ROMAIN PIGEAUD

THE HORSES AT THE PARPALLÓ CAVE (GANDIA, VALÈNCIA, SPAIN)

Se estudian 165 plaquetas grabadas de la Cova del Parpalló, de las que 115 contienen una o varias representaciones de caballos que siguen las mismas grandes tendencias sugeridas por Villaverde. Es posible, con todo, señalar la existencia de dos subtendencias: por un lado un creciente grosor de los trazos, y por otro la consecución del volumen a través de trazos múltiples y repetidos. La tendencia a desarrollar el volumen está en correlación con el alargamiento del cuello y la representación dinámica del pecho, mediante una línea oblicua proyectada hacia adelante. Nuestra intención es, además, poner de manifiesto las concomitancias que se registran en el Solutro-gravetiense entre los cambios en la alimentación, la industria lítica y las formas de representación de los caballos, más dinámicos y proyectados hacia delante. Estas convenciones, que se dan también en otras especies representadas, se observan en los yacimientos andaluces de Trinidad de Ardales y Nerja, situados a 500 km al S de Valencia y considerados parcialmente contemporáneos de esta fase cultural.

Palabras clave: *Cova del Parpalló, caballo, plaquetas, criterios estilísticos, animación, proyección. Ardales, Nerja.*

We studied 165 engraved plaquettes of the Parpalló cave. 115 of them with one or several horses. The evolution in representing horses follows the same « heavy » tendency that Villaverde showed up. It is possible, however, to make evident two sub-tendencies : one is the growing thickness of the strokes; the other one is the setting of volume by accentuation of multiple and repeated strokes This tendency to develop the volume is in correlation with the lengthening of the neck and a dynamic representation of the breast, in an oblique line and projected forwards. We just want to point out an interesting phenomenon, a tendency, concomitance, at the Solutreo-Gravettian, of changings in the nutrition, the lithic culture and the manners to represent horses, more dynamic and projected forwards. These conventions which we can observe too on other represented animal species, can be found too in andalusian sites, 500 km south from Valencia, considered partly as contemporaneous of this cultural phase : the caves of La Trinidad at Ardalès and at Nerja.

Key words: *Parpalló cave, horse, plaquettes, stylistic criterion, dynamic, projected, Ardalès, Nerja.*

PROBLEMATIC

The Parpalló cave (Gandía, Valencia, Spain) is a major deposit for our unterstanding of the evolution of palaeolithic art, but it suffers from a bad reputation in France, first because the excavations are ancient (1929-1931) ; apparently there are no solutions of continuity between the different individualized archaeological layers so that the limits (bounds) of these layers are rather indistinct, specially those of the transition from one chrono- cultural period to another (limit between the Solutrean and the Solutreo-Gravettian, for instance) ; secondly because of the style of the representations which seems, at a first analysis, to be very homogeneous and continuous in duration, in contradiction to the current synthetic theories in the fifties and sixties which considered the palaeolithic art as an evolutionary process from most schematic representations to most photographic realism (Breuil 1952, Leroi Gourhan 1965).

The apparent homogeneity of the representations, during 22000 years, is problematic. In fact, if the definition of James R. Sackett is right and : if the style (a) concerns a very specific and characteristic manner to do something and (b) if this manner to do something is always particular to a given place and a given time (Sackett, 1977, 370), is it then possible to define a style at the Parpalló, since there is a unity of place, but not of time nor of manner ? The studies of Valentin Villaverde Bonilla (1994), on the contrary, show that beyond this apparent continuity, due to the simplicity of the drawing, the art of Parpalló presents certain “pulsations”, tendencies that are more or less linked

to stratigraphy and allow to invidualize tendencies, which were, in the beginning, common to the palaeolithic franco-cantabric and european art, but at the Magdalenian era, there was, to his opinion, a greater regionalisation with the apparition of a rather original art (Villaverde Bonilla, 1992, 378 ; 2002, 42).

To our opinion, the art in the Parpalló cave belongs essentially to a stylistic current, to a tendency of representation that we proposed to call *art de la silhouette* or the art of representing animals in a stylized manner that was predominant in Europe from the Aurignacian to the end of the Solutrean (between about 43.000 and 18.000 years) (Pigeaud, 2004, 2005). It then was overtaken by the naturalistic art of the magdalenian period (from about 17.000 to 9.000 years). Now, at the Parpalló the *art de la silhouette* seems to persist for a longer period than elsewhere and the naturalistic tendency to emerge progressively. So it was quite interesting to test our theory by examining the collection on the spot.

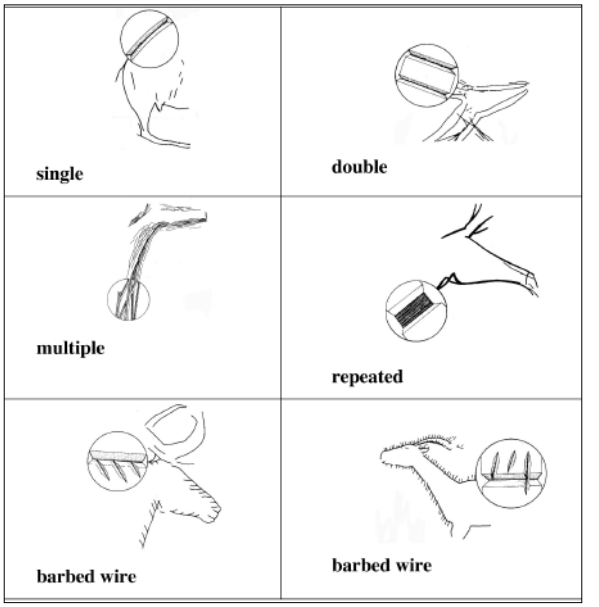

Table 1 : stroke types found on the plaquettes of the Parpalló. After Villaverde Bonilla, 1994.

PRESENTATION OF THE SITE

The first excavations in the Parpalló cave were done by Pericot Garcia between 1929 and 1931. Numerous studies (see Tiffagom 2003, for detailed history) on the iberic Solutrean of the Parpalló as well as radiocarbone datations and comparisons with other sites nearby, like the cave of Malletes, allowed to correct afterwards the first interpretations made by Péricot. So that globaly we may consider the stratigraphy of the cave as the succession of prehistoric cultures like this : first a Gravettian, between 29.650 ± 560 years BP (C 14 date for the Aurignacien of Malletes) and 21.710 ±650 years and 20.490 + 900 -800 years (C 14 dates for the lower Solutrean at Malletes and at the Parpalló) ; then a lower Solutrean (dated from 20.490 + 900 – 800 years BP, correlated by the Solutrean of the cave of Malletes, dated from 21.710 ± 650 years BP ; the middle Solutrean is near to the middle Solutrean of Malletes, dated from 20.140 years BP. There are two subdivisions, the ancient middle Solutrean and the upper middle Solutrean ; the upper Solutrean is dated from 18.080 + 850-750 years BP. Then there is a Solutreo-Gravettian feature, made certain by a series of radiocarbone datations on sites nearby, between 19.700 and 16.500 years BP. This period is subdivided into Solutreo-Gravettian I, II and III ; finally the ancient Magdalenian which is subdivided into a phase A and a phase B. The last is ascertained between 13.800 ± 380 (layer of the Parpalló) and 13.960 ± 200 years BP (site of Matutano). As for the upper Magdalenian, it is dated between 14.000 and 11.000 years BP, once more in correlation with sites nearby.

The Parpalló collection consists in 5.034 plaquettes with 6.245 engraved or painted surfaces. Thanks to the studies of Valentin Villaverde Bonilla it is possible to get an idea about the general evolution of the art of the Parpalló; he classified the plaquettes in two great groups: the Solutrean and the Magdalenian, excluding the Gravettian, very low in plaquettes (Villaverde Bonilla, 1992, 377 ss. and 2002).

First phase : the ancient Solutrean : Villaverde Bonilla includes in this phase the Gravettian and the lower and middle Solutrean. The characteristics of this phase are based on the plaquettes of the middle Solutrean, the most important in number : These characteristics are essentially: important representations with absolute profile (followed by representations in straight bi-angular perspective, then in oblique bi-angular perspective[1], with double outline engravings (table 1) ; the single stroke is nevertheless predominant, followed by the technique of multiple strokes ; convention to represent the legs as an arch[2] ; disproportion between the size of the body and the size of the legs ; legs not finished, without extremities, « open » ; no bend (inflection) at the contact between the lines of the jaw and the neck, there is one curved stroke ; horses with « duck-bill » and « crest-mane[3] » ; frequent

G	1
SI	6
SMA	12
SMS	8
SS	11
SG I	17
SG II	6
SG III	6
MAA	6
MAB	11
MS	13
GAL	12

Table 2 : Number of horse representations following cultural phases (G : gravettian; SI : lower solutrean ; SMA: ancient middle solutrean; SMS: upper middle solutrean: upper solutrean: SG I : solutreo-gravettian I; SG II : solutreo-gravettian II; SGIII : solutreo-gravettian III; MAA: ancient magdalenian A; MAB: ancient magdalenian B; MS : upper magdalenian; GAL: galery).

animations ; relief obtained by scraping, striated engraving or coloring.

Second phase : the developed Solutrean: this phase includes the plaquettes of the upper Solutrean and of the Solutreo-Gravettian ; this period goes from 19.000 to 16.000 years BP. The principal characteristics of this phase are: diminution of the size of the plaquettes ; the technique of the multipl strokes becomes predominant, decline of the straight bi-angular perspective and increase in the oblique bi-angular perspective and in the absolute profile ; timid appearance of the naturalistic mono-angular perspective ; important striped engravings during the upper Solutrean ; a better mastery of the proportions and almost entire disappearance of the gestation aspect ; the contact between neck and jaw is articulated ; anatomic details appear more frequently ; the end of the nose is mostly achieved ; during the Solutreo-Gravettian appears pictography , absent in the upper Solutrean ; appearance of bi-colouring during the Solutreo-Gravettian and of paintings where the exterior out-lines are scraped ; important number of horses, still increasing during the Solutreo-Gravettian.

Third phase : the Magdalenian. This phase is characterized by three stages : *inital stage*, few representations and predominance of archaic features (?) ; *full stage*, that recovers rather all the ancient Magdalenian, predominance of the single stroke and appearance of the stroke called « barbed wire » stroke ; the absolute profile is predominant, but there are some examples of mono-angular perspective ; among the cervids the hinds are supplanted by stags ; the number of horses decreases, bovids and caprids increase ; the outline of the jaw is more detailed, but again numerous ends of nose and muzzle are not achieved ; *advanced stage*, corresponding partly to the upper Magdalenian where the absolute profile is more important.

METHODOLOGY

1) Drawing up of the corpus

During our working period (time) next the Museum of Archaeology and at the University of Valencia (Spain), under the direction of Professor Valentin Villaverde Bonilla, we studied 165 engraved plaquettes, 115 of them with one or several horses. In total, we analyzed 123 representations of engraved and/or painted horses from a complete collection of 5.612 plaquettes (Villaverde Bonilla, 1994, t. 1, 54). After elimination of the most doubtful cases where the horse-form is difficult to recognize, we obtain finally 113 horses. There are moreover 4 pieces that are not clearly localized so that we chose to take them off from our statistics. Taking the representations in account by periods of stratigraphic sequences we obtain the following table (table 2) :

In passing, we can notice the increase in horse representations during the Solutreo-Gravettian I, which corresponds, and this is a paradoxe, to its diminution in the hunt register of the fauna at this time (Villaverde Bonilla, 1991-1992).

The basic animal that we use in our studies is the horse (Pigeaud, 1997, 2000, 2002, 2005) : indeed, this animal, the most represented in palaeolithic art, is, to our opinion, a good stylistic standard : very simple to represent, it has been studied since the XVIIIth century by most eminent scientific specialists (hippology is a most respected science) so that archaeologists now have a large choice of measuring methods to use in their studies (Pales, Saint-Péreuse, 1981).

Encountered problems :

There were several problems we met with in our analysis ; first the great number of fragmentary pieces, that is with uncomplete horse representations (table 3) : there were 74, that is 67% of our corpus !

G	1
SI	3
SMA	8
SMS	6
SS	10
SGI	9
SGII	6
SGIII	5
MAA	4
MAB	9
MS	12
GAL	6

Table 3 : Number of truncated horse representations following cultural phases (G : gravettian ; SI : lower solutrean; SMA ancient middle solutrean; SMS : upper middle solutrean; SS Upper solutrean; SG I: solutreo-gravettian I; SG II: solutrea-gravettian II; SG III: solutreo-gravettian III; Maa: ancient magdalenian A; MAB: ancient magdalenian B; MS : upper magdalenian; GAL. : Galery).

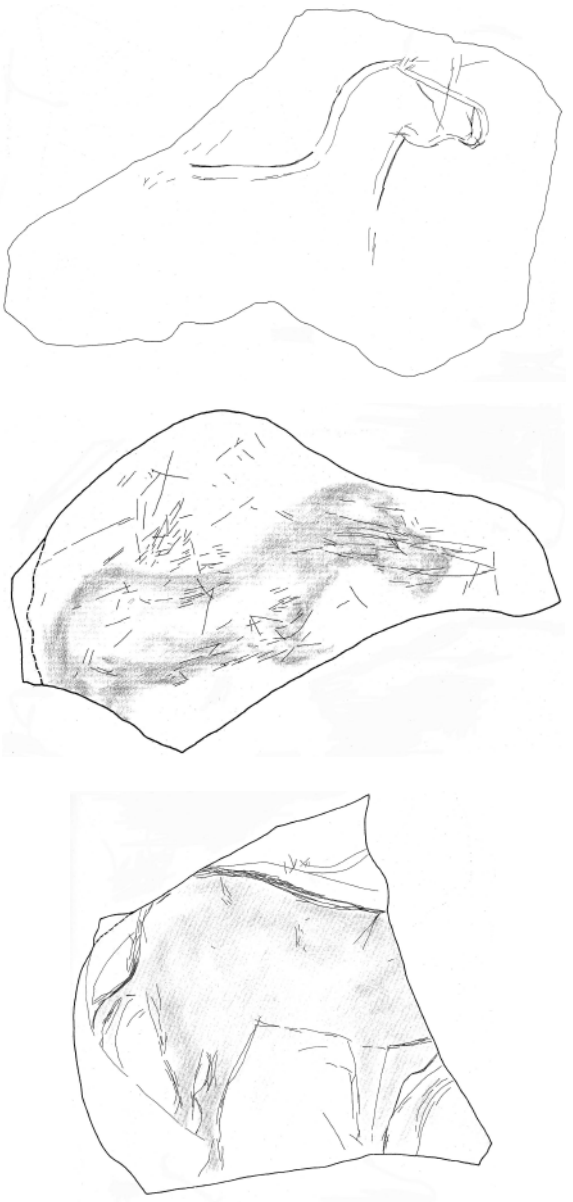

Figure 1a. Three plaquettes which are supposed to be contemporaneous, yet of very different styles. a). 16120 B. b). 16121. c). 16122 A. Drawings after Villaverde Bonilla, 1994.

In correlation with this problem of fragmentary representations, is the problem of the diversity of the anatomic parts represented (table 4) : in fact, very often the horse representation is limited to the head or the avant-main (69%). This restrains considerably the choice of the criterions and the comparisons.

Other problem : the stratigraphic uncertainty already mentioned : for instance, considering the horse of the plaquette 16330A which consists of two pieces, one (the most important) comes from a gravettian layer (CO sector, ultimate layer between 8 and 8,50 m in depth), the other comes from an ancient middle solutrean layer (embankment, layer 27, between 6 and 6,25 m in depth) ! The variability, Valentin Viallaverde Bonilla spoke of (1994, 2000) is present directly within the micro-unities which we can define in relation to Péricot's loose stratigraphic diagram : thus, the plaquettes 16120B, 16121 and 16122A found together in the same layer 29 of the embankment (lower Solutrean) present a striking summary of the technical solutions used at the Parpalló : double stroke, **aplat de couleur** and multiple stroke, as well as the form tendencies : extreme stylization, caricature and naturalism, with representation of a bushy tail (figure 1) !

2) Study of the proportions: To study the proportions we use the relations between the principle segments of the horse anatomy (Pigeaud, 1997). The fragmentation of the represented horses, whether intended or not (see above) leads to restrain us to the utilisation of the relation (ET/LT), that is the relation measuring the proportions of the head, in most of the cases.

3) Stylistic criterions:

We proposed (Pigeaud, 2000, 2002, 2005) a new diagram for the lecture of stylistic criterions based on « positiv » criterions, on the presence or not of formal and aspect elements. In fact, concerning a stylized art which reduces the forms to the essential, it is not good to argument only based on the absence of some character (like the fur or the eye for instance) ; this would lead to tautology and adventurous convergencies : so it is easy, for instance, based on the absence of fur, to put together several times ten sites distant from each other by several times hundred kilometers, without any archaeological justification. Moreover a niew classification of the criterions makes it possible to eliminate those criterions which, to our opinion, are not stylistic ones, that is so say, that they are not the result of an elaborated process of cognition, of a choice made by the artist, but that they may be due to his ignorance of anatomy or to elementary problems linked to perception. Thus we eliminate «naturalistic» criterions, it is those which refer directly to the anatomy of the horse concerning his structure, sex and growth, and we eliminate too the criterions of perception, it is the aspects of the anatomy of the horse that varied depending on the hand of the prehistoric artist, though he did not, to our opinion, want to do so, or

	Head	Head + back	Protomé	Avant -main	Arrière-main	Trunk	Without Head	Complet
G			1					
SI	1	1		1			1	2
SMA	3			1	1	1	3	2
SMS	4			1	1		1	1
SS	1		4	3				1
SGI	7	2	4	3	1			2
SGII	1	1	1					2
SGIII	2		2	1				1
MAA	1			3			1	1
MAB	1	2	2	3			2	3
MS	4		6	1				
GAL	2	1	1	2	1		1	4

Head	Head+ back	Protomé	Avant-main	Arrière-main	Trunk	Without Head	Complete
27	7	21	19	4	1	9	19

Table 4 : Parts of the body of the represented horses following cultural phases G : gravettian ; SI : lower solutrean ; SMA : ancient middle solutrean ; SMS : upper middle solutrean ; SS : upper solutrean ; SG I : solutreo-gravettian I ; SG II : solutrea-gravettian II ; SG III : solutreo-gravettian III; MAA : ancient magdalenian A ; MAB : ancient magdalenian B ; MS : upper magdalenian ; GAL. : Galery. Head – head and back – protomé – avant-main – arrière-main – trunk – without head – complete. The protomé is the part of the body including head, neck, chest and shoulders; l'avant-main is protomé and fore legs ; l'arrière-main is the croup (rumb) and back-legs ; head and back designates the head and the line of the back.

to do so systematically, perhaps simply because he did not perceive well the horse form, like for instance the tail of the horse of plaquette 16122 A which is attached too low. The most famous case about this problem is the «flying galop», conventional interpretation by extension of the forth phase of the horse's galop (Delluc B. and G., 1990, 7-11) due to an error of perception corrected only at the end of the XIXth century, owing to photography (fig. 2).

So we adopted the following criterions : a) criterions of schematic (diagrammatical) representations : these criterions pertain to peculiar (particular) semiotic problems. What is the minimum to represent, so that you may recognize immediately the horse form ? We range in this category the « duck bill » as well as the mane represented as a crest (for instance plaquette 16120 B, fig. 1a). b) criterions of recomposition: to our opinion these criterions are the most interesting ones because they are mainly stylistic. Actually, they result from the re-appropriation of the horse-form by the artist and the aim for original representation. We shall give some details beyond. It is not surprising (indifferent) that the ear was the detail

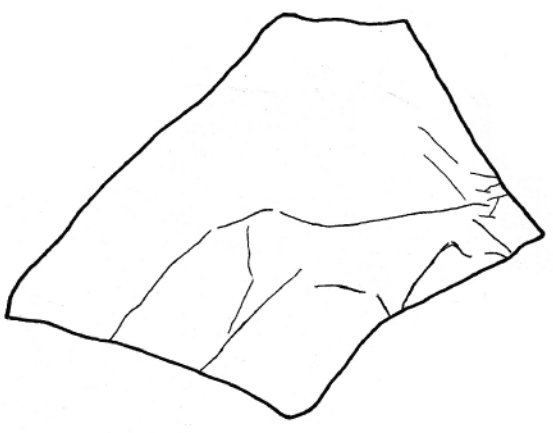

Figure 2. Example of « flying galop ». Ancient magdalenian B, plaquette 19349 B. Drawing Villaverde Bonilla.

Figure 3. Example of ear in straight bi-angular perspective ; Solutreo-gravettian III, plaquette 18646. Drawing by Villaverde Bonilla, 1994.

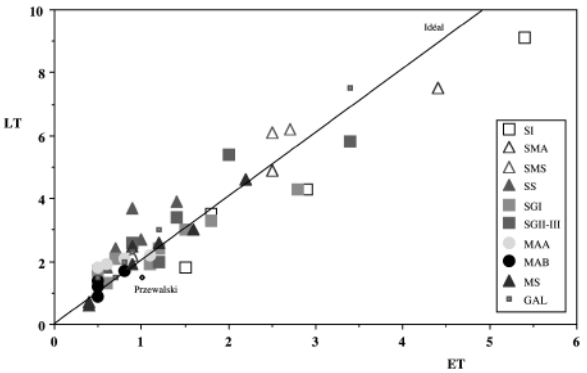

Diagram 1. Parpalló cave. General proportions of the horse's heads. G : gravettian ; SI : lower solutrean ; SMA ancient middle solutrean ; SMS : upper middle solutrean ; SS Upper solutrean ; SG I : solutreo-gravettian I ; SG II : solutrea-gravettian II ; SG III : solutreo-gravettian III ; Maa : ancient magdalenian A ; MAB : ancient magdalenian B ; MS : upper magdalenian ; GAL. : Galery.

Figure 4. Example of a horse with his breast in oblique line and lengthened neck. Ancient middle Solutrean. Plaquette 1639. Drawing Villaverde Bonilla, 1994.

which provided the greatest number of variants : isn't it the principle organ the horse uses to communicate with other horses ? The ear may be represented in realistic position, backwards the quiff (tuft of hair), « sticked » to the outline of the crest. Sometimes the ear on the side of the spectator is hidden in the quiff, but then you see the other ear of the opposite side, in twisted perspective, (in oblique bi-angular perspective) (fig. 3) placed on the forehaed before the quiff. Sometimes both of the ears are represented in half-twisted or twisted perspective. All these variants are represented at the Parpalló from the solutrean to the magdalenian era, except the ear in its naturalistic position which we found only for the upper magdalenian period (plaquette n° 20115).

	Painted	Simple	Double	Multiple	Multiple bringing relief	Multiple with scraping	Repeated	Repeated bringing relief	Painted with scraping	Complete
G	1	-	-	-	1	-	-	-	1	-
SI	2	1	1	1	1	2	1	-	-	-
SMA	-	7	2	6	1	-	1	1	-	-
SMS	1	3	2	2	-	2	-	-	-	-
SS	-	5	2	4	-		2	2	-	-
SGI	-	5	3	2	2	6	1	1	-	-
SGII	1	1	-	2	3	-	-	-	-	-
SGIII	2	3	-	3	-	1	-	1	1	-
MAA	-	5	-	-	-	1	-	-	-	-
MAB	-	9	-	-	-	-	-	-	-	2
MS	-	9	-	3	1	-	-	-	-	1
GAL	1	10	-	2	1	-	-	-	-	-

Table 5. Different types of stroke in the representations of horses at the Parpalló cave according to the stratigraphy. (G : gravettian ; SI : lower solutrean ; SMA ancient middle solutrean ; SMS : upper middle solutrean ; SS Upper solutrean ; SG I : solutreo-gravettian I ; SG II : solutrea-gravettian II ; SG III : solutreo-gravettian III ; Maa : ancient magdalenian A ; MAB : ancient magdalenian B ; MS : upper magdalenian ; GAL. : Galery).

	Oblique breast	Lengthened neck
G	1	1
SI	1	2
SMA	4	3
SMS	1	1
SS	5	6
SGI	5	6
SGII	1	1
SGIII	-	2
MAA	3	2
MAB	4	1
MS	4	2
GAL	4	1

Table 6. Criterions of recomposition according to the stratigraphy : (G : gravettian ; SI : lower solutrean ; SMA ancient middle solutrean ; SMS : upper middle solutrean ; SS Upper solutrean ; SG I : solutreo-gravettian I ; SG II : solutrea-gravettian II ; SG III : solutreo-gravettian III ; Maa : ancient magdalenian A ; MAB : ancient magdalenian B ; MS : upper magdalenian ; GAL. : Galery).

RESULTS AND DISCUSSION

The evolution in representing horses follows the same « heavy » tendency that Valentin Villaverde Bonilla showed up (1992, 2002) : predominance of the double stroke in the first periods (from Gravettian to Solutreo-Gravettian I) ; predominance of repeated strokes in the middle phase (Solutreo-Gravettian) and continuous presence of the single stroke ; growing tendency to naturalism during the more recent phases (upper Magdalenian). Regarding the proportions, the heads of the horses at Parpalló, longer than large, tend to be calibrated according to the decreasing size of the plaquettes (diagram 1).

It is possible, however, to make evident two subtendencies as shown in table 5 where we adopt a finer classification of the different techniques : one is the growing thickness of the strokes, as we may observe with the double strokes corresponding to the thick lines we find, for instance, in the Nerja cave (Andalusia) ; the other one is the setting of volume by accentuation of multiple and repeated strokes which often led to carving, rather at the transitional period between the upper Solutrean and the Solutreo-Gravettian.

This tendency to develop the volume is in correlation with two stylistic criterions of recomposition increasing during the same period : the lengthening of the neck and a dynamic representation of the breast, in an oblique line and projected forwards (see table 6).

These two criterions that we can already notice during the previous phases (fig. 4), increase during the particular cultural evolution from the Solutrean to the Solutreo-Gravettian, a particular moment concerning the fauna (Villaverde 1991-1992) and the lithic material (Tiffagom 2003) ; there is, indeed, a sudden dimunition in the eating of goats in favour of deer, while there appear points à cran bifacial retouched (fig. 5).

CONCLUSION

Of course, we may not superpose the stylistic evolution directly to the evolution of palaeolithic cultural periods, as we can observe them by their lithic industries. The plaquettes of Parpalló, which are an exceptional example for the perduration of an artistic tradition for 22000 years, prove with brillancy : "*… the process of evolution in the art at Parpalló is not characterized by ruptures (cutting) nor by the substitution of the manner to conceive the figures, but by the tendencies which we may recognize only as percentage*" (Villaverde 1992, 385).

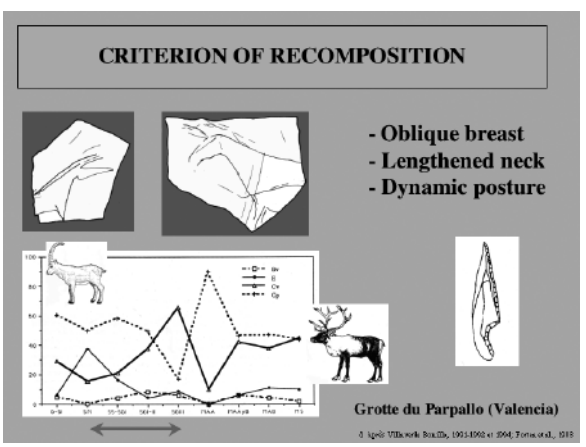

Figura 5

However, it might perhaps be possible, if we establish series of strict stylistic criterions, to determine correlations between the other archaeological manifestations of the stratigraphy. For instance, there seems to be, all over the period, an alternation between the will to represent a volume and the will to represent thickness : that is to say a vision in a three-dimensional plane or in a stretched bi-dimensional plane. Our study consisted in examining scrupulously the plaquettes and the proportions, but we do not pretend to have exhausted the problem. We just want to point out an interesting phenomenon, a tendency, concomitance, at the Solutreo-Gravettian, of changings in the nutrition, the lithic culture and the manners to represent horses, more dynamic and projected forwards. These conventions which we can observe too on other represented animal species, can be found too in andalusian sites, 500 km south from Valencia, considered partly as contemporaneous of this cultural phase : the caves of La Trinidad at Ardalès and at Nerja.

These remarks must be confirmed by other comparative studies which we should like to do in the future in collaboration with Professor Valentin Villaverde Bonilla. We hope that the continuation of these studies may allow to say whether it is reliable to interpret those progressive changements in the stylistic conventions by cognitive modifications or the modification of populations.

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NOTES:

[1] That is so say representations where the horns and other anatomic elements are shown from the front (straight bi-angular perspective) or from 3/4 of front (oblique bi-angular perspective) while the animal is still shown in profile. The mono-angular perspective is the naturalistic view of an animal from the front or from 3/4 of front with all the anatomic elements correctly represented.

[2] «It is the representation of the end of the legs by a curved line in concave or **igival** drawing, in order to represent the lower part of the extremities in a straight bi-angular perspective… », Villaverde Bonilla, 1992, p. 379).

[3] It is to say that the end of the nose is proeminent and the nose depression deeply hollowed out, so that this form makes think of the groove of a duck bill, the crest mane is a mane where the bound (the limit) of the quiff is symbolized by a right angle that make it look like the crest of the helmet worn by the greek hoplits. Sometimes, this mane is called « stair step mane ».

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