-cut examples of very obvious similarities, the independent judgements of many observers often converge, as they have in the case of hallmarks of Pyrenean art. Nonetheless, the next stage in investigation will involve laborious efforts to objectify such similarities and to define more subtle ones. With regard to chronology, all attempts at defining interregional, regional and local stylistic similarities rest on *assumptions* (or, at best, weak arguments) of near synchrony in the execution of series of representations. The difficulties in objectively and precisely dating rupestral art are well known and are as yet unsurmounted. Only the detailed comparison of independently dated mobile art works with rupestral figures, and the meticulously documented excavation of instances of stratigraphic superposition (dated archeological deposits overlying sections of decorated walls or fallen blocks), which can at least provide *terminus ante quem* dates, may eventually improve this situation. At present, however, even the dating of many key works of mobile art is ambiguous, unsure, disputed or circular, as they were often found during early and/or poorly controlled, insufficiently documented excavations. In addition, assignment of collections to Breuil's numbered stages of the Magdalenian, for

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instance, only lends a false appearance of chronological certainty, as the strict *chronological* validity of such subdivisions is becoming increasingly questionable (see, for example, Allain 1979; Rigaud 1976, 1979). Ironically, very similar works of art found at separate sites could potentially be used as temporal diagnostics for the sites in question—at least in the relative chronological sense.

THE PYRENEO-CANTABRIAN ZONE

Keeping in mind the very real and serious problems of objective stylistic definition and dating yet to be resolved by students of Paleolithic art, several tentative observations can be made concerning distributions of styles in mobile and rupestral art in southwestern France and northwestern Spain. Prehistorians have long noted differences and similarities between Vasco-Cantabrian, Pyrenean and Dordogne art. Over 25 years ago, Malvesin-Fabre, Nougier and Robert (1953) pointed out the distinctiveness of certain aspects of Pyrenean art styles (see also, for example, Arambourou 1976: 1250 and Clottes 1976b, for discussions of the unity of the Pyrenean Magdalenian culture area). Two specific articles and a general book by Ann Sieveking (1976, 1978, 1979) have dealt with the paradox that while sites of the western and central Pyrenees manifest distinctive styles as a group (particularly in mobile art), strikingly similar objects or figures have been found far to the west in Cantabria and far to the north in Dordogne. Sieveking's is an interesting attempt to see these stylistic similarities in terms of (seasonal) Upper Paleolithic (specifically Magdalenian «IV»)¹ human movements. Such

movements have long been postulated (e.g. by de Saint-Périer 1920; Bégouën 1935: 128; and more recently by Bahn 1977), based not only on the distributions of such items as decorated *découpé* bone discs and horse head figurines and carved spiral-motif wands, but also on the presence of sea shells and other exotic imported materials in Pyrenean sites. The hypotheses of movements also rely on evidence from reindeer antlers and dentitions from a few sites, the known altitudinal movements of reindeer herds (a critical Magdalenian food resource in southern France) in mountainous areas of the world today, and on the great elevation and exposed position of many of the Pyrenean sites (especially in Ariège)—which likely made them uninhabitable during Last Glacial winters (but see the comparison of the caves of Les Églises and Rhodes II in the Tarascon-sur-Ariège basin with regard to year-round inhabitability [Clottes & Simonnet 1979]). For the Solutrean—not to be at all ignored in the attribution of rupestral and mobile art—farflung social contacts are suggested by the presence in the Pyrenees and Basque Country of a few concave base stone points, the center of whose distribution clearly lies in western Santander and eastern Asturias (Straus 1978).

In particular, the artistic unity of the line of Magdalenian sites along the northern edge of the Pyrenees stretching from Isturitz in the west to Fontanet in the east—not counting a few other sites such as Gazel and Belvis even further east near the Mediterranean, a distance of some 230 air km.—strikes Sieveking (and others) as remarkable. However, Sieveking repeatedly (1976: 583, 586, 595, 596; 1978: 64; 1979: 133-5) states that the similarities along this east-west axis are hard to ex-

¹ By insisting on placement of much of Cantabrian cave art in a «Magdalenian IV» just like that of southwestern France, Sieveking (1979: 136-40) argues that such a stage must per force have occurred in northern Spain and that most of its sites have subsequently been destroyed. Such a dogmatic application of the numbered Breuil subdivision scheme to Cantabria ignores the fact that the systematization of the Vasco-Cantabrian Magdalenian is in considerable disarray. It is unfortunate—as Sieveking's travail (which involves hypothetically attributing more open-air sites to the so-called Magdalenian IV than to other periods) demonstrates—that designations such as «Magdalenian III» were ever applied in this region. They present a false sense of secure chronological identity with subdivisions represented in France, and which at any rate may not be purely temporal in nature as industrial facies. Until a meaningful chronology of Magdalenian in-

dustries, based on radio-carbon dates from many sites, is devised for Cantabria, a bipartite distinction between early assemblages without harpoons and late ones with harpoons would seem more prudent than continuing to force collection into the 6-phase Breuil scheme for France. There is, for example, much variability among so-called Cantabrian Magdalenian III-IV lithic assemblages (e.g. high percentages of backed bladelets versus high percentages of thick endscrapers). Of course even a bipartite subdivision based on harpoon presence/absence is risky, at that might depend not only on age, but also on site function and vagaries of archeological sampling. In sum, if the fine subdivisions of the Magdalenian *industry* in France (as in Spain) are unlikely to be solely temporal in nature, it is even more questionable to apply the *French* numbered designations to *art* in Spain, and then to try to explain the lack of similarly designated assemblages in Cantabria.

plain for reasons of topography. Comparing the Pyrenees to a fish spine, she argues that movements of game and men would have been in the north-south direction, following the orientation of river valleys on the French side of the chain. She rejects the hypothesis that individual hunter-gatherer groups passed the summer in the Pyrenees and then wintered in the Dordogne, but believes that Pyrenean groups moved into the Aquitaine Basin in winter, thereby coming into contact with more sedentary Dordogne groups nearby. The lack of sites which she claims for that area is explained away as a case archeological «invisibility». Not only would Dordogne and Pyrenean groups meet in the Aquitaine Basin, but, according to Sieveking's theory, it was there that the Pyrenean groups themselves—supposedly separated by mountain ridges when in their summer range—would make social contact (with ceremonies, intermarriage, etc.) and presumably exchange art works and share styles of decoration. Because east-west movement *per se* seems to be ruled out by Sieveking, her theory requires far-flung movements of people within the whole area north of the Pyrenees to explain, on the one hand, the close intra-Pyrenean artistic similarities, and, on the other hand, the more isolated instances of a few Pyrenean-like objects found in Dordogne sites. Presumably the presence of Atlantic and Mediterranean shells in Pyrenean sites would also be explained by Sieveking's theory not by simple east-west contacts or movements, but rather by these north-south movements and contacts made in the Aquitaine Basin.

However Sieveking's north-south migrations do not explain the similarities she herself so well demonstrates between Vasco-Cantabrian and Pyrenean sanctuaries and mobile art. The human contacts responsible for these must *per force* have been along an east-west axis along the north face of the Pyrenees-Cantabrian Cordillera. While there must have been at least short altitudinal movements (e.g. La Vache/Rhodes II. —Mas d'Azil/Enlène, a distance of 40-50 km., as argued by Clottes & Simonnet [1979]) during the late Würm between mountain and foothill/foreplain sites, scrutiny of detailed contour maps (such as the 1:100.000 series of the Institut Géographique National) and some experience with the terrain suggests that *direct* contacts along an east-west axis, extending in fact along the Cantabrian coast, were not at all impossible.

The central and western Pyrenees, together with their western continuation—the Cantabrian Cordillera—run in a straight line along the 43rd parallel, presenting an abrupt and fairly continuous north face. Below this range, to the north, lie low foothills and plains. Although these ante-Pyrenean plains are drained by a few major rivers and many streams which begin their upper courses in a south-north direction, there are no significant barriers to east-west movement (e.g. mountains). On the contrary, a major section of the upper Garonne valley and the whole Gave de Pau valley are oriented basically *parallel* to the Pyrenees. In many sectors the Pyrenees (and Cordillera) consist of several parallel ranges which ascend sequentially in height toward the summit line of the chain. Between these ranges lie major east-west valleys, only the highest of which were glaciated in the late Würm.

The Pyrenean sites (mostly Middle and Upper Magdalenian) lie generally in the low foothills just to the north of the first major range, at strategic breaks in a frontal range, in major east-west valleys north of the high, principal ranges, and fairly low in interior mountain valleys. However, only in the cases of Fontanet, Les Églises, La Vache, Niaux, Rhodes, Bèdeilhac and Massat are sites truly in high mountains (but below 1000 m. for the sites themselves) (see Clottes 1976b: 1229). Only in the first four instances would all movement really be restricted to a north-south axis—and that is the case for only a short distance down the Ariège until major east-west valley routes would have been open and available. Despite the mountainous nature of the topography, neither distances nor physical difficulties are great in separating the numerous sites of the Ariège, many of which contain works of art which are strikingly similar one to another. The drainages of the Ariège and Salat (and their tributaries) provide a dense lattice network or easy north-south *and* east-west passages throughout the foothill ranges in the sector from Fontanet to Montespan, which is located near the Salat-Garonne confluence. Following the broad, flat Garonne-Neste plain westward, one passes Gourdan, Gargas and Lorthet, with the caves of Lespugue only about 14 km. to the south of the Garonne (and at elevations of only about 300 m.). The hilly interfluvium between the Neste and Adour valleys (one of the few «barriers» to east-west movement), via the modern day village of Mauvezin and the courses of

the Luz and Arros streams, is low (c. 500 m. as maximum elevation). A slightly more circuitous route toward the west runs through the modern villages of Tourhay and Bordes, and is even easier. Beyond Lourdes (with its cave site), the route due west along the northern Pyrenean wall to the caves of Arudy, Arbailles, Isturitz, Sare, Berroberría (near the international border in Navarra) and on to Aitzbitarte in Guipúzcoa is broken by low, rolling hills, typical of the Basque Country in general. However it is not blocked by any mountain range, except the rather isolated Monte Rhune (900 m.), near the Atlantic coast. Foot travel—like the modern secondary roads—would have followed valleys of the numerous small streams of La Soule and Labourd. Easy passage following the east-west axis of the mountain chain can be effected either along the coast (between Rhune and Jaizkibel, or beyond the latter during glacial sea level regression) or through the low Lisuraga and Lizarrieta passes between the cave sites of Sare and Aitzbitarte. Movement from Arudy and Arbailles northwesterly toward Duruthy and the other sites of Sorde, as well as those of Chalosse in general (e.g. Brassempouy), would have been even easier, down the valleys of the Gave d'Oloron and the Saison, respectively. The string of *known* sites (of all Upper Paleolithic ages) is now fairly continuous and dense, not only for the \pm 230 km. distance between Isturitz and Fontanet, but also for another 400 air km. westward beyond Isturitz along the Cantabrian coast to the site of Peña de Candamo and the other sites of the Río Nalón in Asturias (the end of predominantly limestone bedrock—with karst). Naturally, the distribution of known sites of any given period is somewhat sparser than the total Upper Paleolithic distribution. In addition, probably many (if not most) once extant sites have long ago been destroyed or deeply buried (or are yet to be discovered). Nonetheless, the linear arrangement of the Pyreneo-Cantabrian sites is obvious and real—especially for the Magdalenian. This alignment of sites to the north of the mountain chain forms an extended unit, irrespective of the modern political boundary which arbitrarily bisects the Basque Country at the Bidasoa River. Human groups from one

end to this alignment to the other would have been in at least indirect contact, as suggested by the distribution of cave art sanctuaries of Sieveking's (1979: 156-76) «black outline» group, as well as by striking specific similarities in the paintings of such distantly separated pairs of caves as Niaux and Santimamiñe (350 km. apart) and Ekain and Tito Bustillo (230 km. apart), and in the mobile art wolf-cervid motif found at El Pendo, Lorthet and Mas d'Azil (the former and latter being separated by 420 air km.), etc. (Sieveking 1978; see also Apellániz 1978: 145-6).

South of the mountain range there is only the scantiest of evidence for Upper Paleolithic occupation of the high tablelands of northern Spain—even where there has been intensive searching, as in northern Burgos (Clark & Straus 1979: 248-51)² Sparse Upper Paleolithic occupation of areas immediately to the south of the range—probably due to relatively less favorable environmental conditions and resources—serves as an indicator of the reality of the pattern of occupation to the north of the mountains. Although the principal game species of Cantabria (red deer, ibex) and Pyrenean France (reindeer, horse, ibex) differed, there can be no doubt that significant contacts took place along the east-west axis outlined above, at least during the Solutrean, Magdalenian (and Azilian) periods. These contacts are clearly reflected in basic similarities in the lithic and bone industries and in the rupestrial and mobile art or the Vasco-Cantabrian and Pyrenean areas.

Support for Sieveking's (1976: 590) belief that the Pyrenean and Dordogne Magdalenian groups were separate (though perhaps related by loose kin or other ties) comes from recent analysis by Delpéch (1978: 111) of the reindeer remains from the site of Duruthy in Chalosse, at the confluence of the Gaves d'Oloron and Pau. The Tardiglacial Duruthy reindeer are larger than those of the Dordogne sites (perhaps due to a more favorable environment at the time). They constituted a separate population, migrating in summer not northward, but probably south-east-wardly into the Pyrenees for high

² The best indication of Upper Paleolithic occupation in northern Burgos is the cave art in the cave of Penches—engravings, not paintings as reported by Sieveking (1979: 53). The other examples of cave art in the region are of more problematical

age and the alleged sites, such as La Blanca, represent at best only very ephemeral habitation. Several of the sites near Oña were probably principally carnivore lairs, only occasionally used by Stone Age men.

pasture. Duruthy would seem, from the evidence of reindeer dentition and antlers, to have been occupied in winter, at least some of its inhabitants having gone up into the mountains to continue hunting reindeer in summer. Obviously the exact periodicity, extent and direction of such movements up and down along the north slope of the Pyrenees are unknown. High mountain sites in the Ariège, Vicdessos and Saurat-Arac valleys of the central Pyrenees were certainly the sorts of places which were occupied by mobile groups of hunter-gatherers who wintered at least slightly to the north (or northwest) at more sheltered low altitude sites. The contacts among groups along the Pyrenees-Cantabrian Cordillera would have been governed by such factors as game movement patterns and be social mechanisms for intermarriage, collective multi-band ceremonies (e.g. initiation) and hunts (perhaps during times of herd migration through strategic passes or gorges) and interchangeable band membership (through real and fictive kinship bonds, for example). A degree of fluidity in interband social relations is certainly suggested by the widespread commonalities apparent in art of this zone, even though cave art sanctuaries may well have served as foci for ceremonies to reinforce the territorial identity of subregional multi-band units in this era of manifestly growing human populations and dependence on hunting. Compared to the apparently dense network of contacts along the east-west cordilleran axis, the contacts between Cantabria/Pyrenees and the Dordogne may have been somewhat more tenuous, although Upper Paleolithic sites are in fact fairly numerous in the intervening region of the departments of Tarn-et-Garonne, Tarn, Lot-et-Garonne, Lot and Gironde, helping to explain the Pyrenean elements in some Dordogne sites like Laugerie-Basse (see relevant chapters in de Lumley [1976]; Clottes [1976]; Rigaud and Vandermeersch [1976]).

Interestingly, the maximum extent of the distribution of Upper Magdalenian *découpé* heads (excluding those of Laugerie-Basse) is about 220 km. from the southern Landes to the Ariège. The maximum extent of Solutrean/early Magdalenian *bas reliefs* on cave/shelter walls in Charente and Dordogne (Roc de Sers, Roc au Sorcier, Chaire-à-Calvin, Fourneau-du-Diable and Cap Blanc—all with animal sculptures) is about 190 km. (La Magdaleine in Tarn—with human female figures—is another 100 km. to the southeast). These distances are about the same as that separating the similarly painted caves of Ekain and Tito Bustillo in Cantabria for example, and may provide an idea of the scale of the areas linked by

social networks in the Upper Paleolithic which manifested themselves in art styles. Contacts (direct or indirect) over distances of 200-400 km. are suggested by the data presented earlier. Recent discoveries of *contours découpés* in middle Magdalenian levels at El Juyo in Santander (González Echegaray and Freeman personal communication) and at La Viña in Asturias (Forkea 1981) are the first such finds in Cantabrian Spain. They indicate once again the existence of direct or indirect contacts between hunter-gatherers over very great distances. La Viña is in fact about 370 km. west of Isturitz.

LOCAL STYLES

While it seems undeniable that major regional style zones exist for Upper Paleolithic art, a less well-known phenomenon is that of localized peculiarities in rupestral and mobile art figures. While the major distributions, with geographical extents in the hundreds of kilometres, may have been the result of interacting hunter-gatherer bands, the localized distributions of particular art styles or themes may be the direct products of *individual* bands (or a few bands sharing the same restricted territory). Whereas the regional style zones may have resulted from far-flung contacts based on migrations, kinship ties, overlapping territories, exchange, etc., the much more detailed similarities to be found in geographically localized styles which serve to set the art of particular small-scale areas apart from that of others, suggests a greater degree/intensity of social intercourse among people co-resident on the same territory. In some cases the *same artist* may have executed all or many of the figures in question, or «students» may have copied his style. A number of such localized distributions can be singled out. Distributions on the order of 5-90 km. are indicated, with distances of 30-35 km. frequently defining the maximum extent of local art styles. All distances are given in air km.; real distances would have been somewhat greater in many cases.

In Lot, separated by about 35 km., are three very unique anthropomorphic figures pierced with numerous «darts» or «arrows»: 2 in Cougnac and one in Pech Merle. In addition to these distinctive paintings, there is another such figure engraved on a limestone plaque found in the Upper Solutrean deposit of Louradour rockshelter in Cabrerets near Pech Merle (Lorblanchet 1974: 82; 1976: 140-1). Lorblanchet describes the Lot caves as pertaining to a very particular artistic province within the general Franco-Cantabrian context. (See also Smith 1966 382).

Two very similar antler «têtes de propulseur» sculpted with the «faon à l'oiseau» motif from Bédeilhac and Mas d'Azil have been described by Robert (1953). The sites are about 28 air km. apart; the former being at about 700 m. elevation in the second major Pyrenean range of the Ariège (Massif de l'Arize) and the latter at about 300 m. in a gap through the first range (Montagnes de Plantaurel). While these two particular masterpieces are so similar as to have possibly been the work of the same sculptor, other pieces with the «faon à l'oiseau» motif have been found at other Pyrenean sites (Sieveking 1976: 600).



FIG. 1. *Serpentine Figure in La Meaza (Santander).*

While negative hand prints are found in several cave art localities (notably in El Castillo in Santan-

der), the adjacent caves of Gargas and Tibiran on the edge of the Pyrenees (Hautes-Pyrénées) contain uniquely similar mutilated and prints, suggesting execution by the same group (Sieveking & Sieveking 1962: 195; Barrière 1976: 127). The unique modelled clay figures of le Tuc d'Audoubert, Montespan and Labouiche (see Clottes 1976b: 1228) all lie along a line 60 km. long, parallel to the Plantaurel Massif. (The former two are within 30 km. of one another). A fourth cave with a clay sculpture (but, in this case, undetached) —Bédeilhac— is about 15 km. from Labouiche. Simonnet (1976: 87) sees close similarities between the paintings of the Galerie Vidal at Bédeilhac and those of Marsoulas, 55 air km. to the northwest, due west of Mas d'Azil, in the Salat valley. The localizations in the Pyrenean area are most striking.

In the Les Eyzies area of the Dordogne, Font de Gaume, Bernifal and La Mouthe, all lying within 5 km. of one another, are known for their similar painted or engraved hut-like tectiforms. In the same area and also within 5 km. of one another, Les Combarelles, La Madeleine, Laussel and Les Eyzies (site) each has an engraved figure of anthropomorphs with a staff, branch or spear over his shoulder (e.g. Marshack 1970: 202-9). Sieveking (1979: 107) points to detailed similarities in engraved mammoths from Font de Gaume, Bernifal and Rouffignac, also in the Les Eyzies area and maximally separated by 10 air km.

In Cantabria, Apellániz (1978: 125-34) has recently drawn attention to notable similarities among certain paintings (usually red, tampon-executed hinds in outline) in caves of eastern Santander and western Vizcaya: La Pasiega³, the adjacent sites of La Haza and Covalanas, and Arenaza. Perhaps the most striking resemblances are between figures in the pair of caves in Ramales de la Victoria (Santander) and those of Arenaza (Gáldames, Vizcaya), about 30 air km. to the east. La Pasiega, in the Monte Castillo group (Puente Viesgo), is some 40 km. from Ramales, giving this group an overall east-west extent of about 70 air km. Other elements —elongated grid-shaped figures— of the probably multiphase sanctuary of La Pasiega bear striking

³ «La Pasiega» does not translate in English as «The Passage», as Sieveking (1979: 180) would have it. Monte Castillo dominates the valley of the Río Pas, and a «Pasiega» is a female inhabitant of

the rural areas of the headwaters of that river in the townships of La Vega de Pas, San Pedro de Romeral, as well as San Roque, in the upper valley of the Río Miera.

similarities (in execution, form and placement) to figures in adjacent Castillo cave. And, in turn, all these figures at Monte Castillo (in interior foothills of the Cordillera) are similar (again in style and location within the cave: deep recesses) to others in the difficult rear passage of Altamira, 16 air km. away on the coastal plain of Santander (Alcalde del Río *et al.* 1911; Breuil *et al.* 1913; Breuil & Obermaier 1935). Other very close similarities between Castillo and Altamira lie in the famous engraved heads of hinds (and other animals) on cave walls and on scapulae (Almagro 1976; Breuil & Obermaier 1935). Here there is an apparent chronological discrepancy, since the Altamira scapulae were found in an Upper Solutrean level by Alcalde del Río, whereas the virtually identical Castillo specimens were uncovered in the Lower Magdalenian by Obermaier. This helps to reinforce the impression of great similarity (and possible chronological overlap) between the two industries (see Straus 1975a, 1977a). To be sure, parallels can be drawn between some of the Santander tectiforms and those of El Buxú (Obermaier & Vega del Sella 1918) and between the engraved rupestral deer of Castillo/Altamira and those of Llonín, near Buxú in eastern Asturias (Berenguer 1979: 31). The Asturian sites are about 90 air km. from the central Santanderine sites, a distance comparable to that which separates La Pasiega and Arenaza, the poles of the red tampon figure group. A group of a somewhat different grill-shaped tectiforms has been described in eastern Asturias by Jordá and Mallo (1972: 28-29) at Las Herrerías, Llonín and Tito Bustillo. These sites are maximally separated by 33 air km.; the first and the last are on the coastal plain and the second is near the flanks of the Picos de Europa.

One final example of a localized distribution of a peculiar cave art form involves three similar instances of a natural «vulva»-like hole in a wall outlined by a row of red dots of thumbprint size. This is to be found at Cueva Chufín in hilly, interior western Santander and in Mazaculos and La Riera caves in coastal, eastern Asturias (Alcalde del

Río, Breuil & Sierra 1911: 82-3; Almagro 1973: 23; Mallo & Suárez 1973: 22)⁴. Chufín is a known late Solutrean site and La Riera has many Solutrean levels, including one of the same radio-carbon age as the Chufín deposit: $\pm 17,000$ B.P. Upper Paleolithic deposits have not yet been found below the Asturian shell midden in the mouth of Mazaculos. The area defined by these three sites extends 38 air km. —a distance on the same scale as the other localized stylistic groupings cited earlier.

There is, to be sure, a degree of subjectivity in the definition of all of these localized groups of sites, but all of these examples do suggest that the study of local styles and themes in Upper Paleolithic art is an important subject for future research. Mapping the geographical extent of such distributions could make a valuable contribution to our understanding of the size of areas utilized by functioning social units during the last several millennia of the Würm. Naturally such estimates would ultimately rely on the *assumption* that *our* tightly defined styles in fact were the products of particular artists or members of the same «schools» of art. This is of course a general problem in many other lines of archaeological research (or in conventional art history). Whatever the reasons for the striking similarities in rupestral and mobile art noted here, analysis of the styles and motifs and the plotting of their geographical distribution combine to clearly suggest a possible relationship between territorial human groups and their «traditional» art styles (or the styles of their «great masters» or «schools»).

Simonnet (1976: 88) has neatly summarized the difference between a «Magdalenian world» which clearly stretched from one end of the Pyrenean chain to the other and geographical units of a «narrower, more daily» nature. Specifically he believes that the sites of the upper Ariège (Bèdeilhac, Niaux) may have formed part of the same Magdalenian settlement system as sites of the lower Planaurel area (Mas d'Azil, Enlène). There are clearly two general distributional phenomena involved: far-flung style zones marking intergroup contacts (though indivi-

⁴ To the right of the La Riera outlined hole is a second group of dots described by Mallo and Suárez. They do not report a third group of about 35 similar (but very faded) brownish-red dots located some 15 cm. to the right of the second group and 7 cm. above the travertine crust which caps the cave deposits. This third group of dots is in the form of a rectangle measuring about

20 × 35 cm. A very similar arrangement is found to the right of the outlined hole in Cueva Chufín (Almagro 1973: Plate XVb), and generalized geometric arrangements of red dots are common, especially in Asturian caves (but also in French caves such as Marsoulas).

dual movements, seasonal transhumance, exchange/ceremonial networks, etc.) and localized groups, at least during particular aspects of their seasonal round.

DATING CAVE ART: THE VASCO-CANTABRIAN SOLUTREAN

Efforts need to be redoubled at demonstrating the age of rupestral art, but independent, objective resolution of this key problem will not come easily. Besides comparing mobile art from dated ar-

cheological deposits with rupestral art figures in order to date the latter, one way of beginning to work out the chronology of rupestral art (in the absence of actual superpositions of deposits over parietal figures) is to take into account the age of archeological sites associated with the same caves that bear art works on their walls or ceilings. While Breuil (e.g. Breuil & Obermaier 1935) minimized the importance of Solutrean art, the record of associations between decorated caves and Solutrean deposits in Vasco-Cantabrian Spain is impressive. It may be summarized as follows:

Art Caves with Probably Only Solutrean Deposits

La Haza (?) (Corchón 1971: 157-8)
 La Pasiega (Straus 1977b)
 Chufín
 El Buxú (Straus 1975b)
 Peña de Candamo

Art Caves with Solutrean and Other Upper Paleolithic Deposits

Santimamiñe
 El Salitre
 El Pendo
 El Castillo
 Altamira
 Morín (Cueva del Oso)
 Hornos de la Peña
 Balmori
 La Riera
 Cueto de la Mina
 Isturitz
 La Viña

Many other Solutrean sites are located adjacent to art caves with no known archeological deposits (e.g. Covalanas, Las Monedas, Las Chimeneas, Santián, Las Aguas, La Clotilde, Micolón, Las Herrerías, Les Pedroses, etc.). Solutrean-age artists *could* have been the authors of some or all the figures in such caves, although the evidence is even more circumstantial than is that of cases where Solutrean occupation residues are physically associated with parietal art in the same caves. These data, assembled as an appendix to my doctoral thesis on the Cantabrian Solutrean (Straus 1975b), lend support to the idea held for some 25 years by Jordá (e.g. Jordá 1955, 1964, 1968) (and most recently restated by him in 1978) that the Solutrean was a period of great artistic activity (*pace* Sieveking 1979: 138). Naturally the presence of archeological deposits (even if pertaining to only a single period) does not constitute *proof* of the age of paintings/engravings in the same cave, but it does logically provide a substantial lead in the resolution of this major question. (Smith [1966: 376-84] provides an excellent

summary —only slightly out-of-date now— of the question of attributing cave art —notably the *bas relief* friezes of southwestern France— to the Solutrean period).

POSTSCRIPT: ILLUSIONS IN CAVE ART ORIGINALS AND COPIES

One final observation concerns the use of copies of figures for interpretation. Faithful as copies such as those of the Abbé Breuil might be, there is no substitute for direct observation of cave art, as changing conditions of lighting and humidity can make a big difference in what is visible on any particular occasion. A case in point concerns the well-known figure in the Santanderine cave of La Meaza, published by Alcalde del Río, Breuil and Sierra (1911: 51). Its drawn by Breuil as an «anchor» shaped figure composed of 3 parallel series of dots, the left arm of which continues downward faintly to join with a section of darker dots. At that point, according to Breuil, the figure stops. Based on the

published copy of this La Meaza figure, Mr. W. Williams (personal communication, 1979) attempted a most ingenious interpretation based on the female reproductive apparatus and cycle.

However, on July 4, 1979, Ms. K. Slighton, Sr. Felipe Puente and myself confirmed the finding of Andérez (1953) that the figure copied by Breuil is only the most visible right-hand part of a larger serpentine figure with at least 2½ full loops. The triple row of dots continues to the left, forming a full loop beyond the somewhat isolated section of dark dots shown by Breuil (Figure 1). In fact, the full figure is in form (though not in technique of execution) rather similar to a serpentine figure in the cave of Llonín (Berenguer 1979: 15 and Plates 1 & 2). The two caves are about 35 air km. apart. La Meaza is on the coastal plain and Llonín is in the interior foothills. Felipe Puente, who as Chief of Cave Guides in Santander had of course seen the La

Meaza figure many times before, was not surprised at the difference between what Breuil «saw» and what Andérez and we «saw», as he is very familiar with the effect of changing humidity on the visibility of parietal paintings. The conditions of humidity in La Meaza happened to be «just right» for bringing out the faint additional dots on the day of our visit. Alcalde del Río, Breuil and Sierra (1911: 52) note, in fact, that «very active condensation on the wall has spared only a small panel», suggesting that they had suspected there was or had been more painting at La Meaza. It is instructive to reflect upon the risk run by visually interpreting (sexually, calendrically, or otherwise) figures which may be only partially visible —let alone published copies of figures which may be very partial due to conditions at the time of copying. The value of *detailed* photographic documentation (like that being undertaken by M. Lorblanchet or A. Marshack) becomes apparent⁵.

⁵ I wish to acknowledge very useful conversations with M. Jean Vézian, owner and excavator of the cave of Le Portel, concerning the distribution of sites and possible routes of human movement along the Pyrenees, particularly in the Ariège. I also wish to thank all those people who have shown me the decorated caves of France and Spain, notably S. de Saint-Mathurin, L.

Duport, Cl. & Ch. Archambeau, J. Gaussen, L. Plassart, P. Daubisse, J. Marsal, J. Clottes, R. Bégouën, A. Plenier, C. Rivenq, A. Alteirac, R. Gailli, C. Barrière, J. Zabala, D. Bengoechea, J. González Echegaray, M. González Morales, G. Gil Alvarez, D. Pérez and J.-A. Bullón, as well as J. Vézian, F. Puente (and associates) and many others. F. Jordá kindly provided the Andérez reference.

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