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The Upper Paleolithic of Valencia Province (Spain) *

INTRODUCTION

Acceptance of a Paleolithic date for the painted caves of the Francocantabrian area and numerous finds of beautiful paintings in the rock shelters of Valencia Province in the early part of this century gave rise to a flood of interest in Spanish prehistory. More recently, however, Spanish prehistory has been practically neglected by "foreign" investigators. Little attempt has been made to correlate the finds of the Upper Paleolithic of Valencia Province with similar finds in the rest of Europe, Africa, or the Near East. The lack of understanding and coordination of the Upper Paleolithic of Valencia Province into the general scheme may be attributed to neglect—neglect caused by the international situation of the last twenty years—and to the fact that investigators are busy elsewhere.

A study of the Upper Paleolithic of Valencia Province needs no justification: Its geographical position alone makes it of prime importance in the study of prehistory, and the extraordinary and unique finds made there in the last thirty years make such a study mandatory.

This paper cannot pretend to be an exhaustive treatment of the subject. It is based on certain supplementary work which was carried out at the cave of Parpalló in the summer of 1958, at which I was privileged to assist, together with reading of some of the

* A resumé of her Master of Arts thesis 1959 in the Faculty of Political Science of Columbia University.

Spanish material, particularly publications of the Servicio de Investigación Prehistórica of Valencia and other Spanish sources.

To clarify the terminology employed by Spanish prehistorians (for myself as well as the reader), I have had to refer to the "classic" French definitions —this accounts for the rather long chapter called "A Recapitulation of Some Classic Definitions". To coordinate the Upper Paleolithic of Valencia Province into a general scheme of the Upper Paleolithic, we must have terms and concepts which are comparable. The work of definition will probably have to be done again and again and again —but a beginning has been made.

Finally, I offer no new terminology or hypothesis of my own. I have gathered together a few of the outstanding facts of the Upper Paleolithic of Valencia Province to make them available to the English-speaking reader, because curiously, we are generally ill-informed or non-informed concerning the work being done there.

CHAPTER I

EARLY ARCHAEOLOGICAL EXPLORATION IN VALENCIA PROVINCE

Intellectual speculation concerning sporadic finds of stone tools which appeared to be made by men is found as early in Spain as in the rest of Europe. As early as 1534 the Valencian chronicler Pedro Antón Beuter pointed out that certain artifacts found in Aragón seemed to be made of stone but in the manner of iron weapons. It has been pointed out that Spanish **conquistadores** and missionaries were bringing back finds of stone, obsidian, and other materials, and Spanish scholars were able, therefore, to make these analogies. "With the discovery of America, the **conquistadores** and missionaries brought back weapons of obsidian and other hard stone, used by the Indians, and compared them with the European "ceraunias". Scholars were probably aware of these comparisons, and Beuter may have been influenced in this way." (1)

As early as 1845-46 excavation of Neolithic sites had begun in Valencia, and from the middle of the nineteenth century on,

(1) N. P. GOMEZ SERRANO: "Contribución al estudio de la prehistoria valenciana", *Anales del Centro de Cultura Valenciana*, IV, 8, Valencia, 1944, página 36.

the rate of excavation steadily increased. In the next few decades Don Santiago Moreno excavated sites near Alicante, classified as Mesolithic and Neolithic, and as early as 1880, D. Aureliano Ibarra published a large work in which were described and illustrated many objects characteristic of the beginning of Elche, which were classified as Mesolithic (2).

The Spanish geologist Juan Vilanova y Piera should not be neglected in a sketch of the history of the prehistory of Spain, Valencia, or of Europe. He was born and grew up in Valencia, and made his contributions to the prehistory of Valencia Province as well as to Spain. He began excavating in Cordova in 1867, sending his finds to the Archaeological Museum which had just been founded there. From 1869 on he attended every important Congress of Prehistory in Europe. During his lifetime Vilanova was professor at two universities, Oviedo and Madrid. In 1871 he published his **Origen, naturaleza y antigüedad del hombre**, a resume of Spanish prehistory up to that time. In this work, Vilanova classified the periods of prehistory as Paleolithic, Archaeolithic, Mesolithic, Neolithic, Bronze, and Iron. In this early work, Vilanova said there was no Paleolithic in the Spanish Peninsula but classified San Isidro in Madrid and the Valencian sites of Parpalló, Cova Negra, San Nicolás and Les Maravelles as belonging to what he called the Archaeolithic (3).

Vilanova was mainly responsible for the formation of the first scientific society for the study of prehistoric man in Valencia Province, the Sociedad Arqueológica Valenciana, which was founded in 1871. Vilanova was interested in all of the prehistory of man, not only in the Paleolithic. It was mainly due to his efforts that the so-called Eneolithic period was placed in the classifications of Spanish prehistory, the Eneolithic being based on evidence found in Spain of axes of pure copper rather than bronze. And, therefore, the Eneolithic represented, he claimed, an Age of Copper that had existed before the Age of Bronze.

Vilanova's name appears frequently in the literature of the prehistory of Europe because it was he who championed the authenticity of the paintings discovered at Altamira. When, in 1903, Juan Cabré began to discover the Levantine art, the rock paintings so different from that of Franco-cantabrian art, a great impe-

(2) J. VILANOVA Y PIERA y J. de D. DE LA RADA Y DELGADO: "Historia de España", Madrid, 1894, pág. 419.

(3) N. P. GOMEZ SERRANO: Op. cit. note 1, p. 60.

tus was given to the discovery of more and more rock paintings in the rock shelters of Valencia Province.

In 1913, with the assistance of the Institute of Human Paleontology in Paris, Breuil undertook the systematic investigation of shelters containing paintings in the Spanish Levant. He visited many sites, as well as the cave of Parpalló, where he found amongst other things a small plaque of limestone engraved with the head of a lynx, which made him believe that this site might be important (4). In visiting Parpalló, and other Valencian sites such as Buñol, Bocairente and other sites near Gandía (Valencia), Breuil was investigating leads furnished by Vilanova, amongst others. Breuil considered the site of Parpalló a very important one, and asked and received permission from the Junta Superior de Excavaciones to excavate the cave. But World War I intervened. Breuil could not carry out his intended excavation, and the cave of Parpalló remained unexplored, except for preliminary work done by Vilanova (and the fortunately slight disturbance caused by the treasure hunter Bernardo Castelló) until 1929 (5).

In Valencia Province during the nineteenth century a number of caves were excavated, or rather, opened. Among these were the Cueva de San Nicolás (Ollería), Cueva de Roca (Orihuela), Cova Negra (Játiva), Les Maravelles (Gandía), Parpalló (Gandía), etc. But "almost all the data has been lost to science" (6). The excavations in Valencia Province were sporadic, and there was almost no connection between the work of the Sociedad Arqueológica Valenciana and that of enthusiastic individuals (7). To answer some of the needs of the investigators, the Laboratorio de Arqueología was founded at the University of Valencia in 1924.

Systematic study of the prehistory of Valencia started with the creation of the Servicio de Investigación Prehistórica in 1927 by Isidro Ballester Tormo, who together with Luis Pericot García, may be called the founders of the Valencian School of Prehistory (8). The S. I. P. and the Museo de Prehistoria are now the backbone of investigation of the prehistory of Valencia Province (9). Balles-

(4) N. P. GOMEZ SERRANO: Op. cit. note 1, p. 72.

(5) L. PERICOT GARCIA: "La Cueva del Parpalló. Gandía". Madrid, 1942, página 16.

(6) N. P. GOMEZ SERRANO: Op. cit. note 1, p. 51 ff.

(7) N. P. GOMEZ SERRANO: Op. cit. note 1, p. 76.

(8) D. FLETCHER VALLS: "Estado actual del estudio del Paleolítico y Mesolítico valencianos". Rev. de Archivos, Bibliotecas y Museos, LXII, 3, Madrid, 1956, página 841.

(9) N. P. GOMEZ SERRANO: Op. cit. note 1, p. 77.

ter's avowed purpose in 1927 was the excavation of Valencian sites. Pericot became professor at the University of Valencia in 1927; the S. I. P. was created a few weeks after his arrival in Valencia. With the full cooperation of Ballester, Pericot began to excavate Parpalló in the summer of 1929, and excavating campaigns were carried on in 1930 and 1931. Systematic and scientific excavation may be said to have begun with the work of Pericot at Parpalló.

The results obtained at Parpalló make this site the backbone for the study of the Upper Paleolithic of Valencia Province. Excellent publication of the results, the geographical location of the cave as a possible center or receptor of cultural influences from both Europe and Africa, more than twenty feet of human debris denoting long occupation (without sterile layers), the absence of "cold" fauna, these are some of the reasons that make this site a very important one for the study of the Upper Paleolithic in Europe. The extraordinary "arrowheads" found in the Solutrean level, and the fact that a Cromagnon skull was also found at the Solutrean level make this site unique.

Parpalló is, of course, not the only site excavated by the S.I.P. Fletcher discusses the finds at fifteen sites which are important in a study of the Paleolithic as a whole (10).

Later on I shall compare the finds made at several of the caves. The occupation layers are by no means uniform. For example, the cave of Les Mallaetes and the cave of Parpalló are approximately three kilometers apart and were presumably occupied at the same time. Yet the strata at Parpalló might be called Gravettian, Solutrean, and Magdalenian I, II, III, and IV, while the strata at Les Mallaetes show a Gravettian, a Solutrean, and what Pericot has called an Epigravettian, denoting the absence of any Magdalenian. Such contemporary data is extremely important for a study of Upper Paleolithic **cultures**.

CHAPTER II

GEOLOGY: PALEONTOLOGY: DATING

I cannot attempt to give the detailed geology of Spain or of Valencia Province here. This is a task for specialists. But a general outline of what is known about the geology of Valencia Province

(10) D. FLETCHER VALLS: *Op. cit.* note 8, pp. 841 ff.; see fig. 1 (map).

is helpful and necessary for the task of coordinating its prehistory.

According to Pericot, Obermaier systematized what was known about the prehistory of the Spanish Peninsula (11). Obermaier accepted the four glacial epochs elaborated by Penck, namely, Günz, Mindel, Riss, and Würm, and the interglacial periods. By personal investigation he showed that glaciers had existed in many parts of the highlands of Spain and found evidence of four glaciations on the northern slopes of the Pyrenees. During the Pleistocene there appears to have been some volcanic activity in the center of Spain and also in the province of Gerona. But in the province of Valencia there appears to have been no glaciation or volcanic activity (12). According to Obermaier also, "The list of Spanish fauna consists almost exclusively of representatives of moderate or warm climates. The so-called "cold" fauna which plays such an important part in other regions are found here only in the north of the peninsula. Even there they are of infrequent occurrence nor it is likely that later investigations will greatly change the present known limits of their distribution. The principal route of these northern types was the narrow strip of the Pyrenees, by which the mammoth, woolly rhinoceros, and reindeer made their way into Catalonia. Another route lay along the coast of Gascony toward the Basque Province" (13).

Because of the lack of "cold" fauna, it is not only difficult, but often impossible to determine the age of many of the Spanish sites, especially those belonging to the close of the Paleolithic, since the species found there are still existing in the same region. Through all the glacial and interglacial stages, horses, wild oxen, stag, roe deer, wild boar, ibex, and rabbit, as well as bears, hyenas, felines, and wolves, lived in the center and eastern parts of Spain (14). Some of these temperate fauna are represented on the engraved and painted plaques of the Upper Paleolithic of Valencia, as we shall see.

According to Pericot, none of the earliest types of human beings have been found in the Spanish Peninsula. Several examples of Neanderthal man have been found in Spain as well as in Valen-

(11) L. PERICOT GARCIA: "Historia de España", vol. I, Barcelona, 1958, página 33.

(12) L. PERICOT GARCIA: Op. cit. note 11.

(13) H. OBERMAIER: "Fossil Man in Spain", trans. Christine D. Matthew, with an Introduction by Henry Fairfield Osborn, Published for the Hispanic Society of America, by Yale University Press, New Haven, 1925, p. 149.

(14) H. OBERMAIER. Op. cit. note 13, pp. 150 and 153.

cia Province. A Cromagnon skull of a young woman was found in the Solutrean level in Parpalló as has been mentioned (15).

It need not be stressed here how complicated is the question of dating in European prehistory, even where there is marked differentiation between "warm" and "cold" fauna, and glacial and interglacial periods. In the Near East where there are numerous radiocarbon dates, authorities are not wholly agreed on their validity and interpretation. In the Near East, too, where geochronological data have been relatively well studied, it has been stated: "Unfortunately the geochronological details of Pleistocene events in the Near East may not yet be directly equated with those of Western Europe, save in a most general way" (16).

I know of no radiocarbon dates for the Valencian Upper Paleolithic. Pericot assigns a tentative date of ca. 50,000 B. C. for the beginning of the Upper Paleolithic. (Terminology will be the subject of the next chapter). Pericot's tentative chronology (17) follows:

	10,000 B.C.
Magdalenian V, VI — Epigravetto-Capsian	
Magdalenian III, IV — Epigravettian	
Magdalenian I, II — Epigravettian	
	20,000
Upper Solutrean — Gravettian III	
Solutrean — Gravettian II	
Protosolutrean — Gravettian II	
Aurignacian I — Gravettian I	
	50,000

How difficult the problem of the dating of the Valencian Upper Paleolithic is, and how little correlation there is between Spanish prehistory and that of the rest of Europe can be seen from the following quotation from Zeuner (18):

During the maximum of the LGI 1-2 (the period between the 1st and 2nd phases of the last glaciation) the Solutrean intrudes into the Aurignacian sequence. It has been supposed that the Solutrean spread west from Hungary, but the great thickness of the strata containing Solutrean at Parpalló in Spain may compel one to modify the traditional view. This site cannot yet be correlated with one of the phases of the last glaciation. If the thickness of the deposits means long duration and not merely a fast rate of sedimentation, the Solutrean

(15) S. ALCOBE: "El cráneo de Parpalló", Serie de Trabajos Varios del S. I. P. de Valencia, núm. 6, p. 39.

(16) R. J. BRAIDWOOD: "Near Eastern Prehistory", Science, CXXVII, n.º 3312 (1958), 1419.

(17) L. PERICOT GARCIA: "La España Primitiva". Barcelona, 1950, p. 355.

(18) F. E. ZEUNER: "Dating the Past" 2nd. ed., London 1950, pp. 294-296.

would appear to have occupied a somewhat longer period of time than is suggested by the evidence from north of the Pyrenees.

The following scheme from Zeuner is useful for comparison (19).

Phase	Zeuner's Radiation Date in Years B. P.	Duration in Years
Time since LGI, phase 3		22,000
LGI, phase 3, climax	22,100 (55° N.) 25,000 (65° N.)	
LGI, phase 2, climax	72,000	
LGI, phase 1, climax	115,000	

In an unpublished article entitled "Radiocarbon Dates and Palaeolithic Archaeology in Central and Western Europe", Movius has attempted a new chronological scheme based on the available radiocarbon dates. As is well known, the dating schemes of Movius and Zeuner do not coincide. In addition, their terminology differs. It is beyond the scope of this paper to reconcile these differences, as they are based on different interpretations of geological data. Briefly stated, Movius employs the terminology Early, Main, and Late Würm for the several phases of the last glaciation, but with different emphasis. Movius' Early Würm = Würm I, Main Würm: Early Phase = Würm II, Main Würm: Late Phase = Würm III, and his Late Würm apparently falls outside the period heretofore considered as part of the last glaciation.

According to Movius the Perigordian, in France, begins ca. 39,950 B. C. with the Gottweig Interstadial (Würm I-II Interstadial). The Aurignacian begins ca. 28,720 B. C. with the Main Würm: Early Phase (Würm II). The Proto-Solutrean begins ca. 20,000 B. C. and the Solutrean lasts until 11,500 B. C. The Magdalenian begins ca. 11,500 B. C. and lasts to ca. 8,000 B. C. In evaluating this chronology it must be stressed again that most of the dates have been obtained from geological phenomena, not from Upper Paleolithic sites.

In spite of the confusions a clearer chronological picture is beginning to emerge from work of this kind. The opinions of Pericot and Movius would appear to concur in assigning a time span of roughly 50,000-8,000 B. C. to the Upper Paleolithic. As for the Solutrean, which has been such a difficult problem, as we have seen in the quotation from Zeuner, Movius' dates indicate that "it seems likely that the major portion of the Solutrean covers a span nearly 6,000 years in duration, while the Upper Solutrean and the

(19) F. E. ZEUNER: *Op. cit.* note 18, p. 145.

entire Magdalenian development apparently took place during an interval only 4,000 years long" (20).

To summarize the geological, paleontological, and dating material, we can only repeat that during the Upper Paleolithic there appears to have been no glaciation and no Quaternary fauna in Valencia Province, and these facts, together with the complete lack of any radiocarbon dates make the problem of coordinating the Valencian Upper Paleolithic with that of the rest of Europe extremely complex.

CHAPTER III

A RECAPITULATION OF SOME CLASSIC DEFINITIONS

What do we mean when we say that the levels of human habitation at Parpalló are Gravettian, Solutrean, and Magdalenian I, II, III, IV, while the same levels at Les Mallaetes, presumably contemporaneous, show a Gravettian, a Solutrean, and an Epigravettian? The terms as used generally are by no means clear to the specialist, and to the student they are often confusing beyond reason.

I had originally intended to supply drawings for all the implements mentioned here and in the discussion which follows. Drawings and descriptions available in the English language are mostly inadequate: One side only is usually shown, generally without plan or section; scale is often omitted. The result is that the student, or educated layman, is often hard put to it to discover where the cutting edge or business end of a given implement is. However, a complete set of drawings would extend the present section out of proportion. Mme. D. de Sonneville Bordes' definitions, descriptions and drawings of the flint implements of the Upper Paleolithic in the **Bulletin de la Société Préhistorique Française** for 1953, 1954, 1955, 1956, fills part of the long-felt need, although not in the English language.

This section is an attempt to clarify some of the terms, and involves a recapitulation of some of the classical definitions. Definitions in the English language are particularly scarce, and even obscure rather than clarify the situation. It is for that reason that I begin with a chart from Movius (21).

(20) H. L. MOVIUS: "Radiocarbon Dates and Palaeolithic Archaeology in Central and Western Europe" (unpublished manuscript), pp. 3 ff., 17, 19 and 29.

(21) H. L. MOVIUS: "Old World Prehistory: Paleolithic", *Anthropology Today*, ed. A. L. Kroeber, Chicago, 1953, p. 172, table 1.

Breuil's Classification	Garrod's Classification	Peyrony's Classification	
		Perigordian	Aurignacian
Upper Aurignacian	Font Robert Stage	V.—Tanged points; leaflike points; Noailles burins.	V.—Bone points with simple beveled base.
	Gravettian Stage	IV.—Gravette points; small backed blades; female statuettes.	IV.—Bone points with biconical section. III.—Bone points with oval section.
Middle Aurignacian	Aurignacian	III.—Truncated or obliquely backed blades; backed blades of miscellaneous type.	II.—Bone points with diamond shaped section; steep scrapers.
		II.—Chatelperronian points (evolved types); blades with inverse re-touch.	I.—Split base bone points; steep and carinated scrapers.
Lower Aurignacian	Chatelperronian	I.—Chatelperronian points (basal Perigordian).	

Henriette Alimen's chart, though a simplification of Breuil, gives a much better picture of the industries of stone and bone with which we are concerned in the Aurignacian. Alimen presents also a second chart which shows Peyrony's subdivision into Perigordian and Aurignacian, but she states that "because of the rule of priority accepted in all the branches of the natural sciences, I have conserved the term Aurignacian in its original meaning" (22).

	Bone	Stone Industry
Upper Aurignacian — Gravettian		Font Robert point Various burins (bec-de-flûte , prismatic, polyhedral, Noailles). Gravettian point.
Middle Aurignacian — Classic Aurignacian	Aurignacian point with split base	Burin busqué. Carinated scrapers.
Lower Aurignacian — Chatelperronian		Chatelperronian point. Abri Audi point.

The Chatelperronian is not found in the Upper Paleolithic of Valencia Province. The lowest Upper Paleolithic occupation levels of such caves as Parpalló, Les Mallaetes and Barranc Blanc have been classified as Gravettian (with Aurignacian elements).

Professor Almagro states that the term "Perigordian" in the sense of a "culture" was used in Spain to designate certain Spanish Upper Paleolithic materials, both by Dr. Pericot and himself, around 1940. Dr. Almagro criticizes the fact that Dr. Pericot abandoned the use of this term, preferring the term Gravettian (23).

My purpose in contrasting the two terms is not merely for the sake of academic argument. In Valencia Province such observers as Pericot, Jordá and Fletcher stress the fact that in certain sites the Gravettian is followed by an Epigravettian (**epi-**, a Greek prefix meaning "on" or "to"), thus indicating a continuing cultural uni-

(22) H. ALIMEN: "Atlas de préhistoire", Paris, 1950, pp. 150 and 151.

(23) M. ALMAGRO BASCH: "Estado actual de la investigación perigordien-se". Homenaje al Conde de la Vega del Sella, Oviedo, 1956, p. 10.

ty, at least in so far as the tool-making tradition is concerned. This will be more fully discussed in a later section. Here, then, our terminology has cultural implications. But what connection the Valencian Gravettian may have with the French Perigordian is still unknown.

The Solutrean is the next of the classical subdivisions of the Upper Paleolithic to be considered. The Solutrean comprises a remarkable industry in stone, bone and art work. Generally speaking, it may be said that wherever the typical "laurel leaf", "willow leaf" and shouldered point appear, the term Solutrean has been applied.

The Magdalenian is the last of the typical industries of the European Upper Paleolithic to appear. Six levels of the Magdalenian were isolated by Breuil in his classic article of 1912 (24). The Magdalenian is distinguished by an extraordinary industry in bone, and a relatively poor industry in stone.

Apparently, the Magdalenian is the least controversial of all the Upper Paleolithic periods (or perhaps less new work has been done). In 1954, as in 1912, Breuil characterized each of the six periods of the Magdalenian by its typical stone and bone implements, and above all by its decoration on bone (25).

In Valencia Province only Magdalenian I to IV are found.

From the preceding discussion we see that terms like Aurignacian, Perigordian, Gravettian, etc., may refer to an industry, a chronology or a culture. At least so far as the industry is concerned, investigators seem agreed that in France both Perigordian and Aurignacian seem to underly the Solutrean. The lowest level is called by one name by some, and another name by others. Within this level (as well as in the superimposed levels) there has really been no way of comparing one site with another until very recently. Recently, F. Bordes has proposed a method for comparing stone artifacts from various sites (26). Mme. D. de Sonneville Bordes has attempted this method with regard to Upper Paleolithic stone

(24) H. BREUIL: "Les subdivisions du Paleolithique superieur et leur signification". Compte rendu de la XIV Session du Congrès International d'Anthropologie et d'Archeologie Prehistorique, Geneve. 1912, pp. 209 ff.

(25) H. BREUIL: "Le Magdalenien", Les grandes civilisations préhistoriques, Paris, 1954, pp. 61 ff.

(26) F. BORDES: "Principes d'une méthode d'étude des techniques de débitage et de la typologie du paleolithique ancien et moyen". L'Anthropologie, LIV, Paris, 1950, pp. 19-34.

implements. She has published a list of 92 stone implements which she finds typical of the Upper Paleolithic (27).

Many have doubted that the bewildering variety of tools found in the Upper Paleolithic can be isolated, described, named and illustrated. "Nonetheless, it (the Bordes statistical method) offers the only recourse yet devised for analyzing a given assemblage in terms of its several components (28).

Confusion caused by terminology is compounded when we turn to a discussion of the African or Near Eastern Upper Paleolithic. In Africa such terms as Aterian and Capsian are used to denote typology and/or chronology. Actually, relatively little work has been done in Africa, but we shall need to consider some points of view as Aterian and Capsian influences **may** have been at work in Spain.

Concerning Africa, Obermaier expressed his views as follow:

a) Early Capsian — corresponding to the Aurignacian of Europe.

b) Late Capsian — a post-Aurignacian which represents an evolution independent of the Solutro-Magdalenian of Europe, but parallel to and synchronous with it.

Garrod assumes the Capsian to be later in time than the European Aurignacian, and Movius holds the same point of view (29).

Leakey equates the Upper Pleistocene with the Gamblian Pluvial and he sees the Upper Paleolithic industry of Kenya as a succession from Lower to Upper Aurignacian (30). Garrod, quite arbitrarily, changes Leakey's Upper Aurignacian to Capsian, assumes it later in time, and therefore feels justified in leaving it out of consideration and off her maps altogether (31).

The Aterian culture may be considered a North African variation of Levalloulois-Mousterian culture complex of the Middle Paleolithic. It is characterized by tanged points made on flakes with prepared striking platforms and struck from tortoise cores, and it seems very probable that these so-called Aterian points were used as arrow or spear heads... Bifacial leaf shaped points, known as S'baikian points and believed to have evolved locally from the Upper Acheulian or

(27) D. DE SONNEVILLE-BORDES and J. PERROT: "Essai d'adaptation des méthodes statistiques au Paleolithique Supérieur. Premiers resultats". Bulletin de la Société Préhistorique Française, L. Paris, 1953, pp. 232 ff.

(28) H. L. MOVIUS: Op. cit. note 21, p. 171.

(29) H. L. MOVIUS: "The Old Stone Age". Man, Culture and Society, ed. Harry L. Shapiro, New York, 1956, p. 86.

(30) L. S. B. LEAKEY: "Stone Age Africa", London, 1936, p. 137.

(31) D. A. E. GARROD: "The Upper Paleolithic in the Light of Recent Discovery". Proceedings of the Prehistoric Society, IV, n.º 1, 1938, p. 18.

Micoquean, triangular points of Mousterian type, side scrapers, and scrapers (rare), a few blades, Levalloisian flakes, discs and tortoise cores complete the inventory of a normal Aterian series (32).

The chronology of the North African Upper Paleolithic is an extremely complicated problem. I have felt it necessary to mention a few of the conflicting points of view because the question of Spanish-African influences is by no means closed, and the work of several Spanish investigators centers around this point.

In the Near East an increasing number of workers and over 62 radiocarbon dates are beginning to clarify the picture (33). Braidwood sums up the evidence for the Near East:

Unfortunately the geochronological details of Pleistocene events in the Near East may not yet be directly equated with those of Western Europe, save in a most general way. In the Near East we have the earliest appearance of the blade tool tradition...

This relatively sophisticated set of habits in the preparation of long, parallel sided flint tools seems to have been roughly coincident, in Europe, with the appearance of anatomically modern man about 40,000 years ago. The Palestinian ("non-classic" or "sapienized") Neanderthals may be regarded as ancestral to modern man and the blade tools make a tentative appearance in the Syrian and Palestinian stratigraphy even earlier than do the unspecialized physical types. It is not impossible, therefore, that the general Near Eastern area was the focus of differentiation and eventual spread of anatomically modern man and of his earliest characteristic habits in the preparation of flint tools...

There is little question that men who prepared their flint tools according to the persisting habits of both the core-biface and flake-tool tradition had already arrived in the Near East by Mid-Pleistocene times, but we have so far little knowledge of their culture history. Really early traces of Pleistocene man, such as have been found in southern and northwestern Africa have not been noted in the Near East...

If the chronology is as we expect, the early appearance in southwestern Asia of the blade tools, and with human beings with anatomical tendencies toward modern man (at a time when classic Neanderthal man was flourishing in western Europe) makes this area a focus of some interest. There is not, of course, complete agreement that either the blade tools or anatomically modern men did first appear in the area (34).

Particularly to be noted in Braidwood's resume are the following: 1) He avoids using the terms of the French classic definitions referring rather to the blade-tool tradition; 2) Braidwood states that we have little knowledge of the culture history of early man. This is true. We might as well say "none". It would be well if we clarified our objectives in prehistory.

In the study of prehistory we need to compare early physical

(32) H. L. MOVIUS: *Op. cit.* note 29.

(33) R. J. BRAIDWOOD: "Near Eastern Radiocarbon Dates available to me, August 1, 1958", mimeographed list distributed at the Fifth International Congress for Pre- and Protohistory, Hamburg, August, 1958.

(34) R. J. BRAIDWOOD: *Op. cit.* note 16, pp. 1419-1420.

types, tool types and "cultural elements" from the peninsula of Spain with the rest of Europe, with Africa, with the Near East, etc. But we must have terms which are comparable and methods of comparison. In this brief resume of some of the outstanding aspects of the classical definitions used in discussing the Upper Paleolithic, I have attempted to underscore the confusions and emphasize where new methods might be useful.

If the foregoing discussion has been elementary, it has yet seemed to me to be necessary, as a good deal of it is now taken for granted rather than understood. For the Upper Paleolithic of Valencia Province it is essential that all the terms mentioned be understood in their context, as Spain is essentially tied to European methods of investigation.

We turn next to a consideration of the Upper Paleolithic caves of Valencia Province.

CHAPTER IV

COMPARISON OF SOME OF THE CAVES

As we have seen, none of the earliest types of man appear in the Spanish Peninsula. Generally speaking, remains of the Lower Paleolithic are apparently absent.

In his excellent resume of the excavations of Valencia Province Fletcher has listed fifteen sites belonging to the Middle and Upper Paleolithic and Mesolithic (35). It is not my purpose to outline here all of the finds made at all of the Upper Paleolithic sites. For purposes of comparison I should like to present the material from three of the Upper Paleolithic caves. The three caves probably most suitable for this purpose are the caves of Parpalló, Les Mallaetes and Barranc Blanc. Cova Negra (Játiva) is a site classified as Middle Paleolithic, but as it shows the transition from Mousterian to Aurignacian, I include it here as background material.

Cova Negra was excavated by the S.I.P. under the direction of

(35) D. FLETCHER VALLS: *Op. cit.* note 8.

E. PLA BALLESTER: "Actividades del Servicio de Investigación Prehistórica, 1946-1955". *Archivo de Prehistoria Levantina*, VI. Valencia, 1957, pp. 187-241, which gives a resume of excavations carried out in many pre- and proto-historic sites at Valencia Province.

Viñes in 1928, 1929, 1931 and 1933. Work was continued in 1950, 1951 and 1953 by Pericot, Alcácer, Jordá, Pla and Fletcher. The site measures approximately 20 meters long by 18 meters wide, and although seven campaigns were devoted to its excavation, this work has not yet been completed.

There is bedrock below this layer at a depth of approximately 5 meters.

The faunal remains of Cova Negra are extremely interesting and include *Equus*, *Rhinoceros Merckii*, *Cervus Elaphus*, *Bos*, *Felix Pardus*, and others, most of which are now extinct (36). Several large molars have been classified as belonging to *Elephas Iolensis*, and this find would appear to be useful in helping to fix a relative chronology for the site.

A parietal bone of a Neanderthal individual was found in Level III. The parietal has been studied intensively and shown to be related to "Classic" Neanderthal types such as have been found at La Chapelle-aux-Saints and Monte Circeo (37). According to Fletcher, both European and African influences seem to be confirmed both by physical type and the stone industry (38).

In the Upper Paleolithic, the cave of Parpalló is the most important and best known site. As has been mentioned, excavation began by the S.I.P. under direction of Dr. Pericot in 1929.

Outside of Spain the work done at Parpalló can hardly be said to be unknown to prehistorians as it has been published in some detail. However, mention of the work seems to be limited to a few references to the winged and tanged points found in the Solutrean. A notable exception is V. Gordon Childe (39). Cheyner has included these points in his typology of the Upper Paleolithic (40).

These winged and tanged points, which look like arrow-heads, are of a type which had been found previously only with Neolithic or Bronze Age materials (41).

In 1942 Pericot characterized the levels at Parpalló as:

(36) J. ROYO GOMEZ: "Relación detallada del material fósil de Cova Negra de Bellús (Valencia)". Serie de Trabajos Varios del S. I. P. de Valencia, número 6, p. 27.

(37) M. FUSTE ARA: "Parietal Neandertalense de Cova Negra (Játiva)". Serie de Trabajos Varios del S. I. P. de Valencia, núm. 17.

(38) D. FLETCHER VALLS: Op. cit. note 8. p. 851.

(39) V. GORDON CHILDE: "The Cave of Parpalló". *Antiquity*, XVIII, 1944, 29 ff.

(40) A. CHEYNIER: "Feuilles de laurier à cran". *Bulletin de la Société Préhistorique Française*, LII, Paris, 1955, p. 284.

(41) V. GORDON CHILDE: Op. cit. note 39.

Magd. IV
 Magd. III
 Magd. II
 Magd. I
 Final Solutreo-Aurignacian
 Upper Solutrean
 Middle Solutrean
 Lower Solutrean
 Upper Aurignacian (or Perigordian)

We may note that the words Aurignacian and Perigordian are used interchangeably. Pericot states that the Abbé Breuil had suggested to him in 1932 that his Final Solutreo-Aurignacian Level might better be called Final Levantine Solutrean or even Parpallóan (**Parpallense**), but Pericot states that he did not accept these terms because even though a particular **facies** of a culture might be involved, he was opposed to the creation of a new terminology, particularly in the cave of Parpalló, since this would lead only to confusion, and he preferred to use the classic nomenclature (42). More recently Pericot has called these same levels:

Magd. IV
 Magd. III
 Magd. II
 Magd. I
 Final Solutreo-Gravettian.
 Upper Solutrean
 Middle Solutrean
 Lower Solutrean
 Gravettian

I stress this terminology here and have tried to explain what is meant in the classic definitions in the previous section, because it seems to me useful to employ the same term if we are talking about the same thing. These terms are used to distinguish both tool types and relative chronology. The tool types may be seen in the numerous illustrations and photographs of **La Cueva del Parpalló**, and in the Museum at Valencia, where the pieces are now. Relative chronology is given by the clear superposition of named levels. But here at Parpalló we do not have a Mousterian level of occupation, nor a Chatelperronian. Human occupation begins with

(42) L. PERICOT GARCIA: Op. cit. note 5, p. 41.

the Gravettian, and continues without interruption (without sterile layers) through the first four stages of the Magdalenian.

In the chapter V I shall attempt to give some idea of the complexity of the material.

A Cromagnon skull was found in the Lower Solutrean level at a depth of almost seven meters (43).

Bones of animals were found strewn throughout the cave, but a great heap was found particularly in the west part of the main chamber, almost filling it and forming a sort of bony **breccia** joined to the wall. It was as though the occupants of the cave had accumulated the remains of their meals in one part of their habitation (44). The animals are all of the kind inhabiting Spain at the present time and seem not to include extinct types such as are found in Cova Negra.

Throughout the levels at Parpalló appear plaques of stone decorated with engravings and paintings of deer, boar, horses, bulls, goats and geometrical themes.

The cave of Les Mallaetes was excavated by the S.I.P. under the direction of Dr. Pericot assisted by Jordá in the years 1946-1949. The cave is about three kilometers from Parpalló as the crow flies, at the top of a hill, near the town of Barig. Parpalló and Mallaetes lie at approximately the same elevation in the mountainous area just west of Gandía, a city where many of the famous Valencia oranges are grown and exported. Unfortunately, there has been no complete publication of the finds made at Mallaetes, but Fletcher has made a resume. He says:

The upper level contains Neolithic pottery decorated with incisions and impressions of "Cardium" and some pieces of flint, including small trapezoidal shapes and knives with retouched backs. The lower levels offer materials which may be classified as belonging to an Epigravettian below which appears a bifacial chipping with winged and tanged points of Parpalló type accompanied by laurel leaves and little knives with retouched backs. Leaving the Solutrean we find the Gravettian which is extremely poor (45).

While Parpalló and Mallaetes appear to have been occupied at the same time, occupation of Les Mallaetes appears to have occurred earlier and also to have continued longer, i. e., into the Neolithic.

Although excavation of Mallaetes was carried on during the

(43) L. PERICOT GARCIA: Op. cit. note 5, p. 273 ff. and Plate XXXII.

(44) L. PERICOT GARCIA: Op. cit. note 5, p. 268.

(45) D. FLETCHER VALLS: Op. cit. note 8, p. 855.

four years mentioned, only a small portion of the cave has been excavated. Judging from the previous results, further excavation may be expected to yield rich finds as well.

In contrast with the occupation levels of Parpalló as shown above, Mallaetes shows a Middle Aurignacian, Gravettian, Solutrean and Epigravettian levels (46), i. e., where at Parpalló we have the four levels of Magdalenian, following on a Final Solutro-Gravettian, at Mallaetes we have what Pericot has characterized as Epigravettian. By Epigravettian is meant the continuance of blunt backed blades, notched points and a varied and interesting blade industry including scrapers, many kinds of burins and trapezoidal shaped microliths, an industry which lasts into the Neolithic.

Barranc Blanc is a cave about ten kilometers south of Mallaetes. It was excavated in 1951, 1953 and 1954 by the S.I.P. under the direction of Dr. Pericot and Enrique Pla, who is now assistant to Fletcher at the Museum of Valencia. Fletcher indicates the finds there in the following way:

Level I: Pieces with retouched backs appropriate to the Epigravettian; bone points possible Magdalenian.

Level II: Clearly defined by the Solutrean points.

Level III: Gravettian materials including some examples of the classic type, and in the lower part of the site appears a crude industry of quartz and limestone of possible Mousterian tradition.

From Level I, the Epigravettian, come parts of several human skulls, now in the process of study, but we may anticipate that one of the frontals corresponds to a Cromagnon of North African type with analogies in Afalou. This material is of great interest because it appears to confirm contacts with Africa.

Another cranium has extremely heavy bones for its time, the vault being dolicho-ovoide, and no very high, and it appears to belong to a very late Mediterranean type with pronounced prognathism (47).

The occupation levels of both Barranc Blanc and Mallaetes may be characterized as Gravettian, Solutrean and Epigravettian with hardly a trace of the abundant bone Magdalenian industry found at Parpalló. The crude "pebble tools" shown in the lowest level at Barranc Blanc might give more information about earlier human occupation if we knew more about them.

All Spanish observers agree that the marked Magdalenian industry of Parpalló is in sharp contrast with the Epigravettian of other sites such as Mallaetes and Barranc Blanc. This early Magdalenian occupation in the east of Spain is also interesting because the Magdalenian I is unknown in the Cantabrian region. In the

(46) L. PERICOT GARCIA: *Op. cit.* note 11, p. 52.

(47) D. FLETCHER VALLS: *Op. cit.* note 8, p. 859.

northeast of Spain, in Catalonia, several caves near the city of Gerona also show Gravettian, Solutrean (with "arrowheads") followed by a Magdalenian. But in Catalonia, closer to the supposed center of the Magdalenian industry, the Magdalenian is of the highly evolved type, V and VI, the lower four being absent. To the south, a number of caves have been excavated, but incompletely published. Several of these also show the highly evolved Solutrean typical of Parpalló, others show Gravettian or Epigravettian industries. A Gravettian industry is indicated as far south as Málaga (48), and Magdalenian elements seem to have penetrated as far as Gibraltar (49).

I have tried to indicate some of the more important caves where Gravettian, Solutrean and Epigravettian or Magdalenian implements are found. If these industries did not develop in Spain, they must have come from somewhere. Where they may have come from is a matter of great interest to prehistory, and I shall have more to say of this later.

To conclude, there is abundant evidence of Neanderthal occupation in Valencia Province, which may well be the earliest evidence of human occupation in Spain. Continuing excavation over the last thirty years has now uncovered a series of Upper Paleolithic sites which may be directly related to the classical definitions established. Some of these caves appear to show levels of occupation that may be called Gravettian, Solutrean and Magdalenian, while others very near by may be characterized as Gravettian, Solutrean and Epigravettian. The very highly evolved Solutrean industry characterized by the Parpalló "arrowheads" has been found as far north as Gerona and extends along the entire eastern coast of Spain. The earliest levels of the Magdalenian are found at Parpalló, while later levels appear to the north and to the south.

New finds have caused a revision of many of the older hypotheses. For example, the finds from Cova Negra are now to be classified as Mousterian, and not Aterian, although the Aterian appears to have influenced this culture. Before excavation the finds at Parpalló had been thought to be Capsian --they have now been related to similar finds in Europe, and their possible African relationship is still being studied.

(48) L. PERICOT GARCIA: *Op. cit.* note 11, pp. 48, 52 and 53.

(49) J. WAECHTER: "Excavations at Gorham's Cave, Gibraltar". *Proceedings of the Prehistoric Society*, 1951, reprinted in *Archivo de Prehistoria Levantina*, IV, 1953, pp. 21-24.

CHAPTER V

STONE AND BONE TOOLS OF VALENCIA PROVINCE

In the last chapter I tried to indicate very briefly some of the finds made at three caves of Valencia Province, namely, Parpalló, Les Mallaetes and Barranc Blanc. The number of flint implements found is enormous. At Parpalló alone Pericot has calculated that the number of pieces of flint found is probably around 250,000, of which he classified some 80,000 at that time. The figure of 250,000 includes implements, a great many flakes and blades which seem to be unworked, and nuclei. It is an odd fact that there are no sources of flint to be found near the cave. There is a great variety of flint present, the colors ranging from white, pink, brown, red and black include many shadings in between. Pericot feels the various colors are probably due to the various sources from which the flint came (50).

The details of the excavation of Parpalló are given in **La Cueva del Parpalló** so that I need give only some of the outstanding facts here. The cave was laid out in sections and each section excavated very carefully in layers of 25 centimeters. I have noted previously that the cave contained no natural stratigraphy and also no sterile layers by which stratigraphy might be established. Therefore, it was only after completion of excavation and study of the materials that the levels could be named. I have made up a chart which shows the depth at which the named industries were found. Pericot describes the difficulties he had in classifying the materials. For example, he set the level between the Gravettian and Proto-Solutrean at 7.25 meters, but the change in technique was apparent from 7.50 meters. The same is true of the Middle Solutrean starting at 6.25 meters. Since I have already stated the kind of materials found, and Pericot has detailed very well his reasons for naming these industries as he did, there is no point in going over this material here. I should rather like to compare the actual materials from each of these three caves.

Probably the best way to do this would be statistically by means of graphs, the technique for which has been brilliantly outlined by F. Bordes and his wife, Mme. de Sonnevile Bordes. Unfortunately,

(50) L. PERICOT GARCIA: Op. cit. note 5, p. 28.

this is not feasible for me at the present time, although it might be possible later because all the materials have been carefully preserved in the museum at Valencia.

CHARACTERISTICS OF EACH LEVEL OF PARPALLO

Gravettian

- 9.50 meters: The excavation went down to 9.50 meters.
Between 8 and 9.50 meters almost nothing was found.
- 8-7.75 meters:
In flint: a. very few pieces;
b. under rocks which appear to have fallen and thus conserved the material, 248 flint pieces at 8 meters.
- 7.75-7.50 meters: More than 250 flint pieces including Gravettian points, retouched blades, single and double scrapers, a few burins and a quantity of unused blades and flakes.
- 7.50-7.25 meters: More than 250 pieces, as above.
In bone: 15 pieces of worked bone, 10 of them clearly "points" and many fragments.

Lower or Proto-Solutrean

- 7.25-6.25 meters: Between 6.50-6.25 Cromagnon cranium found.
In bone: 28 worked bone pieces, 14 of them "points".
In flint: 868 pieces. Technique of the lower level continues but also some pieces show partial or complete retouching on one or both faces.

Middle Solutrean

- 6.25-5.25 meters:
In bone: 79 worked bone pieces. Seem evolved from previous, but generally longer and finer. Includes 42 bone "points".
In flint: Approximately 10,000 pieces, including "laurel leaf" and "willow leaf" worked on one or both faces. S'Baikian points. Many burins. Winged and tanged points (Parpalloan). Previous protosolutrean and gravettian technique continues. Includes 86 scrapers on ends of blades, 23 "nucleiform" scrapers, 117 blades and 315 flakes between 6-6.25 meters alone.

Upper Solutrean

- 5.25-4.50 meters: At approximately 5.25 meters, there appears to be a qualitative and quantitative change in the industry of Parpalló.
In bone: 80 pieces, of which 40 are points.
In flint: 46 "Parpalloan" points, plus 10 with tang only, 231 "notched points of Gravettian technique."
The forms of the previous levels continue: a partial count includes 2,053 flakes or blades not well defined, 920 crude blades, 120 well-worked blades, 71 scrapers, 62 burins, 10 "nucleiform" scrapers, etc.

Final Solutro-Gravettian

- 4.50-4 meters: Decadence of Solutrean technique is apparent from approximately 4.75 on.
In bone: 142 pieces of worked bone.
In flint: Solutrean technique almost absent.
168 "notched points of Gravettian technique" as in previous level. Many other points and small retouched blades which recall the Gravettian technique, but with a general tendency to small size, i. e., microlithism.
At 4.25-4.50 meters there are 3,729 pieces which include 1,436 flakes, 1,626

crude blades, 96 large blades, 10 small blades, 242 pieces which show retouching, 12 notched blades, 120 scrapers of various kinds, 53 burins, etc.
 At 4-4.25 meters there are 3,579 pieces, of which there are 1,616 flakes, 1,140 crude blades, 505 large blades, 26 notched points, 12 small blades with retouched backs, 42 retouched blades, 75 scrapers of various kinds, 6 central burins, 100 nuclei and approximately 50 side burins.

Magdalenian I

4-3.50 meters: At approximately 4.0 meters there is an essential change, with substitution of stone by bone in the typical industry.

In bone: At 3.75-4.0 meters, 101 pieces, including 8 "points", 23 engraved pieces, 31 beveled pieces, etc.

At 3.5-3.75 meters, 118 pieces, including 12 "points", 11 engraved pieces, 27 beveled pieces, etc.

Flattened bevel (Breuil classification) appears in both levels.

In flint: Number of pieces far less than in previous level, but scrapers and burins continue. Note especially steep and carinated scrapers.

Magdalenian II

3.50-2.50 meters: In bone: 864 pieces, among them 35 "points", 89 with bevel, 35 generally pointed, and others with rectangular, quadrangular and semi-circular section. 135 have flattened section. Several have a longitudinal groove. One needle broken.

80 engraved or incised pieces, of which 26 have a clear decorative motif.

In flint: Minimum of 25,000 pieces, of which Pericot gives a detailed count and classification, which need not be repeated here.

Magdalenian III

2.50-0.8 meters: Established by excluding bone pieces decorated in manner of Magdalenian I and II. Most extensive occupation of the site.

In bone: 1,559 pieces. Many varieties of short and long points, rods, etc. Quadrangular or rectangular section. Clearly defined single bevels on a great number of pieces. A deep longitudinal groove clearly defined in many. Appearance of double bevel and semicylindrical rods. 6 sewing needles (plus 3 others?).

In flint: A minimum of 40,000 pieces. Improvement of technique. Technique is different from Gravettian heavier, cruder. But also appearance of many microlithic tools in tiny blades and scrapers less than 2 cm. long.

Magdalenian IV

Above 0.8 meter: According to Pericot, "clearly defined by implements which have a clear parallel with the defined French Upper Magdalenian."

In bone: 588 pieces including many beveled pieces, single and double. Many have incisions on the bevel.

3 harpoons showing incipient barbs.

In flint: 40,000 pieces minimum. Detailed count given, but no need to repeat here. Hundreds/thousands of flakes and/or blades. Hundreds of various types of burins, and multiple burin scrapers.

Although Parpalló would appear to be an ideal site in which to attempt the statistical method outlined by Mme. Bordes, this is at present impossible to do because 1)—there is no complete count of the material; 2)—the pieces have not been named in accordance with Mme. Bordes' system.

However, **La Cueva del Parpalló** is a profusely and well illustrated book, and I have found it useful to attempt to name some of the pieces shown according to the Bordes' system. For example,

30 flint implements of the named "Gravettian" are illustrated in two figures (of the more than 500 implements found at this level, as I have shown above). I have translated the Spanish name into its English equivalent, but I have retained the French as indicated by Mme. Bordes, together with her number, to avoid any misunderstanding. I have compared Pericot's illustrations with Mme. Bordes' illustrated, numbered and defined tool types of the Upper Paleolithic. The chart follows:

Illus. Numbers	Name	Mme. Bordes' Name	Number	Remarks
La Cueva del Parpalló (fig. 6)				
1	1 Gravettian point	Microgravette	50	Not exactly
2	2 Gravettian point	Microgravette	50	Almost identical
3	3 Scraper	Grattoir simple	1	Almost identical
4	4 Blade	Grattoir atypique	2	
5	5 Blade	?		
6	6 Blade	?		
La Cueva del Parpalló (fig. 7)				
7	1 Gravettian point	Point de Font Yves	52	Almost identical
8	2 Gravettian point	Microgravette	50	
9	3 Small blade with retouched back	Microgravette	50	
10	4 Small blade with retouched back	Microgravette	50	
11	5 Small blade with retouched back	Microgravette	50	
12	6 Small blade with retouched back	Microgravette	50	
13	7 Small blade with retouched back	Microgravette	50	
14	8 Retouched blade	Lame à bord abattu total	58	
15	9 Notched blade	?		
16	10 Notched blade	?		
17	11 Notched blade	Pièce à cran	57	Almost identical smaller
18	12 Side burin	Burin d'angle sur cassure	30	
19	13 Side burin	Burin d'angle sur cassure	30	
20	14 Scraper	Grattoir simple	1	
21	15 Scraper	Grattoir simple	1	
22	16 Scraper	Grattoir simple	1	
23	17 Scraper	Grattoir simple	1	
24	18 Scraper	?		
25	19 Retouched blade	Pièce à troncature droite	60	
26	20 Retouched blade	Pièce tronquée	60-64?	These are long heavy retouched pieces.
27	21 Retouched blade	Pièce tronquée		Can not be certain from illustration
28	22 Retouched blade	Pièce tronquée		
29	23 Retouched blade	Pièce tronquée		
30	24 Small nucleus	?		whether chipping is abrupt or non-abrupt

We have already noted that Mme. Bordes has grouped the implements characteristic of the "Perigordian", the "Pièces à bord abattu et lames tronquées..." between the numbers 45 and 64. And speaking of the "evolution of the Perigordian", she points out that it is to be characterized by 1).— an increase of "Multiple burins sur troncature", 2).— decreased size of "Grattoirs", 3).— increased number of "Pointes de la Gravette" and "Microgravettes", 4).— the appearance of "Burins de Noailles" (51).

Several useful facts emerge from the chart I have made of the Gravettian material illustrated in Pericot. First, they can be identified by name and number in Mme. Bordes' system, and second, most of these particular Spanish implements would appear to be Perigordian by their number in the Bordes' system.

The same is true if we examine the few available materials from Les Mallaetes, as well as those from Barranc Blanc.

Les Mallaetes (including Gravettian and Epigravettian materials), "Estado actual del estudio...". Fig. 15 and Figs. 12, 13.

Numbers	Mme. Bordes' Name	Mme. Bordes' Number	Remarks
1	Pièce gibbeuse à bord abattu	53	Seems crude
2	?		
3	Pointe de la Gravette atypique	49	
4	Grattoir simple	1	
5	Microgravette	50	
6	Microgravette	50	
7	Microgravette	50	
8	Microgravette	50	
9	Microgravette	50	
10	Microgravette	50	
11	Microgravette	50	
12	Microgravette	50	
13	Microgravette	50	
14	Microgravette	50	
15	?		
16	Grattoir sur lame ou éclat retouché	5	
17	?		

(51) D. DE SONNEVILLE-BORDES and J. PERROT: Op. cit. note 27, pp. 324-330.

Barranc Blanc. "Estado actual del estudio...", Fig. 19

Number	Mme. Bordes' Name	Mme. Bordes' Number	Remarks
1	Microgravette	50	
2	Microgravette	50	
3	Microgravette	50	
4	Microgravette	50	
5	Pointe de la Gravette	48	
6	Pièce à retouches continues sur les deux bords	66	
7	Pièce à retouches continues sur les deux bords	66	
8	Grattoir simple (or) Grattoir atypique	1 or 2 seems crude	
9	Burin d'angle sur cassure	30	
10	Grattoir sur lame ou éclat retouché	5	
11	?		Pebble tools from lowest level. May not be Upper Paleolithic.
12	?		
13	?		

With respect to Mme. Bordes' criteria for the evolution of the Perigordian, 1).— the "multiples burins sur troncature", the material from the three caves being discussed would have to be examined directly since they are not illustrated; 2).— the "Grattoirs" are almost always smaller than their French counterparts; 3).— Gravettian and Microgravettian points occur in numbers; 4).— the appearance of "Noailles burins" must be sought in the material and not in the illustrations.

From an examination of these illustrated materials it would seem to me that Mme. Bordes has done prehistory a great service in that we now have a useful working method of classifying Upper Paleolithic tools. The difficulty lies in the fact that she seems to have conceived this method to distinguish Perigordian from Aurignacian, but this method of classification may prove to have a much wider application. In my opinion, to classify the Spanish material as Perigordian would be misleading, and in Pericot's words previously quoted, confusing.

The shortcomings of Mme. Bordes' classification with regard to the Solutrean have been pointed out previously. But three of her named Solutrean implements occur in profusion at Parpalló: the "Pointe à face plane", the "laurel leaf" and the "willow leaf". The "Pointe à cran typique Solutréenne" appears to be absent. In its place occur the notched points described as "56) Pointe à cran perigordienne, dite atypique: pointe à cran latéral plus ou moins

nettement dégagé par retouches abruptes présentant parfois sur la face supérieure des retouches partiellement couvrantes, non solutréennes" (52). Of these, 430 have been found at Parpalló, and all of them occur between 4.0-5.25 meters. These are the levels occupied by the Upper Solutrean and the Final Solutro-Gravettian levels as we have seen.

In fact, it is this particular implement which Pericot used to characterize and to name the Final Solutro-Gravettian level because it seemed to him that these points were non-Solutrean, an opinion in which Mme. Bordes appears to concur. Further, it seemed to Pericot that the technique used in their manufacture was in fact a continuance of the Gravettian technique, rather than a continuance of the Solutrean technique.

In the Solutrean of Valencia Province occur also the winged and tanged "arrowheads". These are left out in Mme. Bordes' classification. However, Cheynier has recently included them in his classification of points of the Upper Paleolithic, and shows one in his illustrations (53). Forty-six of these points are found in the Solutrean at Parpalló, as we have seen. They occur also at Les Mallaetes and Barranc Blanc (54).

To summarize this part of the comparison of the three caves, therefore, we may say that at Parpalló, Les Mallaetes and Barranc Blanc there is a lower level which may be called Gravettian, followed by typically Solutrean levels.

At Parpalló the Solutrean is followed by what has been called the Final Solutro-Gravettian, as we have seen, distinguished by the "Pointe à cran perigordienne" which appears to be a resumption of Gravettian techniques, and this level is followed by Magdalenian I, II, III, IV. At Les Mallaetes and Barranc Blanc, on the other hand, the Solutrean is followed by levels which have been characterized as Epigravettian, a term used by Pericot to indicate 1).— the continuance of the Gravettian technique into the Mesolithic, and 2).— the relative lack of emphasis on the use of bone.

As has been discussed in a previous chapter, Gravettian and

(52) D. DE SONNEVILLE-BORDES and J. PERROT: "Lexique typologique du Paleolithique superieur". Bulletin de la Société Préhistorique Française, t. LIII, Paris, 1956, pp. 547 ff.

(53) A. CHEYNIER: "Impromptu sur la sequence des pointes du Paleolithique Superieur", p. 193.

(54) L. PERICOT GARCIA: Op. cit. note 5, p. 60, for Parpalló.

D. FLETCHER VALLS: Op. cit, note 8, fig. 14 for Les Mallaetes, fig. 18 for Barranc Blanc.

Epigravettian appear to indicate a continuing cultural unity in Valencia Province. This culture is probably different from what has been called Perigordian in France, especially since the art is so different, as we shall see. But the possible connection between the cultures of Valencia and of the Perigord is one of the immediately urgent problems of prehistory.

Jordá has made a study of Gravettian and Epigravettian levels along the entire Spanish Mediterranean coast from Gerona to Gibraltar. After studying the materials from Les Mallaetes, which he excavated together with Pericot, as we have seen, he summed up his conclusions as follows:

We find the Gravettian together with a somewhat evolved typical Aurignacian. As we have seen previously, it is possible for us to follow the evolution and expansion of this industry (Gravettian) along the Levantine coast with sufficient precision. With the advent of the Solutrean, the Gravettian disappears completely as an independent culture in almost all of the peninsula, with the exception of some enclaves, like that of St. Gregori de Falset (Tarragona), **which demonstrates to us the survival of Gravettian elements in complete independence of the Solutrean.** (My italics) Moreover, in the Solutrean itself, we can readily see Gravettian survivals, which seem to recapture their vitality during the last Solutrean phase called by Pericot the Final Solutro-Gravettian, in which a Solutrean implement, the notched point, is chipped with Gravettian technique, which seems good proof of the fact that the technique of the retouched back flourishes again (55).

According to Jordá, the Epigravettian continues and forms the base of Mesolithic industries in the Levant.

In comparing Les Mallaetes and Parpalló, contemporaneity of occupation of the two sites seems indicated by the following facts: 1).— Similar bone implements are found in both caves at the earliest levels of occupation; 2).— similar Gravettian materials at corresponding levels, although the Gravettian materials of Les Mallaetes seem richer and more advanced; 3).— a Solutrean level follows the Gravettian at both caves; 4).— the Final Solutro-Gravettian shows analogous characteristics. Synchronous existence of the Epigravettian at Les Mallaetes and the Magdalenian seems indicated by the presence of several beveled bone points in the Epigravettian of Les Mallaetes, which may be attributed to the neighboring Magdalenian of Parpalló (56).

I need not go into all the ramifications of Jordá's hypothesis here, but in view of the fact that Jordá is one of the Spanish ar-

(55). F. JORDA CERDA: "Gravetiense y epigravetiense en la España mediterránea", Publicaciones del Seminario de Arqueología y Numismática Aragonesa, IV, Zaragoza, 1954, p. 9.

(56) F. JORDA CERDA: Op. cit. note 55, pp. 10 and 16.

chaeologists who has worked in Valencia Province most intensively, his point of view must be carefully considered. Jordá has divided the Gravettian of the Spanish Mediterranean into three parts, with three subdivisions of each, namely, Gravettian I a, b, c, Gravettian II a, b, c., Gravettian III a, b, c. According to Jordá, the earliest, Gravettian I, does not appear in Valencia Province, but the north in the Cueva del Reclau Viver (Gerona). He sees this technique as coming possibly from the Cantabrian area, where the earliest Gravettian might possibly be older. This is admittedly speculative (57). Jordá's Gravettian II a consists of two levels of the previously mentioned Cueva del Reclau Viver (Gerona), the beginnings of Level I of St. Gregori (Falset) in Catalonia, the first Gravettian level to be found at Les Mallaetes: All of these show a persistence of Aurignacian techniques according to Jordá. His Gravettian II b is characterized by a marked tendency to microlithism, and is demonstrated at the corresponding levels of the Cueva del Reclau Viver (Gerona), St. Gregori (Falset), Les Mallaetes and the lowest level of Parpalló. Jordá's Gravettian II c is characterized by typical and well-made Gravettian points which are found at Reclau Viver (Gerona), Les Mallaetes, Parpalló, St. Gregori (Falset), and the earliest Gravettian level of Hoyo de la Mina, a site near Málaga.

Jordá's Gravettian III phases show the variations of the Gravettian technique which persist and are contemporaneous with the Solutrean. His Gravettian III a indicates the persistence of Gravettian points within the Protosolutrean. In Valencia Province itself, it occurs in the corresponding Solutrean level at Parpalló and Les Mallaetes. Gravettian III b, contemporaneous with the Middle Solutrean at the height of its development, is characterized by the least number of knives showing the retouched back technique. Jordá's Gravettian III c is contemporaneous with the Upper Solutrean, in which tiny blades with retouched backs occur in numbers in Valencia Province.

Jordá distinguishes three levels of the Epigravettian, each divided in two. His Epigravettian I is contemporaneous with what Pericot has called Solutro-Gravettian. Epigravettian I a is distinguished by the persistence of the notched point of Solutrean origin chipped, as we have seen, in the Gravettian technique. These are found at Les Mallaetes and Parpalló in Valencia Province, to the

(57) F. JORDA CERDA: *Op. cit.* note 55, p. 22.

north in certain sites of Catalonia, and to the south in the Murcia-Almeria region. Epigravettian I b is contemporaneous with Magdalenian I and II. It occurs at Les Mallaetes, in the caves previously mentioned in Catalonia, and as far south as Gorham's cave in Gibraltar. It is characterized by a great number of small blades with retouched backs, and a general tendency to microlithism in many of the materials.

Epigravettian II Jordá considers contemporaneous with Magdalenian III and IV, and characterized by an abundance of tiny blades with retouched backs, microlithic Gravettian points and microscrapers. According to Jordá, this is the technique shown in the upper levels of Les Mallaetes, in Catalonia and as far south as Gorham's Cave.

Epigravettian III Jordá considers as parallel with Magdalenian V and VI in France. This stage would appear to be less well defined, since it combines a "pure Epigravettian tradition" with certain geometric elements, which he considers of African origin, such as triangles, trapezoids and half-moons (58). Epigravettian III a **de facies levantina** is characterized by the continuity of the indigenous element as seen in the materials from Les Mallaetes. Epigravettian III b **de facies capsiese** is the period, according to Jordá, in which typical geometric elements are found, in Valencia Province, at certain levels of the cave of La Cocina and at Parpalló (59). This Epigravettian I, II, III is the Fletcher's Mesolithic I.

To conclude: As we have seen, Les Mallaetes and Parpalló are only three kilometers apart, and the contemporaneity of occupation of the two sites seems certain. The different industries at these two caves would therefore appear to indicate two different cultures, at least in so far as their tool making is concerned. A comparison of the Epigravettian and Magdalenian levels of the two caves by the statistical method should certainly prove fruitful.

A detailed analysis of all the bone material found at Parpalló has been made. The total number is 3,680; type of material and the level at which these were found are indicated (60). The vast amount of flint material found at Parpalló has not yet been completely classified. A statistical study has yet to be made.

(58) F. JORDA CERDA: Op. cit. note 55, p. 26.

(59) F. JORDA CERDA: Op. cit. note 55, pp. 22-27.

D. FLETCHER VALLS: Op. cit. note 8.

(60) L. PERICOT GARCIA: Op. cit. note 5, p. 35.

CHAPTER VI

THE ART

The question of the art found in the Upper Paleolithic of Valencia Province is a very complex one. There are very many beautiful and elaborately decorated rock shelters in the Spanish Levant and particularly in Valencia Province, as is well known. This art has been the subject for numerous investigators: Cabré, Breuil, Obermaier, Porcar, Hernández Pacheco, Kühn, and others. Breuil, particularly, has investigated the relation of these paintings with Bushmen art (61). But in spite of the great amount of work that has been devoted to it, and the fact that it is relatively well known, investigators are undecided as to whether these paintings should be attributed to the Mesolithic or to the Upper Paleolithic. Breuil is among the outstanding spokesmen for assigning this art to the Paleolithic. But in the words of Fletcher, "We lack archaeological data to aid us, since almost always, there are no sites in the vicinity of the paintings, or if there are any near, or even at the feet of the paintings, we cannot assume there is any relation between them, and we can only relate them hypothetically" (62). There are two major theories concerning the rock paintings of the Spanish Levant: The first holds these paintings to Paleolithic, the second assigns these paintings to a post-Paleolithic period. Many arguments have been advanced on both sides. A great deal of work is still to be done.

Interesting as the problem is, it is obviously outside the scope of the present paper. There is, however, in Valencia Province, an art of another kind. This consists of painting and engraving on plaques of stone.

Adjoining the cave of Parpalló, there is a limestone formation which splits and flakes, forming irregularly shaped, flat tablets. The people of the cave used these to engrave and paint on. Approximately 20,000 of these limestone plaques were found. Of these, 4,983 showed some remains of engraving or painting, and these

(61) H. BREUIL: "The Paleolithic Art of N. E. Spain and the Art of the Bushmen. A comparison". *Man*, 121 (1930), pp. 149-151.

(62) D. FLETCHER VALLS: "Avances y problemas de la Prehistoria Valenciana en los últimos veinticinco años". *Anales del Centro de Cultura Valenciana*, XIV, 31, Valencia, 1953, p. 15.

were taken to the museum at Valencia. Some were found to be decorated on both faces, so that the total number of decorated sides is 5,968, a truly enormous number. Of these, 874 show remains of painting, 556 show remains of both painting and engraving, and 4,538 show remains of engraving alone (63).

Many of the plaques show only geometrical or curvilinear patterns, but there are animal representations on 885 of the pieces. The style is vivid and life-like, but perhaps simpler and cruder in comparison to plaques from such French sites as Laugerie Basse (64). The sizes of the animal figures shown range from 3 to 40 centimeters, and include deer, horses, bovids, boars, chamois, carnivores and birds.

A great many pieces of decorated horn and bone were also found at Parpalló. The decorated pieces number more than 434, which are distributed among the levels as follows:

1	Gravettian
0	Lower Solutrean
5	Middle Solutrean
4	Upper Solutrean
15	Final Solutro-Gravettian
35	Magdalenian I
80	Magdalenian II
199	Magdalenian III
84	Magdalenian IV

It is obvious that the greatest number occurs in Magdalenian III. A curious fact about the decorated horn and bone of Parpalló is the apparent crudity of the technique. According to Pericot, Parpalló cannot compare in interest with other stations of France or the North of Spain as far as the decorated horn and bone is concerned. By far the greatest number of decorative motives appears to be geometrical designs. Occasionally it is possible to make out an attempted representation of the head of a deer, a goat or a snake. Generally zig-zag or criss-crossed and parallel wavy lines form the basis of the predominantly geometric art (65).

To return to the stone plaques of Parpalló: Several observers

(63) L. PERICOT GARCIA: *Op. cit.* note 5, pp. 109-110.

(64) H. KÜHN: "On the Track of Prehistoric Man", trans. from the German by Alan Houghton Broderick, New York, 1955.

(65) L. PERICOT GARCIA: *Op. cit.* note 5, pp. 104 ff.

have commented on the fact that the art seems not to have evolved in technique, but to have been present from the beginning. The plaques are distributed throughout all the named levels. Zotz has pointed out the salient fact of its **continuity** rather than **development** (66).

Similar plaques have been found at Les Mallaetes.

From the fifth level are six plaques with engraved lines; from the sixth, two with remains of painting and two with remains of engraving; from the seventh, a plaque with remains of painting and engraving, and two others with engraving; from the eleventh, at a depth of 2.35 meters are two plaques with groups of parallel lines, and from level thirteen, at a depth of 2.90 meters there is a plaque with an engraved bull (67).

Relating the art found on the plaques in the caves to that of the rock shelters of Valencia Province is difficult. The representation of human figures on the plaques from the caves is very doubtful, while the rock shelters abound in moving, running, bow-and-arrow shooting human figures, as well as animals.

Zotz sees the painted and engraved plaques as part of an art complex extending throughout the western Mediterranean —Italy, Sicily, Sardinia and North Africa— (68) but accepts a Mesolithic date for the art of the rock shelters.

In conclusion: Only the merest indication of the extent of the problem has been presented here. Art historians use terms like "impressionism" and "expressionism" in discussing this art, but very possibly the archaeologist may obtain more fruitful results by limiting himself to the kind and number of pieces found. This I have tried to indicate. The quantity of engraved and painted plaques is truly enormous. Finds of this kind in the caves near Gandía cannot yet be related to similar finds elsewhere so far as I know.

CHAPTER VII

PROBLEMS: VARIOUS POINTS OF VIEW: CONCLUSIONS

Since 1927, when the S.I.P. of Valencia was established, a great deal of work has been done. Many problems have been solved or

(66) L. F. ZOTZ: "Ein westmediterraneer paleolithischer Kunstkreis als mittlerer zwischen Aquitanischer- und Levantekunst". Homenaje al Conde de la Vega del Sella, Oviedo, 1956, p. 4.

(67) D. FLETCHER VALLS: Op. cit. note 8, p. 855, fig. 9.

(68) L. F. ZOTZ: Op. cit. note 66, p. 161.

are in the process of solution, while on the other hand a great many new ones have offered themselves. Problems and results are both difficult to synthesize because, faced with the same material there are completely opposite hypotheses on the part of different investigators, or even by the same investigator.

The conflicting hypotheses reflect primarily the state of flux of Valencian prehistory, and the vitality with which these problems are being attacked. In view of the fact that the problems are so complex, the hypotheses so conflicting, the field of study so large, I choose to offer no new hypotheses of my own at the present time, but prefer rather to state the problems, the hypotheses and the results through the opinions of Fletcher. The following is an abstract of some of his major points (69).

In spite of what we do not know, and in spite of the many questions that can only be resolved after a great number of excavations have been made, there are some points which appear to be definitely resolved. For the Upper Paleolithic, parallel chronology with European industry may be established with relative security since an evolved Mousterian with Aurignacian and Aterian elements from Level I at Cova Negra would appear to occupy the First Interstadial of the Fourth Glaciation, which we may infer from the presence of the **Elephas loensis** in Level III, a fact which obliges us to synchronize it with the end of the European Mousterian, and therefore Levels I and II must run parallel to the Aurignacian of other places, which explains a lack of the Lower Aurignacian in the Spanish Levant.

We must probably allow for a long Mousterian tradition in the Valencia region, and a long Aterian duration to allow for its influence on the Solutrean of Parpalló, as is proposed by Dr. Pericot. Or we might accept the rapid appearance of the Solutrean in this region, a fact which would explain the lack of the Chatelperronian and Middle Aurignacian in this region, and the presence of the Solutrean technique in the Valencian caves.

With respect to the North African contribution, it appears to be confirmed for the transitional times from the Middle Paleolithic to the Upper Paleolithic by the Aterian finds of Level I of Cova Negra. Later relations with Africa are revealed by the craniums of Barranc Blanc. No French prototype can be shown for the winged and tanged "arrowheads" in spite of the efforts of various French

(69) D. FLETCHER VALLS: Op. cit. note 8, pp. 852-868.

investigators. The evolution of microlithic types independent of the Magdalenian is proved by the Valencian sites where Magdalenian is unknown.

Fletcher points out two aspects of the problem of the origin of the Valencian Solutrean: 1).— That of its origin in general, and 2).— the origin of the winged and tanged "arrowheads". He feels that in regard to the origin of the Solutrean, Spanish prehistorians are very far from finding a solution which satisfies all investigators. But he feels that greater unanimity of opinion exists regarding the origin of the winged and tanged "arrowheads" as there are few authors who believe in a French origin.

The Valencian Magdalenian also poses difficult problems. It is found in Parpalló in its first four phases with characteristics which connect it directly with France, but there are no intermediate sites which show a coastal route. Therefore an interior route must be considered, which like the one supposed for the Solutrean, came from the western Pyrenees. Fletcher notes that certain caves containing Francocantabrian art in the Province of Guadalajara may have served as a point of connection. It is strange that the Magdalenian appears only in Parpalló, being practically unknown in contemporary, neighboring sites, in which the Gravettian follows its normal evolution interrupted at one point by the Solutrean, until the arrival of the Neolithic.

In spite of the difficult problems which have been posed as a result of thirty years of effort on the part of the S.I.P., certain positive results have been achieved. Fletcher summarizes these in the following words:

We are also obtaining results which we may call definitive. The gradual transition from the Middle Paleolithic to the Upper (Level I of Cova Negra and Level III of Barranc Blanc); the presence of Aterian elements in the last period of the Mousterian, and the beginning of the Upper Paleolithic (Level I of Cova Negra); the existence of a Gravettian industry which is the constant technique throughout the whole of the Upper Paleolithic; the appearance of microlithic pieces at the end of the Solutrean; the certainty that during the latter period there existed artistic manifestations; the disappearance of the Quaternary fauna, replaced by a fauna more characteristic of present times in the Upper Paleolithic; the fact that an industry of small type (Epigravettian I or Valencian Mesolithic I) is synchronic with the Magdalenian and connects with the Neolithic, etc., are among the problems which we may consider definitely solved with respect to the Upper Paleolithic of Valencia Province (70).

(70) D. FLETCHER VALLS: *Op. cit.* note 8, p. 869.

