THE

CAVE OF ALTAMIRA

AT SANTILLANA DEL MAR, SPAIN

BY

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Professor of Prehistory at the Collège de France and the Institut de Paléontologie Humaine, 'Paris

Dr. HUGO OBERMAIER

Member of the Academia de la Historia and Professor of Prehistory at the University of Madrid

FOREWORD BY

THE DUKE OF BERWICK AND ALBA

Director of the Academia de la Historia

English text by MARY E. BOYLE.

NEW EDITION PUBLISHED BY THE JUNTA DE LAS CUEVAS DE ALTAMIRA, THE HISPANIC SOCIETY OF AMERICA AND THE ACADEMIA DE LA HISTORIA

MADRID TIPOGRAFÍA DE ARCHIVOS 1935 Printed in Spain

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FOREWORD

The Cave of Altamira, the miraculous preservation of which ever since the glacial age we owe to some fortunate accident whereby the entrance became blocked, was rediscovered, again by accident, in 1868, when a sportsman's dog, in pursuit of vermin, happened to be caught among the rocks and the efforts to release it revealed the entrance. In 1875 the Cave was first explored by Don Marcelino S. de Sautuola, a pioneer of prehistoric studies in Spain. On a later visit in 1879 he was accompanied by his little daughter, who, penetrating by candle light into the chamber opening out behind the hall, was the first to discover the animal pictures on the ceiling and walls, to which she called her father's attention with a shrill cry of "Toros!". Sautuola was well aware of the importance of the discovery, as is shown by his report published in 1880; but, although most of the polychrome frescoes represent bison, an animal long extinct in Spain, the paintings were generally considered to be the rude work of modern shepherds and his claims that they were of great antiquity met with universal scorn.

It was not until the end of the century, when several similar caves containing rock paintings were found in France, that Sautuola came posthumously into his own. Since then Altamira, which, in spite of other discoveries still stands unequalled as an example of cave painting, has become a centre of pilgrimage for all interested in the study of Prehistoric Man and his art. Its very popularity, however, coupled with the constant threats of ruin from the falls of rock induced by infiltration, called for drastic intervention. Accordingly, in 1925, a Junta was formed for the preservation of the Cave, which was rendered more readily accessible by the construction of a motor road and the cutting of paths in the Cave itself; further, electric lighting was installed and the Cave placed under the supervision of a caretaker, part of whose house was appointed as a small museum.

It is under the auspices of this Junta, the Academia de la Historia, and the generous and ever ready assistance of the Hispanic Society of America, that the present volume is brought out. The need of a new monograph on Altamira had been felt for a long time. In the first place, the volume edited by E. Cartailhac and H. Breuil in 1906 under the patronage of Prince Albert I of Monaco, "La Caverne d'Altamira à Santillane près Santander (Espagne)", has been long out of print.

In the second place, the research work done by MM. Cartailhac and Breuil thirty years ago was necessarily incomplete and to a certain extent incorrect, as they neither had the time nor other means, such as proper lighting, at their disposal. Now that these obstacles have been removed, it has become possible to undertake afresh the study and reproduction of these paintings and engravings in the light of modern prehistoric investigations. Accordingly, many of the plates contained in the present work are new and there is hardly a single one of the former edition that has not been altered or improved upon; however, in this new monograph also all the sketches of the cave paintings are by the hand of Professor Breuil and the coloured plates are reproductions of his original copies, which he has now retouched.

To give a truer idea of the actual effect, the paintings have been reproduced on a back-ground which is of the colour of the rock; and, to enable the drawings to be checked, direct photographs that have not been touched up, are added.

Again, when the first work appeared, the study of rock-paintings was still in its infancy and the authors had to confine themselves to more or less theoretical comments on this art of so many ages ago. Nowadays, we know a whole number of caves in the North of Spain and the South of France containing examples of parietal art, in addition to the new and wonderful world of naturalist rock-paintings that has been opened up in the East and South-East of Spain. We are therefore in the happy position of being able to elucidate the problems of the age and progressive evolution of this unique art with the aid of a wealth of evidence that was unsuspected thirty years ago. The chapters of the present volume dealing with these problems are of fundamental importance and will stand as an authoritative source for all future studies.

Amidst the host of new discoveries, Altamira retains pride of place, and its light shines forth undimmed by that of any of its modern rivals.

From the present work we have omitted the chapter on Comparative Ethnology, based on the art of modern primitive peoples, for which we have substituted a discussion, on the lines mentioned above, of the several stages of cave art in the quaternary period, which culminated in the polychrome frescoes of the "Great Hall of Paintings" at Altamira, aptly termed by J. D. Déchelette "The Sixtine Chapel of Quaternary Art". Moreover, this cave

alone furnishes a whole chain of evidence towards the solution of these questions, which did not even arise at the time when MM. Cartailhac and Breuil wrote their work.

The reader will also note that, in place of the study of the quaternary stations of the district of Santander, only the layers beneath the entrance-hall to the Cave have been considered. We are now much better acquainted with the material aspect of the life led by the artists of Altamira, thanks chiefly to the systematic excavation carried out in 1924 and 1925 by Professor H. Obermaier.

I cannot conclude this foreword without an acknowledgement, however brief, of the deep debt we are under to Professors Breuil and Obermaier, for the very handsome way in which, without stint or regard to self, they have contributed both their time and store of learning. As the recognized authorities on the subject, they have devoted a labour of love to this work that will earn them the thanks of all present and future admirers of Altamira; indeed, by placing the results of their life-work at our disposal, they may be said to have enabled this edition to be published.

The English text is by Miss Mary E. Boyle, the Spanish version by Don José Pérez de Barradas. Both are specialists in prehistoric studies and thus in a position to express faithfully the ideas of the joint authors of this monograph.

INTRODUCTION

Now that we are publishing, after thirty years, fresh copies of the frescoes on the celebrated painted ceiling of the cave of Altamira, it is perhaps as well to remind the scientific public of the conditions in which the first reproductions were made.

When setting out for Santillana, neither E. Cartailhac nor H. Breuil had the least idea of the importance, size or beauty of the paintings, nor of their remarkable state of preservation. They only knew them by the small lithograph published by Don Marcelino S. de Sautuola and the short account written by E. Harlè.

Breuil had brought water-colours, imagining he could wash in a sketch in an atmosphere which he found far too saturated to allow of the paper drying. Fortunately he had also a few pastels, but had forgotten to bring black, and so had to make some on the spot with wood charcoal and burnt cork. The black, in these original copies, was never strong enough, and this is the chief difference between them and the new ones.

Their method of cave-lighting in 1902 was still by candles, as acetylene was not then adapted to it; they improvised candelabras to increase their candle-power, but these could not be moved about much, and only lit the roof imperfectly.

Nowadays, with the splendid electrical installation and the movable projectors, it is possible to see much secondary detail previously unnoticed. Thanks to these lights, Breuil was able to study, in a more satisfactory manner, those paintings which are more faded than the polycbromes, the theoretical importance of which he had only suspected in earlier days, lacking, as he did, the elements of comparative study.

Neither the yellow of candle-light, nor the light of acetylene, which he had used on his many visits to Altamira, from 1905 onwards, gave Breuil a chance to realize certain violet shades in the ochre and some yet purpler stains which he gave as brown; some outlined hands and various ancient marks are in this shade. Their real colour could only be appreciated in the modern white lighting. Then, chiefly where the big Hind is painted, the low roof which forced Breuil to work lying on sacks stuffed with ferns, in 1902, resulted in the distortion of some of the big animals in his copies, for he could only see them in a series or fore-shortenings. The happy idea of considerably lowering the floor now permits

people to walk about easily under the big figures, and be comfortably seated when copying them.

Finally, Mr. Breuil's study of the paintings carried out with Dr. H. Obermaier in March and October 1932, convinced him that his copies drawn to scale were mostly accurate. There were but four that he re-drew entirely, without referring to the original copies, but using the same system. In the case of the rest, he was content with retouching the old plates, strengthening considerably the blacks, and emphasizing the rather more delicate curves. Two wild Boars and a Bison have however greatly deteriorated in the course of the past thirty years, in spite of the first protective measures carried out with the help of subsidies from H. H. Prince Albert of Monaco. In these copies, Breuil retained the intensity of colour which they had in 1902, only modifying slight morphological details; his plates give a much stronger colouring than is theirs in their present condition.

Thanks to the great precautions taken by the "Junta" of Altamira, we now hope that the preservation of these splendid frescoes is assured for thousands of years. The superficial semi-liquid sort of limestone paste on which the colours literally floated, is now solidified and dried, as much as is possible in cave atmosphere.

In all the plates now reproduced, the background has been made a shade very near to that which it actually is; this tinted background makes it easier to realize the true appearance of the pictures and the relative value of the colours composing them.

Lastly, Breuil has revised the tracing on the roof beyond the big frescoes, which is sprinkled over with red signs, of which only slight sketches had been previously published.

A few more engravings on rock and clay in the cave galleries were copied, and exact tracings made of several others and of black drawings, which were only sketched in 1902.

CHAPTER I

The discovery and early descriptions of the parietal decoration of the Cave of Altamira.

The Cave of Altamira lies 30 kilometres west of Santander and 7 northeast of the rail-way station of Torrelavega, and 2,5 kilometres southwest of Santillana del Mar, to which municipality it belongs. The opening is in the limestone, at the highest point in a ridge of rock on a farm called "Altamira" (Pl. I), a name justified from every point of view: for to the south the magnificient Cordillera Cantabrica cuts the horizon, with, on the west, the picturesque steep silhouettes of the *Picos de Europa*, rising to an altitude of 2,672 metres, and snow-clad for the greater part of the year. To the north, at the foot of the rocky slopes of Altamira, sleeps peacefully the small ancient town of Santillana del Mar, formerly the capital of Asturias de Santillana, where various works of art, worthy the attention of visitors, testify to its important past.

1. Discovery.

In the year 1868, a hunter discovered the entrance to the cave, which, on account of a collapse of the ground, had remained unknown for centuries. His dog was lost pursuing some small vermin in the rocks, and, to free the dog, he had to break up various fallen blocks, thus reopening the old entrance.

In the year 1875, Don Marcelino S. de Sautuola, an archaeologist of Santander (1831-88), explored this cave for the first time; it was then known as the cave of Juan Mortero, a name which was promptly replaced by the name of Altamira. To the chaotic state of the entrance hall was due the fact that no one had settled in the cave; a villager called Cubillas used the entrance to set traps for animals. Don M. de Sautuola, struck by the indications of Quaternary occupation in the cave, began to search in a small way. On returning in the year 1879, accompanied by his little daughter Maria, the first wall paintings were discovered at a point not very far from the entrance.

Sautuola at once realized the importance of this discovery, later recognizing its Quaterna-

ry age, as is clearly stated in his pamphlet, Breves apuntes sobre algunos objetos prehistóricos de la provincia de Santander. (Santander, 1880).

Immediately, opinions antagonistic to the age and authenticity of the paintings were freely expressed, resulting in the discovery being treated with indifference and doubt by the public.

At the International Congress of Anthropology and prehistoric Archaelogy at Lisbon, in 1880, no official mention was made of Altamira¹. Juan Vilanova y Piera, professor at Madrid University, was the only Spanish specialist who from the first moment sided with Sautuola, shewing complete comprehension. He invited members of the Congress to visit Altamira, but could not induce them to do so².

In Matériaux pour l'Histoire de l'Homme (1881), the French paleontologist E. Harlè suggested that the paintings might have been made between Sautuola's two visits (therefore between 1875-79); he thought so on account of their freshness and their surprisingly good state of preservation. In the important manual, Le Préhistorique, Origine et Antiquité de l'Homme, by A. de Mortillet, published in 1883, no mention was made of Altamira.

In the Session of the "Sociedad Española de Historia Natural" on November 3rd 1886, Vilanova was still defending the authenticity and age of the Altamira paintings and still unsuccessfully. His chief opponent was E. Lemus y Olmo, an artist, who came from the region of Altamira; who though he owned to never having penetrated farther than the first painted hall, nor seen the implements or bones found in the cave, yet took a very emphatic view that the paintings were of recent date.

He wrote: "There are perhaps twenty figures, some life-size, in profile, on the vault of the roof, attempting to imitate antediluvian quadrupeds. Their execution shews no sign of primitive art, especially the legs and hoofs, which are drawn with much mannerism, distorted, with wide lines and disconnected, as they would not be being the work of a skilled artist. They have a facile roundness, though there is a certain awkwardness when their size is increased, due no doubt to the prints from which they were copied. This was not so, when a calf's head was drawn, it being a model the artist knew and remembered perfectly, and it is here that he chiefly gives himself away by his mannerism of suave distorted free lines, made, it seems, with a brush and smoke or bone black.

This head is not coloured like the rest, which are bronze (pavonazo), or like Seville earth and are not shaded. Some have the white of the eye in light ochre, and all are outlined.

¹ M. Rodríguez Ferrera: Apuntes de un diario: la cueva de Altamira. "La Ilustración Española y Americana." Año XXIV. No. XXXVII. 8 Oct. 1880, pp. 206-7; 210.

² Vilanova y Piera: "Sur la Caverne de Santillana." A. F. A. S. 19 Avril 1881, p. 765, and 28 Août 1882, pps. 91-92-93.

³ After the discovery of Font-de-Gaume and a fresh visit to Altamira, in 1903, and after the researches of Messrs. Cartailhac and Breuil, Mons. Harlé completely realized the mistake he made in 1881, and was perfectly convinced of the authenticity of the Altamira paintings.

with a black threadlike line, which it would be impossible to do with anything not flexible."

He declared: "By their composition, strength of line and proportions, they shew that their author was not uneducated; and, though he was not a Raphael, he must have studied Nature at least in pictures or well-made drawings; as is seen by the abandoned mannerism of their execution, such paintings have none of the character of either Stone Age, Archaic, Assyrian, or Phoenician art; they are simply the expression of a mediocre student of the modern school."

- J. Vilanova, at the Session held by the same Society in Madrid on December 1st, 1886, stated clearly his various reasons for believing in the antiquity of the Altamira paintings.
- r. That it was a pity that Señor Lemus, before expressing such a definite opinion, had not compared the pictures adorning the roof of the first gallery with the great number of artistic objects found in the deposits of the floor of that gallery, and with the paintings in the other corridors, for, though the latter were cruder and more rudimentary, one could study in them the essays and rough sketches of those troglodyte artists, who, judging by the mass of food refuse in the cave, must have occupied it for a long time, perhaps many centuries.
- 2. That the cave of Santillana, by the treasures it contained, belonged to the Magdalenian age, the artistic period par excellence, as can be seen from the designs on all the bone utensils found of that age, whose authenticity has never yet been disputed, except by those who have never seen them.
- 3. That by their special technique, by the proportions of both drawings and paintings, and by all the various circumstances relating to them, the disputed objects at Santillana seem very similar to those coming from the different caves of the same age in France.
- 4. That, however primitive were the lines drawn by a sharp instrument on stone, or in some way with the smoke of a candle as was affirmed, the profile of the animals represented was firm and decided, and not undulating or quavering, as would have resulted, had they been made with the oscillating movement of a flame.
- 5. That it was difficult to deny the remote antiquity of works of art, almost always the result of ingenious and instinctive spontaneity, when no doubt was cast on the authenticity of manifestations of an intellectual order, such as the inscriptions discovered in various Spanish and African caves, or those in the Canaries and America, all evidently prehistoric.
- 6. That, to execute a fraudulent modern painting in the cave of Santillana, there would have to be a combination of circumstances which would seem to he impossible, as both the attempt, the inventor and the clever executor would have to remain hidden."

In spite of his arguments, Señor Vilanova did not convince his audience, so it is not strange that he did not take up this subject of the northern Spanish cave at the following International Congress of Anthropology, which was held at Paris in 1889: the cave with its paintings disappeared from the list of subjects for discussion.

Bitter comments have been made on the opposition met by Sautuola's discovery, but he himself did not take the matter tragically; it was mistaken and unjustified, but comprehensible up to a certain point. This discovery, which was certainly epoch-making, was unprecedented at the time, and therefore revolutionary. It destroyed the rather limited ideas then held about the origin and evolution of Quaternary Man, according to which the so-called "savages" of the Quaternary epoch, lacking the most primitive knowledge of agriculture, cattle-raising, pottery and the use of metals, could never have been true and even eminent artists. Similarly, the views then current on the origin of art could not be reconciled with the theory that the frescoes of Altamira, most of which are of a surprisingly high artistic level, belonged to the first stages of the evolution of art, and must be assigned an antiquity of many thousands of years. Sautuola revealed to his contemporaries a new and unsuspected world, and it is easy to understand that those who might have been interested in Altamira were, at first, overwhelmed with surprise and misgiving, producing in some minds uncertainty and, in more vehement characters, fierce opposition.

It is not uninteresting to note that, almost at the same time in France, the problem of Palaeolithic wall art arose, and that, at the beginning, it had almost the same negative reception.

As early as 1878, two years before Sautuola, L. Chiron had published a note on the cave of Chabot (Gard), calling attention to engravings on the walls. These in no way resembled the great paintings of Altamira, being simpler and difficult to decipher. His words fell on deaf ears, and this happened again in 1889-1890 and 1893, when he insisted anew on the importance of his discovery. The rather faint paintings in Marsoulas (Haute Garonne) 1881, and the engravings in Pair-non-Pair (Gironde) 1883, were not mentioned in the first notices of the excavations in these caves, for the discoverers, though they had seen them, did not consider them to be of any value.

What attracted attention almost unconsciously to the Quaternary art on rocks, and prepared the way for its comprehension, was chiefly the samples of art mobilier (a French term used to indicate any object with artistic decoration and small enough to be transported easily), which appeared in the Palaeolithic sites in increasing quantities; sometimes artistically perfect statuettes, at other times, reliefs on stone or ivory, bone or horn, as well as beautiful engravings on flat rolled pebbles, Reindeer antler and similar materials. Their age was beyond doubt, for they appeared in intact Quaternary layers, not to mention that a great part of the animals portrayed dated from the Ice Age, and had since either become extinct or emigrated to distant lands (Mammoth, woolly Rhinoceros, Cave Lion, Cave Bear, Reindeer, Saïga-Antelope, Bison, wild Ass, etc.). As is known, the same occurs in the representations of animals on cave walls. When, in 1895, the engravings in the cave of La Mouthe (Dordogne), were first heard of E. Rivière realised that the pictures on the walls, which included Reindeer, Ibex, Bisons and wild Horses, coincided in style and other particulars with the small engravings on bone or Reindeer horn, so much so that they must be considered as the "work of the same hands". The road was now clear, and the discoveries, every day more numerous, made it impossible for the problem to be ignored.

With the discovery of the caves of Combarelles and Font-de-Gaume (Dordogne) in 1901, by Capitan, Breuil and Peyrony, the problem of the age of Quaternary art in France was definitely solved, and what, 20 years before, at Altamira, had been held to be impossible and unacceptable, was now shewn to be true: Upper Palaeolithic Man possessed a highly developed art, which he applied, not only to small objects, but to the walls and roofs of caves, in the form of notable engravings and polychrome paintings.

In 1902, Emile Cartailhac, in the Parisian review L'Anthropologie, under the heading Meâ culpâ d'un sceptique, published a retraction in which, with admirable courage, he acknowledged the mistake he had made with Altamira. In the same year, he went to Santillana del Mar with the young prehistorian, Henri Breuil, to study scientifically and copy the paintings in the cave 4. The results of this visit, which had its difficulties, was the monumental work La Caverne d'Altamira à Santillane, prés Santander (Espagne), which appeared under the august patronage of that Maecenas of prehistoric research, Prince Albert I of Monaco. (Monaco, 1906.)

The celebrity of the cave dates from this time, as does the increase in the number of its visitors, coming from many different countries. This entailed responsibilities. There had to be easier access to the cave and arrangements made for the comfort of tourists, artists and scientists, when studying the paintings; but, most urgent of all, measures had to be taken for their security and preservation.

The old local inhabitants said that, a few years before the discovery of the cave, a quarry worked by blasting had been exactly above the roof. This blasting, of which there were traces, had made various fissures by which water had persistently filtered in, with serious damage to the paintings, and even to the cave itself, for its ruin seemed imminent in 1925.

The working of this quarry on the top of the Hall of Paintings had the effect of first removing one and a half metres of the solid protecting rock surface, and, secondly, the splitting of the limestone layers by the blasting operations, creating wide fissures, which weakened the cohesion of the rock and upset its original statics. A few years before the discovery of the cave, little was lacking to prevent the front part, especially the hall with the polychrome frescoes, and the unique reliefs a little lower and farther in, from being definitely destroyed. Due to this, the pictures have suffered greater damage in the last fifty years than during the 10 to 12000 years they were hidden.

The Duke of Alba came to the rescue. Under his presidency, the Committee for the protection of the Cave of Altamira (Junta Protectora de la Cueva de Altamira) was formed, which purchased the land containing the cave, and immediately built a stout supporting wall in the vestibule to assure the stability of the roof, which was further consolidated

Abbé H. Breuil: L'âge des peintures d'Altamira. Revue Préhist. 1906, pp. 237-249.

⁴ E. Cartailhac and Abbé H. Breuil: Les peintures et gravures murales des cavernes pyrénéennes. I: Altamira, L'Anthr., 1904, pp. 625-644.

by an exterior surface coating of concrete, the same material being injected into the cracks of the rock. Thanks to these precautions, completed in 1928, a monument unique of its kind was preserved for Spain and the rest of the civilised world.

By the initiative of the same Committee, whose scientific supervisor is Professor Hugo Obermaier, and technical supervisor, Engineer Alberto Corral, assisted by members from Santillana del Mar and Santander, a systematic study of the deposits in the vestibule has been completed. In addition, in 1928, a motor road from Santillana del Mar to the cave was made, the paths inside the cave were improved, and a deep circular track dug in the Hall of the Paintings (Sala de las Pinturas). The acetylene lamps, dangerous in every way, were replaced by electric reflectors, and, near the entrance, a house was built, which served both as a dwelling for the permanent custodian and to lodge an extremely instructive small Museum (Pls. 1, 11).

A hygrometer has been placed in the Hall containing the great paintings and the observations derived from its reading are given at the end of this chapter.

In 1928, when a second cave was found, the Committee changed its title to that of Committee for the Protection of the Caves of Altamira (Junta Protectora de las Cuevas de Altamira), and it is now attached to the Junta Superior del Tesoro Artístico National (Madrid), which is a department of the Spanish Ministry of Public Instruction.

2. The Second Cave discovered in 1928.

As has been said, with the idea of connecting Altamira easily with Santillana del Mar, a motor road was made in the summer of 1928. To obtain the necessary stone, a quarry was opened 100 metres from the entrance of the cave of the famous paintings, and this led to the casual discovery of a new cave, remarkable for the beauty and completeness of its numerous stalactites.

This newly discovered cave (Pl.LII) was 80 metres long and of varying width, but never narrower than 20 metres. The horizontal roof has fissures in it, but Nature herself has repaired these defects, hiding the cracks with bluish calcite which hangs from the roof in innumerable tubes and fine needles. The ground is covered with stalagmites, protuberances, or elegant columns, forming fine groups like the fantastic ruins of mediaeval castles.

This cave is a marvellous sight. Like slender crystal threads, the stalactites reflect the light, splitting it into all the colours of the rainbow. In other parts, the walls are pure white and from the roof hang stalactites like the flies of a theatrical stage. In the innermost prettiest part of the cave, there is a grove of stalagmites like columns, some dusky, others white or yellow, which grow as if seeking the delicate stalactites hanging from the roof, very slowly moving, to meet them. This wonder of Nature, a fit palace for

fairies and gnomes, has been produced in the course of centuries by drops of water. The filtrations, thanks to their containing a solution of carbonic acid, run with lime, the water which drips from the stalactites contains bicarbonate of lime, and, in evaporation, deposits lime of extraordinary whiteness and purity.

Twenty metres from the entrance, a skeleton was discovered. The skull was inverted as if the Man to whom it belonged had died with his face downward. It was the skull of a prehistoric Man who happened to be in the cave, when the ground collapsed and sealed the entrance. This skeleton is now to be seen at the small Museum of Altamira in the guide's house: it is impossible to determine the exact age of these human remains, for there were no objects with them. Since the mineralisation of the bones is not very great, there is no real reason for dating the Man as Quaternary, and he probably belongs to a much more recent prehistoric period.

3. Temperature and atmospheric humidity in the Hall of Paintings.

The humidity in the air of this hall is due less to water filtering in by cracks in the roof, than to the entrance of the extremely saturated outer air, which condenses in the interior of the cave. It must not be forgotten that the Cantabrian coast is one of the dampest in Europe, with frequent rain and fog.

(The humidity is gauged by a special hygrometer.)

Humidity,	Temperature in centigrades
94.	14.
96.	14.
97-	14.
97.	14.
97.	14.
97.	14.
96.	14.
96.	14.
96.	14 1/2.
96.	14 1/2.
	94. 96. 97. 97. 97. 96. 96. 96.

	Humidity.	Temperature in centigrades
1932.		
Jan. (1-14)	96.	14 1/2.
» (15-31)	96.	14.
Feb. Mar. Apr. May.	96.	14.
Jun. Jul. Aug. Sept. (19)	96.	I3 I/2.
Sept. (20-30)	96.	14.

When the humidity is at 97, the polychrome paintings are at their brightest; with the humidity at 94, the paintings lose much of their freshness and take on a grey surface tone.

It is therefore certain that a very great humidity in the rock and the atmosphere preserves the freshness of the colours. They would crumble into dust were the surroundings too dry.

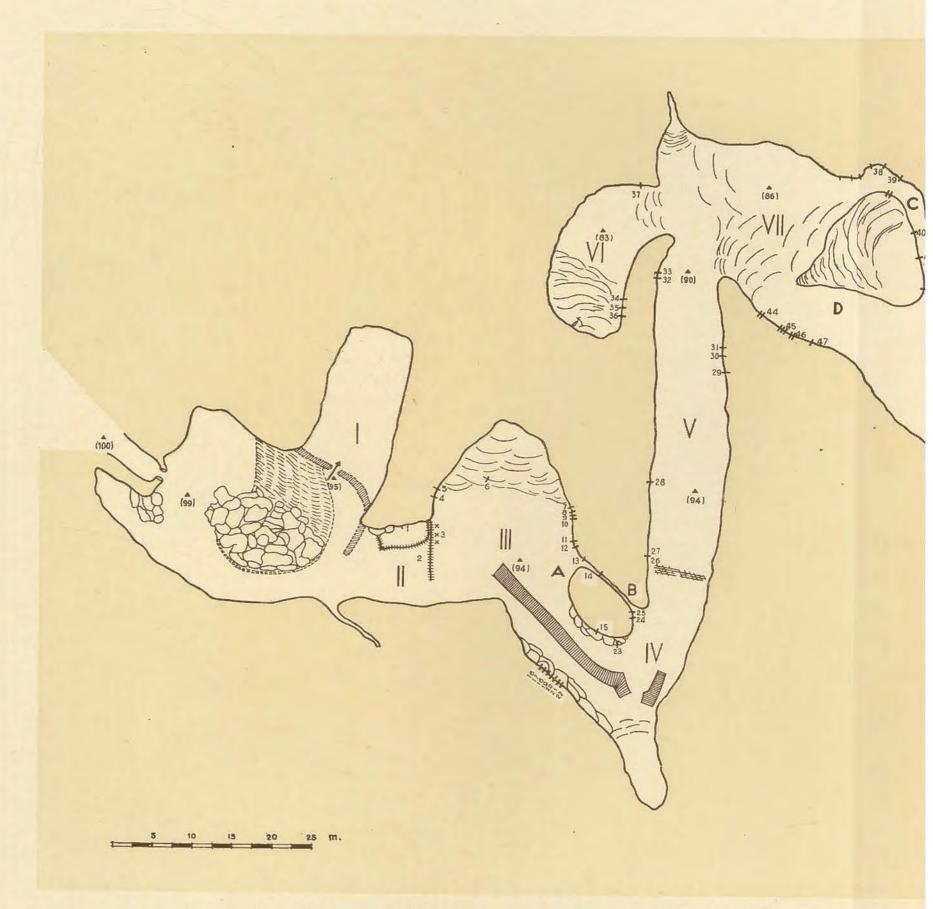
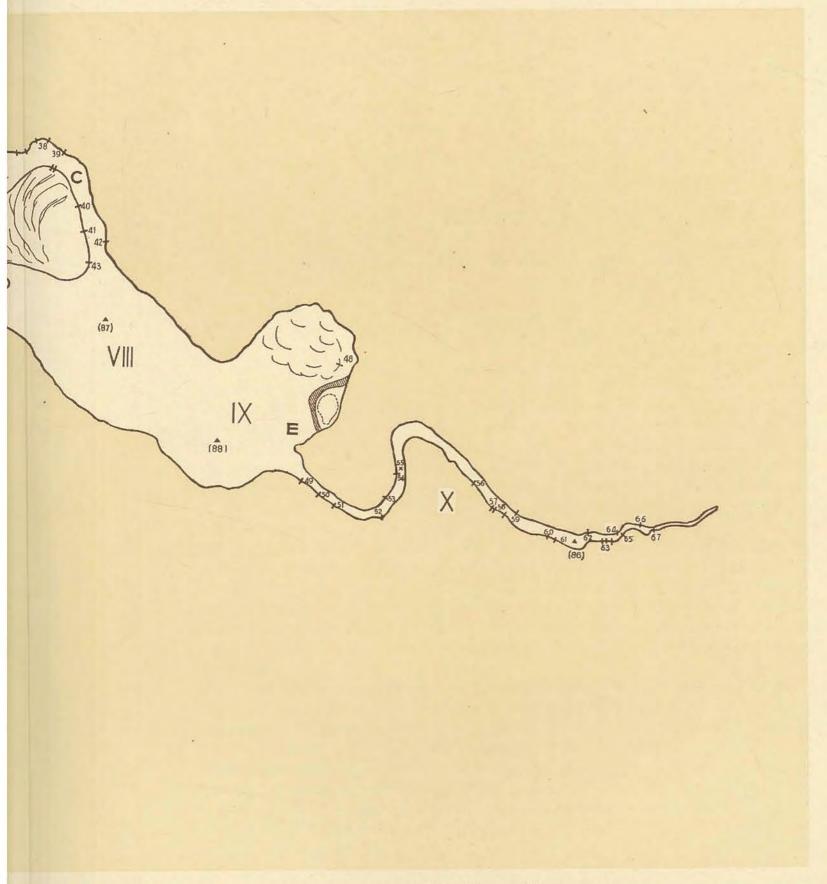


Fig. 1.—Plan of the cave of Altamira (Santillana del Mar), surveyed and drawn b



and drawn by Mr. Alberto Corral (Engineer) and Dr. Hugo Obermaier.

CHAPTER II

The Cave of Altamira and its works of art.

1. Generalities.

The cave of Altamira (fig. 1) runs, for a length of 270 metres inside the hill (1), in irregular twists. Thirty metres beyond the vestibule, the only part occupied for any length of time by Quaternary Man, and which, in the past, was chiefly lit by the light of day, a large space opens on the left, the celebrated Hall of Paintings (fig.3, Pls. III, IV). It is 18 metres long and 8-9 wide, its height starts at 2 metres, changes to 1 m. 70 in the centre, and, at the foot of the hall, falls to I m. 10. It is therefore easy to understand how these Quaternary artists decorated the roof of the cave, for it was easy to reach. Moreover most of the paintings are in this hall, so are the engravings of animals, anthropomorphic figures, tectiforms and some silhouettes of hands. The polychrome pictures are only in this hall (fig. 4). Going further into the cave, which is nowadays easy of access, red or black paintings and engravings irregularly distributed on all sides are seen; they are specially massed in the narrow low corridor at the end which is uncomfortable to visit at its commencement and quite difficult at its end. The chief interest in visiting the cave is certainly concentrated in the Hall of Paintings. The greater part of its pictorial decorations can easily be seen, for the colours were vigorously used, and they still stand out fresh and brilliant.

As colouring matter, the artists used vegetable carbon, which is found in quantity on the hearths, as well as other and hematite, which give all the red, yellow and brown shades, and which they often shaped like pencils. There is no blue or green, but there are some violet shades, probably made with manganese mineral. Such colouring matters were usually reduced to a fine powder, and animal grease or vegetable juices added to them, making a semi-liquid paste which could be applied with a finger or a real brush (bunch of hair, feathers or little wooden sticks coated with grease). As the paint was applied directly to the surface of the rock, it could only be done when dry, and by using sticky substances such as grease or resin, and these materials could only be used when heated.

Thus were produced true "oil paintings", blending with the surface of the rock, and admirably preserved. The engravings were made with flint gravers (burins) or with any pointed flint, and there are also drawings on clay, traced with a finger or a stick.

These works of art were undoubtedly executed by artificial light. To light the darkness of the cave, torches, resinous sticks, or lamps fed with grease, were used; lamps hollowed out of stone have been found in other caves. The limpet and other shells, or bowls made of skulls, could also have been made use of, with tufts of hair or moss as wicks.

Many of the polychrome figures are also partly engraved. The contour was often first outlined with a graver, or drawn in black; there was thus a rough draft to which the paint could be applied, or else the contour was made more prominent still by engraving particular details, such as the eyes, horns, muzzle and hoofs. Sometimes the figures were washed or scraped after being painted, at least certain parts of them, to produce a more suave profile or more harmonious and softer colour effects. In this way were produced the surprising polychrome paintings, chiefly pictures of Bison, an animal which died out on the Iberian peninsula at the end of the Glacial epoch. In these pictures, almost all the problems proper to an art which has reached its apex are solved: the material representation of the body, it being modelled with precision by means of blended colours or delicate contrasts of different colours, to give the real light and shade values, movement shewn by the animals being in different positions, sometimes simply standing upright, at others, resting or lying, sometimes moving lazily, at others, running at full speed.

On examining the roof carefully, the spectator will note a certain number of natural protuberances. These suggested to prehistoric Man the idea that these natural reliefs were singularly appropriate for imbuing these aminal portraits with greater life and reality. To this caprice of artistic fancy we owe the greater part of these pictures: each of these natural bosses was transformed, with the addition of colour, into a plastic body, to which head, hoofs and tail were added with extreme ability. As the artists wished the rock protuberances to recall the body of a Bison in repose, these animals appear to be resting, with head deeply buried and legs drawn up against the body. Other flatter models were only partly combined with these natural projections, but, in every case, certain parts of the body, such as the head, back or hind-quarters, stood out in relief.

The paintings of Altamira, 150 in number, are not all of the same age, but belong to a series of stages in the Upper Palaeolithic, which, thanks to the work of specialists during recent years, can be clearly defined on broad lines. This will be more extensively explained further on.

Most of the pictures, whether engraved or painted, represent animals, and in particular Bisons, wild Horses, Stags, Hinds, Ibexes, and more rarely wild Bulls, wild Boars, the Elk and the Wolf. In the oldest pictures, the Horse, Stag and Ibex predominate; in the most recent (the polychromes), Bison. They are constantly figured in naturalistic style, the model being reproduced with evident power of exactitude and fidelity to type. They are sometimes of considerable size, for, amongst the Bisons, figures of I m. 40 to I m. 80 in length are not rare, and one Hind reaches a length of 2 m. 25.

We search in vain for groups or real compositions, though there are single figures, which, notwithstanding a lack of grouping, are at least juxtaposed, or even superposed one on the other, with this result that the figures cut across each other, and that the oldest are sometimes destroyed by the most recent. When one remembers that these cave paintings were without exception made in places perpetually dark, and that in any case the artists preferred to place them in the least accessible parts, sometimes hiding them in the most sequestered corners, one is forced to believe that they were for no decorative reason.

This is more evident when we come to the fine engravings, which are hardly visible and can generally only be found with the greatest effort. These pictures, many of very indifferent execution, but, sometimes, real artistic efforts, certainly owe their existence to the magico-religious idea, especially to the custom of hunting magic, as it still is practised to-day among living primitive peoples. The fact that in more than one instance (though not in the cave of Altamira), arrows or assegais were painted on the animal's bodies, agrees with the magic theory, and is undoubtedly a sign of their being spell-bound, or of symbolic death. It is significant that, in the Hall of Paintings in Altamira, two of the Bisons with bodies painted most carefully in polychrome, have in one case the head, and, in the other case, the horns not drawn, as if the artists had omitted purposely the important organs for defence, hearing and sight. Also it seems that certain places or corners, in this cave and others, must have been considered as especially sacred, and that the spells cast there were particularly efficacious. Because of this, although in other parts of the cave there was plenty of available space, the artists repeatedly used the same places, piling their pictures one on the other, like palimpsests, not hesitating to destroy older paintings, although they might be of great artistic value. One need not insist further that there may be an influx here of ideas of reproductive magic or a cult of particular animals (totem animals).

All this suggests that caves must then have existed dedicated regularly to a cult, since paintings are not to be found in every cave, even though the interior may be suitable and the vestibule much inhabited. In each region, as far as one can see, there were few places of the same age that were considered as real "sanctuaries", wherein Man no doubt celebrated ceremonies at which only certain individuals might attend. Was Altamira one of these sacred places?

Before beginning a detailed description of each important picture on the ceiling, we must explain briefly the way in which our reproductions were made. The extreme fragility of the paintings at Altamira prevented us making direct tracings as in other caves, we had therefore to proceed differently. On a first very rough free-hand sketch, the measurements were noted bit by bit, as one of us lying on the ground pointed out to his companion the limits of the space to be measured. When making our latest copies we used triangulation. Then, working with a decimetre to the scale of a fifth, and in front of the original fresco, a pencil drawing was made, and, whenever necessary, fresh measurements controlled the first ones taken. After that, the pencil drawing was traced with

the help of a carbon sheet on to a single piece of paper suitable for painting, the animal being coloured with pastel and stomp, the copyist still confronting the original. The brilliance of the old colours of the Altamira frescoes is *generally* sufficiently great to save the modern copyist the need of accentuating them, but in the cave they blend with the reddish tint of the rocky background. In our new addition, we have reproduced this tint, as, in the 1902 edition, the whiteness of the paper gave a certain harshness of relief and outline, which is not the impression produced when looking at the original frescoes.

There were peculiar difficulties in copying certain animals, because of their position on high relief bosses. In such cases, we first made a very accurate drawing, measuring the outline of each with precision, then presumed a regular flattening of the whole relief, keeping each part at an equal distance from the periphery. By this means, we projected these rounded figures on the flat as accurately as was possible. In any case, photography can only shew one side of these bosses and the contour farthest away from the light and lens vanishes completely.

As well as the illustrations reproduced from the copies made by the Abbé Breuil, the present volume contains a certain number of very fine photographs taken with great care by Mr. W. Wunderlich, under the guidance of professor H. Obermaier. The 1902 edition had several photographs taken by E. Cartailhac with a small camera, some of which at least are excellent. (C. A. Pls. XXIX, XXXI, XXXI bis.)

At the time of the publication of Les Cavernes Cantabriques, by order of Prince Albert of Monaco, H. Breuil took Mons. Lassalle, a professional photographer, with him, who under his direction took a great number of photographs in all the caves: C. C. Pls. X CI, X CII, X CIII, X CIV, X CV, X CVI, X CVII, are all excellent of the Altamira ceiling. Some of these were taken directly, others in a mirror. These efforts, produced under more difficult conditions than those of to-day, are certainly not as good as the beautiful photographs we now present to the public.

2. Distribution of figures in the cave.

Gallery II. Hall III, on the plan.

- I. Well preserved paw-prints of Cave Bear on the ancient clay surface of a hillock.
- 2. On the roof; remains of drawings and interlacings made with fingers on clay: Animals, etc., made with fingers; amongst the interlacings, a fine Bovine head on the roof (fig. 37).
 - 3. On the cornice, animals either engraved or drawn with a finger (fig. 38).
 - 4. Black Bison (?), partly preserved, engraved and partly painted in black, facing left,

55 cms. long; 1,90 ms. above the floor of the cave: other remains of black paintings (fig. 25).

- 5. On the wall, black Ibex, 1,50 ms. above the floor, rather effaced, but good style, facing right, 22 cms. long.
- 6. On the clay coating of a stalagmitic cascade: deeply engraved grazing animal facing left, head destroyed (Bull?), 1,55 ms. long (what remains of it); on the same cascade: remains of other rather badly preserved engravings (figs. 50, 51).
- 7. On the wall, engraved Horse facing left, 40 cms. long; remains of other inferior engravings (fig. 65,1).
- 8-9. On the wall, engravings of two small Stags, bad style, facing left; only the fore part of the line of the backs is given (fig. 63,2, 3).
- 10. Engraved Bison on the wall, facing left, badly drawn, with big horns, 77 cms. long (fig. 66).
- II-I2. Black paintings on the wall, both facing left, both 50 cms. long: Ibex (?). Horses painted in black, head clearly visible, but badly preserved (attributed by mistake in the 1st edition of Altamira book to the big painted ceiling) (figs. 26, I, 2).

Between III and IV on the plan.

- 13. On the wall, Stag facing right, painted in black, very badly preserved, head almost destroyed, good style, 40 cms. long.
 - 14. Corner with red tectiforms, 5 metres long; average length of signs: 60 cms.
 - a) Group of simple tectiforms on the roof, near the end of small recess (fig. 23, 3).
- b) Wide red band, 2,45 ms. in length, along the left wall, hidden by a projection of the rock, 1,15 ms. above the cave floor (fig. 23, 1).
- c) Right wall, different tectiforms, fairly near the floor and partly effaced (fig. 23, 2, 4, 5).
- 15. On the left cornice of the latest collapse of the roof, engraved Hind, facing right, full of life, 70 cms. long (fig. 57). A black line crosses the animal's neck and is older than the latter, for the engraving cuts through the colour.
- 16. Tangle of engraved animals (fig. 58, 1); amongst them, towards the foot, fine Hind's head and striated body facing left, 40 cms. long.

At a distance of 1 m. and 1,30 ms. from No. 15, towards the interior of the gallery, are other remains of black paintings (lines), either on the cornice or on the roof.

- 17. Engraved Hind, facing right, 43 cms. long (fig. 62, 2).
- 18. Finely engraved Hind's head, facing right, 40 cms. long (fig. 58, 2).
- 19. At a distance of 1,60 ms. from No. 18. Fore-quarters of a Stag, well drawn, with antlers, 28 cms. long (fig. 63, 1). At one side some remains of engravings.

- 20. Engraved Hind's head facing right, 19 cms. long (fig. 58, 3).
- 21. 40 cms. away from No. 20, below the cornice, an engraved Hind, facing right, 45 cms. long (fig. 64).
- 22. Above the hind-quarters of fig. 21: Engraved fore-quarters of a Hind, facing right, 30 cms. long.

No. IV on the plan.

- 23. Fallen blocks with engravings (figs. 39, 40, 41), made before the blocks fell, and forming a cornice: the semi-human figure (fig. 42) was destroyed when the path was made ⁵.
 - 24. Fine engraved Hind's head, facing right, 24 cms. long,
- 25. Simple engraving of a Hind, with neither belly nor hoofs, facing right, 70 cms. away from No. 24 on the wall; well drawn, 68 cms. long. The whole of the rock in the recess B is smeared with red.

No. V on the plan.

- 26. On the cornice, a well drawn engraved Bull, facing right (fig. 44); 35 cms. long. 25 cms. to the left, small Izard (Chamois) head, facing left.
- 27. Very long animal (Feline?) painted in black, beneath No. 26 on the wall. 55 cms. above the floor, badly drawn head; length 38 cms. (fig. 27).
 - 28. On the cornice, black Bison, facing right, rough style; 52 cms. long (fig. 28).
 - 29, 30, 31. Animals drawn in clay, high on the cornice (fig. 43).
- 32. Immediately before the natural rock steps leading to the lower hall, very high on the clay covered wall, simple engraving of a Bovine animal facing right, 54 cms. long (fig. 45, left).
- 33. 80 cms. away from 32. Engraved Bull facing right, 60 cms. long; stands out clearly from dark background (fig. 45, right).

Hall VI.

- 34. Well drawn black Ibex, partly covered with lime incrustations, 38 cms. long, facing left (fig. 29).
- 5 These engravings were at first in the centre of the passage, having fallen from the original roof. They were brought here after the collapse of 1933, and are now propped against the left hand wall between 15 and 24.

35-36. Head of a Hind, shaded in black, 49 cms. long (see photo, Pl. L), and two black Ibexes facing right with very long horns, each 35 cms. long (fig. 30, 35 a). In a recess between 36 and 37, claw-marks and paw-prints of the Cave Bear (fig. 2).

37. Black Bison facing left, 88 cms. long. Fine line drawing, hump adapted to slight natural projection (fig. 35, Pl. L).

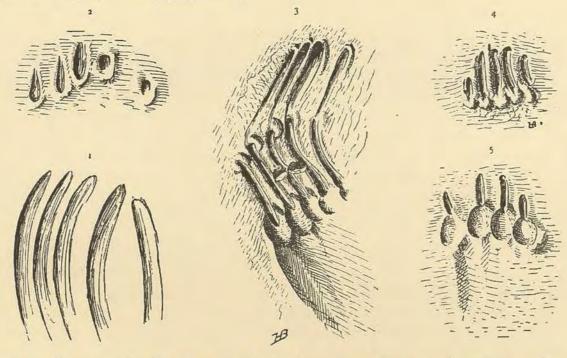


Fig. 2. Marks made by Cave Bears on the clay, covered or not by stalagmite on the slope of a cascade of stalagmitic clay, at the end of a recess in Hall VI.—1), 16 cms. wide;—3), 24 cms. long, not including the upper scratches;—5), the claw phalanges measure 9 cms. in length.

Nos. VII and VIII C, on the plan.

38-43. Elementary but certainly Quaternary drawings in black, signs and lines (fig. 35).

Nos. VII and VIII D, on the plan.

- 44. Black drawings.
- 45. Interlaced engravings (amongst others two Horses) placed in a small corner and facing each other, and the head of a Horse. They all face left and are about 40 cms. long. 46-47. Black signs.

No. IX E, on the plan.

48. Indeterminable quadruped painted in black, with long horns and tail facing left, 22 cms. long.

End corridor, No. X, on the plan.

49. Black signs (fig. 35 a, b).

50. Upper half of an engraved Bison, facing right, 44 cms. long (fig. 46, 1).

- 51. Engraved Ihex (?), probably kneeling, head low, facing right, 36 cms. long (fig. 46, 2).
 - 52. Black signs.
 - 53. Black Horse, very poor style, facing left 40 cms. long (fig.31).
 - 54. Engraved cervoid animal (incomplete), facing right, 31 cms. long (fig. 35 a).
- 55. Stag with short horns, back and part of head formed by natural fissures, engraved on the roof of the passage, facing left, 50 cms. long (fig. 72).
- 56. Engraved Bison (incomplete), facing left, 47 cms. long. Beneath, various black signs (fig. 48).
- 57. I. Small rectangular black tectiforms with outer fringes. Greatest diameter, 13 cms. (fig. 33, 34, 35 b, Pl. LI).
 - 2. Sun shaped tectiform with rays. 15 cms.
 - 3. Big tectiform filled in with lattice, 42 cms.
 - 4. Tectiform, greatest diameter 30 cms.
 - 5. Sun 10 cms.
 - 6. Elongated tectiform, 26 cms.
 - 7. With complicated filling 30 cms.
 - 8. " " 27 cms.
 - 58. Remains of uninteresting engravings.
- 59. Full face of a bovine animal or a mask, utilizing a rock projection. The muzzle is a natural accident, 18 cms. long (Pl. L, and fig. 32, 1).
- 60. Fine engraving of a Horse, facing right, upper part unfinished (fig. 65), 62 cms. lorg. In front of the head, small body of an animal? (fig. 35 b).
- 61. Fine engraving of a Bison, facing right, 55 cms. long; above the back, indeterminate engraving of another animal (fig. 67). These engravings cut across simple black signs, which are consequently older.
 - 62. Very long animal face or mask on natural rock angle, 45 cms. long (fig. 32, 2).
 - 63. Very small engraved cervoid animal facing left, 13 cms. long (fig. 69, 1).
 - 64. Hind's head, facing left, 10 cms. long (fig. 69, 2).
 - 65. Black signs (fig. 35 a).
 - 66. Outline of black animal, facing right, bad style, 42 cms. long (fig. 35 a).
- 67. Group of six engraved Hind's heads and fore-quarters, some very good style (figs. 68, 71).

CHAPTER III

Description of the frescoes on the big painted ceiling.

1. Large painted ceiling of the Hall of Frescoes.

The animals painted in fresco on the ceiling of Altamira form the chief part of the decoration of this cave. They are also the most extraordinary example of Palaeolithic art as revealed in a great many other caves. Let us review these frescoes, studying the merest details attentively. They are often superposed on very old paintings more or less effaced. Here and there, the shape of certain parts of the rock roof has determined the position and arrangement of the animals; generally these are engraved as well as painted.

Originally, the distance between the painted roof and the floor surface in the hall was (see fig. 165) from I m. 80 to I m. 90, in the middle of the hall; and only I m. 60 near the right hand wall, where the paintings were massed, so that these were in great danger and some already damaged by rubbing, inscriptions, etc. In 1928, a circular path was dug out in the old deposits, the thickness of which can be noted, and which indeed remain intact over most of the floor. Thanks to this path, the distance between the ground and the paintings is now 2 ms. 50 on an average, which allows the observer to be at a good distance from the paintings, and preserves them from chance injury.

The rock roof on which the principal works of art of the cave of Altamira are massed is 18 metres long and 9 metres wide.

In prehistoric times, the painted ceiling probably reached nearer the entrance, which was further forward than it is nowadays; but the progressive collapse of this part of the cave has resulted at different times, in the overhanging ridges of rock crashing on to the cave floor. This has occurred recurrently during and since Palaeolithic times, and in the hall between the painted ceiling and the entrance, protective measures have had to be taken to stop this gradual destruction. We do not know what may be hidden by the blocks which have fallen from the roof in the course of centuries, but at least, as there is no trace of Man's habitation here later than the lower Magdalenian era, we think that the cave, though frequented in upper Magdalenian times, had then ceased to be a place of



Fig. 3. The big painted ceiling, after Cartailhac and Breuil. The figures at the back and on the right are left exactly as they were sketched at this date (1902).

residence. It is extremely likely that, deeper than the lower Magdalenian and upper Solutrean levels (the only ones which the excavators have been able to cut through), the oldest rubbish heaps may hide Aurignacian and even earlier deposits.

The ceiling (fig. 3, Pls. III, IV), as it is to-day, may be divided into three large zones:

- 1. The back of the hall, decorated in different eras with paintings in red of varied age, line engravings and black drawings. (Pls. V b, VI, VII).
- 2. Red animal figures, black drawings, engravings underlying or surcharging the red paintings, and primitive polychromes, roughly sketched and re-utilizing the earlier reddened surfaces. (Pls. V a, VIII, IX, X a & b, XI, XII).
- 3. Large group of big polychromes taking up the entire left side of the hall and towards the back, partially superposed on red signs. (fig. 4, Pls. XIII to XLIX).

In 1902, our chief efforts were directed to copying the polychromes, and we had not, with few exceptions, the time to do more than sketches of the other parts of the ceiling. In 1932, we thought it best to recopy entirely the two first zones previously neglected.

We will now study the decoration of the Altamira ceiling according to these three divisions.

2. The part of the ceiling farthest in.

This considerable surface is divided and occupies three plates:

Plate V b. 5 metres width: Shows the whole width of the back of the hall to the height of the Hind. There are some few remains of red line drawings of animals cut through by engravings which probably represent conical huts, very numerous here, about 55 being on this plate These very old red drawings are scarcely ever decipherable, but the belly and two hind legs of an Ibex can be made out, the frontal of a Bison, with horns seen full face, and part of its back. Numerous spots grouped at the edge of the ceiling touching the wall seem to be the same age. Here the engravings are exclusively of huts drawn by diverging lines starting from a single point. They are covered by big club-like signs, the most visible decoration of this part of the ceiling. They are evidently not all of the same age. It seems as if two long curved or sinuous lines to the right are all that remains of some animals traced in broad lines and seldom recognizable. A small number of faint black lines are seen here and there, clearly overlying fragments of the red line drawings. At this stage, the hind legs of the Ibex already mentioned were partly re-drawn. On the left of this group of figures, the Hind overlaps a group of club-like signs, the last on this side. The engravings in this part include human figures.

Plate VI. This comprises the surface of the middle of the ceiling immediately in front of the preceding plate, and is bounded on the left by the big polychrome Bison and the big Hind. Surface dimension: $4 \text{ metres } 70 \times 5 \text{ metres } 60$:

I. A few red line drawings too fragmentary to be decipherable.

2. Important remains of big red animals and parts of them, of which only a few legs can be distinguished.

3. Red club-shaped signs and other symbols, sometimes curiously grouped; one of these groups looks (accidentally perhaps) like a human figure. Engravings, only huts, 12 in all, generally immediately underlying the two former layers of drawings.

4. On the bottom right hand corner of the plate, several violet marks, perhaps the negative of a hand, and the positive of a foot.

5. Superposed on all these series are black line-drawings, hardly ever sufficiently preserved to be intelligible. Three Horses can however be easily deciphered, the little head of a grazing animal and two hind legs.

6. A big polychrome Bison surcharged sideways on several red signs.

Plate VII. 4 metres 90 width. Takes up the whole space between the preceding plate and the wall. There are no red club-shaped signs, but a good many fragmentary animal silhouettes, drawn with wide red lines and of very archaic style; they are cut through by engravings of huts (there are ten of these), and other paintings cover them. A certain number of groups of spots accompany them. On top of all the preceding collection there are sketches in black, amongst which those of a Horse, two Ibexes, three Deer, the head of a Bison and various other parts of animals can be distinguished.

3. The Frescoes on the right of the ceiling.

The area of the right wall beyond VII has been divided for purposes of study into eight portions, moving towards the entrance, and is described in the following plates.

Plate VIII. Principal figure, a red Elk, I metre 60 wide, sur erposed on the engravings of two huts which are on the right of Plate VII. The Elk is drawn in wide red bands in extremely primitive style. The horns are quite typical, the body, imperfectly preserved and covered with spots. To the left, there is the head of a Horse, probably older, drawn in thick red lines. Above is a big leg, but the context has disappeared, and, rather behind, there is a big animal in plain red, the head of which has vanished, but, judging by the remaining three legs, it was probably a Horse. This is surcharged with two large violet stains, the horse-shoe one probably the remains of an stencilled hand. The legs are also cut across by black line drawings, one of which is a Horse. Figure 56 of the former volume on Altamira is a rather inexact sketch of this Elk, which needed more light than we previously had, to decipher it. Width of the whole panel: 3 metres o5.

Plate IX. This was described in the first volume on Altamira (fig. 57), and re-drawn for the Cavernes de la Région Cantabrique (Pl. XCVIII).

Aware of its importance in the evolution of Palaeolithic art of this region, and the

too primitive character, due to bad lighting, of the previous copies, we have re-drawn it entirely. The plate shews:

- 1st. The red line-drawing of an Ibex, the first outline being later painted over in brownish shades.
- 2nd. The almost shapeless remains of big animals in red flat-wash, very faded; one pair of legs can be picked out.
- 3rd. Two Horses very primitively drawn, in flat red, partially in excellent preservation, as are some clusters of spots.
- 4th. Three stencilled hands outlined in violet, two overlie one of the preceding Horses (contrary to what H. Breuil wrote previously).
 - 5th. A prettily engraved Ibex head is cut on top of the various paintings.
- 6th. The outline of an enormous black Bison, with horns seen in profile, cuts through a great many of the earlier figures, and belongs to the period of the black drawings previously cited.
- Plate V a. A big galloping Horse drawn in wide red lines, not understood in 1902 (see sketch 55 in the Cave of Altamira). The interpretation given was corrected in 1906 (Pl. XCIX and Fig. 208 of the Cavernes Cantabriques). The very violent attitude of this galloping animal is quite remarkable, in spite of the harbarous drawing of its silhouette. There is no engraving near this drawing. Length of the Horse: 1 metre 82.

Plate X a. Red Horse.

- I. The oldest figure is the red Horse, which is not engraved. Length: I metre 65.
- 2. On top of the colour used for the Horse, a tangle of many fine engravings of unequal merit, such as a Horse on the belly, Stags on the fore-quarters, as well as other designs.
- 3. A polychrome Bison has been outlined in black; if this animal had been completed, it would have utilized part of the red surface of the Horse. Someone had begun to wash out the Horse's head; the Bison's horns follow fairly exactly the original contour of this head.

The corrections, made of the version published in the earlier edition, give a better rendering of the front hoofs and one of the hind legs, a rather greater development of the tail and head, and, as regards the roughly sketched polychrome Bison, a little more clarity in the outline, the addition of a line to indicate the haunches, and an oblong mark for the hairy nape-hump.

Plate X b. 2 metres.

- Engravings difficult to decipher, one, the bad head of a Stag with horns full face, covered by a red painting.
- 2. Animal of doubtful type in flat red wash; the width of the neck and shoulders suggests a Horse. The front legs are well preserved and slender, ending in enormous deformed hoofs; the small head has the nostrils and eye engraved, a break has removed the lower lip; the forehead is crowned by a wide curved appendage which might equally be either a long ear or frontal tines. Behind and above the mutilated neck and shoulders are various twisted.

toothed patterns, topped by a series of stains running into each other, and winding lines, the whole suggesting a very clumsy rendering of antlers. The colour of this animal behind the withers is overlaid by several coats of paint.

- 3. A bellowing Bull shaded in black, very good style of drawing, reduced to a head and withers. Originally H. Breuil thought this figure earlier than the preceding flat wash one, but now he thinks it was only partially destroyed by fresh applications of red put on at the time a polychrome Deer was sketched in, belonging to the 4th. series of figures on this plate.
- 4. An unfinished polychrome Stag, partially engraved and incompletely drawn in black with additions of red and brown. On the space above that shewn by this plate and between it and Plate VII, there are again remains of undecipherable red paintings, cut across by numerous good style engravings, amongst which is the beautiful belling Stag (a really classic work), and the animal facing it. On the same surface, there is the big black very incomplete silhouette of a Bison's head and other polychrome sketches. The head consists merely of the frontal line, eye, muzzle, and mouth. These details are combined with engravings. This last picture is not reproduced in our publication.

Corrections: shape of the front hoofs of the red animal, considerable reduction in the width of the neck and shoulders and in the shape of the plant-like designs which stand out near; strengthening of the blacks in the last two layers.

Plate XI. Galloping Bison. Size: I metre 90 cms. from the hind-quarters to the nostrils.

- I. Engravings, older than the red wash, are the first pictures on this surface; the colour fills them in and they are very difficult to decipher. However H. Breuil could trace a beautiful Ibex head with its neck and shoulders, chest line and two ridiculously small legs.
- 2. Then comes an animal in red wash, rather destroyed, imperfectly seen in the earlier publications (C. A. Pl. X, fig. 60). Both the hind quarters and the two front legs, which are very straggling, are preserved, and an engraved line defines them, reaches the belly and is lost in the mass of red of the more recent polychrome. H. Breuil could not follow the engraved line any further.
- 3. Better engravings, more recent than the preceding red animal, and, amongst them, an almost complete Stag, whose horns are very slightly developed. Its outline cuts very clearly through the preceding red paint. All these pictures are masked by the big galloping polychrome Bison.

Corrections: The outline and other details given in black have been strengthened and the front hoofs, reproduced more satisfactorily: many details of the horns, napehump, dewlap and tail, are more exactly given.

Plate XII a. Polychrome Bison. Size: 2 metres 45 cms. from the tip of the tail to the muzzle.

Only a very small sketch was given before of this figure (C. A. Pl. VI, 1902). This unfinished fairly primitive polychrome made use of a background of earlier red flat-wash frescoes, no longer decipherable, except for one bent leg with a cleft hoof, in front of the Bison's muzzle. Even the tail must have belonged to an older painting. The barbarous



Fig. 4. Ensemble of polychromes after Cartailhac and Breuil.

+

style of the polychrome is noticeable, when compared with the beautiful paintings on the left of the hall.

Plate XII b. Polychrome Bison (the last on the right side when returning to the entrance). Size I metre 90 cms. including the horns.

The eye and horn are only engraved, the rest of the silhouette, very imperfectly outlined in black. Shews there was an earlier painted surface with pictures, probably an archaic polychrome, resembling Plate XII a.

4. The Big Polychromes.

Galloping wild Boar.

Plate XIII, XIV. Size: I metre 65 cms. from the root of tail to the snout.

Very much affected by the superficial decomposition of the rock due to condensation of vapour from the outer atmosphere penetrating the cave. As this picture is nearest

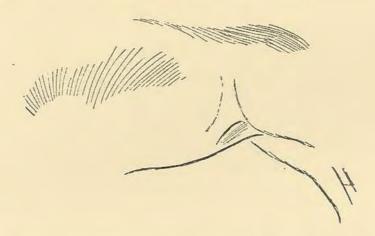


Fig. 5. Engraved parts of galloping wild Boar. Pl. XIII.

the entrance, it has suffered more than the others from the condensation, and has grown fainter even since 1902.

Parts which are engraved (fig. 5): the hind legs, some lines on the lower part of the belly, and its outline.

Parts scraped: belly, a great part of the surface from head to belly, and above and defining the loins.

There are various engravings near: helow, a badly drawn Hind's head, to the right towards the daylight, traces of the engraving of a small complete cervoid animal (fig. 70, 1).

Alterations: traces of the hlack horns of an earlier Bison above the Boar's forehead, more precision in the shape of the hoofs and bristles on the back, and a red mark on the outer edge of one hind leg and above the elbow (brisket) of one foreleg.

Stationary Bison.

Plates XV, XVI. Size: 1 metre 80 cms.

- I. Unintelligible engravings covered by polychrome hind legs.
- 2. Under the Bison on this plate are traces of an enormous bovine animal, nearly 3 metres long; it stretches across the hall, back to the daylight, the only traces of paint on it are some blackish touches at the nostril, head, dewlap and hind-quarters; a considerable part

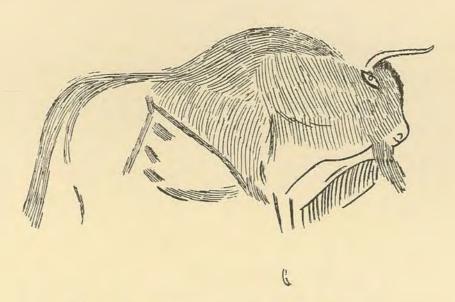


Fig. 6. Engraved parts of stationary Bison. Pl. XV.

of the outline is still fairly clearly defined by wide scraping. Three different oval eyes are engraved on its head, one big one and above, two small ones; this is probably the preliminary sketch of a proposed polychrome which was never carried out.

3. A stationary polychrome Bison, very heavy coat; since 1902, this painting has much deteriorated, and on the present plate the colours are stronger than they are in reality.

Parts engraved (fig. 6): One of the horns, a pupil, bristling hairs on the forehead, outline of the muzzle, nostril, mouth, edge and hairs on the dewlap, part of the forelegs, lower part of the belly.

Parts scraped: The tail, outline of the haunches, hind-quarters and belly, edge of the

belly and thorax, all the outline and surface of the thorax, neck, head between the horn and muzzle, round the eye and beard; the scraping extends beyond the painting.

Alterations: Emphasis and precision of all black details.

Headless Bison.

Plates XVII, XVIII. Size; I metre 50 cms.

I. Between the tail and the wall there are some engravings, a Horse's head facing left and two badly executed Hind's heads, one deeply engraved. Above the withers, a pretty horned head fairly deeply engraved; above the nape, a poorly done head of a bovine animal facing the cave entrance.

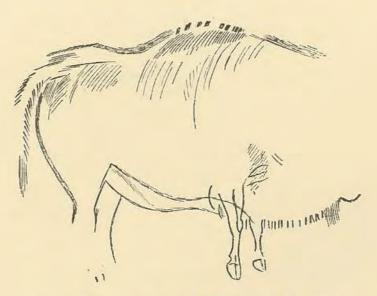


Fig. 7. Engraved parts of headless Bison. Pl. XVII.

2. Polychrome Bison with unfinished head.

Parts engraved (fig. 7): deeply. Muzzle, hairs of the dewlap, two front legs and inside edge of the hind ones, hairs of the tail and hump.

Parts scraped: Tuft of the tail, outline of the haunches and the hind-quarters, double ventral line, beard, withers, edge of the belly, surface of the hump, rounded parts of the hind quarters and shoulder.

The head seems never to have been painted, for no sign of colour remains, and the rock has not particularly deteriorated. The hind hoofs are rather damaged, the tail is painted by superposing red lines on black strokes towards the tip.

Alterations: Great strengthening of the contours and details done in black: more complete study of the legs and hoofs.

Stationary Bison.

Plates XIX, XX. Size: I metre 60 cms. from the rump to the forehead.

- I. Under the paint of the Bison's rape, the engraved head of a Hind, fairly well done. A bad sketch of a Horse's head and other interlaced lines are above, between this painting and the wall, where there are a few more small traces of red.
- 2. The Bison is modelled on a rounded boss of the rock, the most abrupt edge giving the line of the animal's withers and while the other side gradually slopes down to the neighbouring flat surfaces. The shading of the painting has strengthened the natural relief. A crack outlines and defines the forehead.

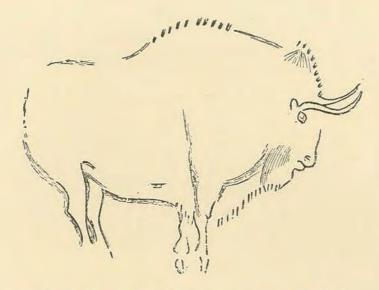


Fig. 8. Engraved parts of stationary Bison. Pl. XIX.

Engraved parts (fig. 8): The horns are not painted, only engraved, the eye, ear, nostrils, mouth, muzzle, beard, hair on the dewlap and nape-hump, greater part of the four legs, outline of the belly.

Parts scraped: Tuft on the nape-hump, beard, chest, upper joint of the right front leg, outline of the belly, space between the hind-legs, belly, all the outline of the hind-quarters, certain parts of the spine.

Alterations: Very few to the plate of the 1902 edition, only the strengthening of the blacks and some details of the hoofs. Note a red horn astray in the head and not noticed previously.

Bison curled round.

Plates XXI, XXIII, XXIII, XXIV. Size: 1 metre 85 cms. from the root of the tail to the forehead.

- I. Hind's head engraved in the horns.
- 2. Bison on a big boss with regular slope; only the horns and tail come beyond the boss.



Fig. 9. Engraved parts of curled round Bison. Pl. XXI.

Parts engraved (fig. 9): Horns and some tufts of hair on the hump.

Parts scraped: Frontal outline, nostrils, upper outline of the neck and shoulders, almost entire surface of the back, axis of the tail. Outline of the left foreleg and hoof of the left hind leg. The contours of the legs and eye seem to have been washed rather than scraped.

Alterations: Only the contour lines and other parts which are in black. Chief change, the discovery of a second front leg hidden in 1902 by the shadow thrown by the rock boss.

Bison curled round.

Plates XXV, XXVI, XXIII, XXIV. Size: 1 metre 85 cms.

The backbone of the big Bison mentioned before, Plate XXI, passes on top of this animal placed on a big boss of the ceiling, part of which has completely disintegrated; the outline of the animal is very rugged, the details in black (tail, line of the back, nape,



horns, line of the forehead and right leg) are outside the boss, which grows flatter near the head and near the tail.

Engraved parts (fig. 10): Withers, eyebrow, eye, nostril, hoof and right leg.

Parts scraped: Surface and outline of the muzzle, mouth, haunches and flank.

Alterations: Corrections of the spring of the horns, the front leg and the tail.



Fig. 10. Engraved parts of curled round Bison. Pl. XXV.

Female Bison curled round.

Plates XXVII, XXVIII, XXIII, XXIV. Size: 1 metre 55 cms.

This Bison was painted on a big boss of the ceiling; the boss is very rounded between the neck and the haunches and elsewhere very abrupt.

Parts engraved (fig. 11): Pupil, hairs of the head and dewlap.

Parts scraped: Space between the tail and body, surface of the haunches, whole line of the back from haunches to nape, ear, horns, surface of dewlap, outline of the hind left leg, some touches on the upper leg and shoulder.

Alterations: Considerable emphasis of the blacks, more careful study of details painted in that colour, especially important corrections in the head, muzzle, front hoof and tail.

Galloping and bellowing Bisons.

Plates XXIX, XXX. The greatest width of this plate is 2 metres o5 cms.

red signs and some lines immediately below the painting of the bellowing Bison. Other

brownish-red and black signs are above the hump and tail of the same; one seems to be a rectangular tectiform.

2. There are many engraved Hind's heads; two, one above the other, facing to the right, under the foreleg joint of the galloping Bison; another crossing the lower Hind's head; a fourth crossing the front legs of the Bison and facing left; a fifth, under the paint in the tail of the bellowing Bison, and, between this tail and the wall, a tangle of very fine engravings, one of which is a small eye.



Fig. 11. Engraved parts of female Bison, curled round. Pl. XXVII.

- 3. The galloping Bison, painted on top of the preceding ones, already shews the peculiar technique of polychrome, but is fairly old. The body is in flat wash, the outline is neither painted in black nor emphasized by scraping or engraving. Only the eye is engraved and one line for the ear.
- 4. Bellowing Bison, the outline of the upper part is determined by a sharp projection of the ceiling.

Engraved parts (fig. 12): Hairs on the lower jaw, eye, ear, line of the neck, space between the hairs on the dewlap, belly, hoofs and legs, which have their contour lines cut deep and scraped.

Other parts scraped: Rump, tail, tuft on the tail, surface of the back at the hind-quarters and withers.

Alterations: Position of the red lines below the belly, accentuation and development of the horns and front hoofs of the first polychrome Bison, greater accuracy in those of the bellowing Bison and strengthening of the black contour line.

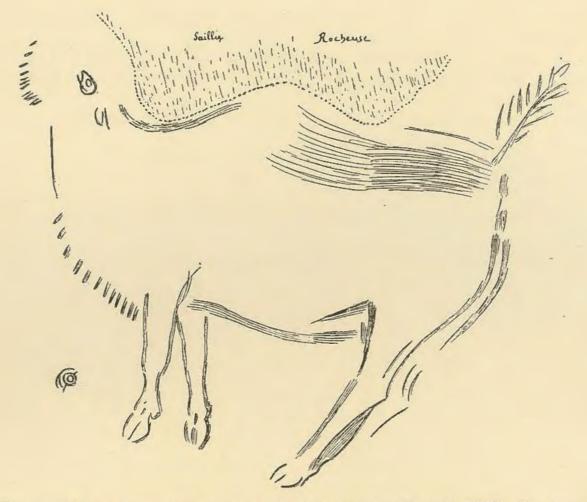


Fig. 12. Preliminary engraving and scraping for the polychrome Bison. Pl. XXIX. The cleverness of the artist in adapting a rocky boss to the dorsal outline of the bellowing Bison is remarkable; as is the fact, that whilst the polychrome Bison of not very advanced technique has only its eye engraved, there is a good deal of engraving in the most recent and the most skilled of these two figures.

Bison couchant turning its head.

Plates XXXI, XXXII. Size: 2 metres.

As red decoration, there are three spots in single file between the wild Boar's snout (Plate XXXVII), and the hocks of this Bison. There are many neighbouring engravings, a hut above the Bison's nape, a Hind's head partly painted in black underneath the hock; beneath the polychrome, two Hind's heads, one with a dewlap facing the back of the hall (low on the plate), another in real relief deeply incised, crossing the root of the Bison's tail.

The Bison's head and haunch blend with the accidental shape of the rock, the head occupying a projection with abrupt edges which define the forehead and muzzle; it

therefore stands out very well from the flat background of the body, the haunch is cleverly placed on a rounded boss giving it a very pronounced relief.

Engraved parts (fig. 13): Nostrils (deeply), pupil of eye (lightly), in between the tufts of hair on the tail and chest (deeply); the ears are in semi-relief.

Parts scraped: The entire outline of the animal, line of forehead, mouth, horns, hump, tuft of tail. The rump and almost all the outline of the legs were scraped and perhaps washed.



Fig. 13. Engraved parts of Bison couchant turning its head. Pl. XXXI.

Alterations: Great strengthening of the blacks and rather greater accuracy in the outlines, note of certain violet tints in the tuft of the tail, perhaps belonging to an old picture re-utilized.

Stationary polychrome Bison and incomplete black Bison.

Plates XXXIII, XXXIV, XXXV, XLIV bis c. Size of polychrome Bison: I metre 95 cms.

This plate shews different layers of paintings.

- Great splashes of red, the remains of very old pictures of which one can see some legs and outlines, accompanied sometimes by engraving and traces of fingers stained red.
- 2. To the left, at the top, a trident symbol in violet recalling those at Santian, of the same colour and age as the stencilled hands at Altamira which are superposed on red paintings (Plate IX).
 - 6 Carried over to Pl. XXXIX.

- 3. Head of a Bison shaded in black, with no engraving, of an advanced technique; it is obliterated by the polychrome Bison and looks as if the artist began by using older red surfaces for the body. At the top, the head of another black Bison, which was on the 1902 plate has been carried over on to Plate XLIII.
- 4. Double winding line outlining the hind-quarters, rump and hocks of another polychrome Bison which was never finished.
 - 5. Stationary polychrome Bison, the colour is marvellously preserved.

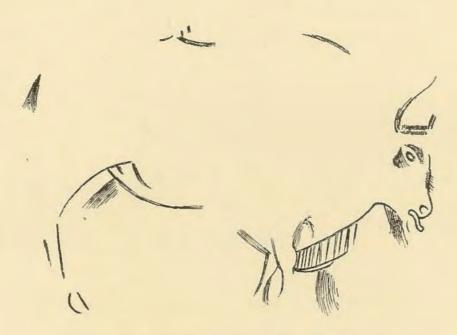


Fig. 14. Engraved parts of female Bison. Pl. XXXIII.

Engraved parts (fig. 14): Eye, line of forehead, nostrils, muzzle, mouth, tongue, hair of the beard, muzzle and dewlap, lower line for the neck and dewlap, front right leg (faintly), and the same side of the hind leg (partly), hoof of the other hind leg, many little lines between the two horns and all along the right horn, space between two of the tufts of hair on the hump (deeply).

Parts scraped: Round the eye, outside edge of front left leg, front of the right shoulder. An extra front leg not painted, parts of the belly, underneath the tail, some parts of the hump and withers.

Parts washed: The part of the shoulder from knee to elbow. This drawing was one of those which seemed to need recopying because of the distorted perspective of the head in the 1902 drawing, a distortion reproduced as can be seen in all the photographs.

Bison and Wolf.

Plate XXXV, XXXVI. Size of Bison: I metre 80 cms.

- I. The area shewn on this plate is crossed by two big winding lines, older than the polychrome animal, which, starting from the ones on Plate XXXVII, reach the polychrome Bison on Plate XXXIII. Another zigzag line perceptible above the Bison is obliterated by the little black Bison.
- 2. A small black Bison, slightly shaded, is on the right of this plate, partially destroyed in making the polychrome Bison.



Fig. 15. Engraved parts of Bison and Wolf. Pl. XXXVI.

- 3. Engraved head of a Hind slightly tinted with brown, visible above the two Bisons, belonging probably to the same pictorial level as the brown Hinds on plates XXXIX and XL.
 - 4. Big polychrome Bison.

Engraved parts (fig. 15) of the polychrome Bison: Ears, outline of the front of the head from upper lip to horns, part of the front legs, inside edge of the left hind leg, rump, upper part of the root of the tail.

Scraped parts: Beard, outline of the head outside the engraving, horn, all the back, some parts of the belly.

5. A Wolf partially shewn is inside the Bison; it is made by scraping, engraving and washing the paint of the Bison immediately below. The vertebral line is engraved and scraped. The idea of hiding a carnivorous animal inside a grazing animal is fairly fre-

quent in the art on small objects. The ear is partly engraved, the outline of the top of the head scraped, the jaws engraved, the throat scraped, the rest is unfinished. The light strip on the animal's back touches the outline of the wild Boar's leg on Plate XXXVII.

Alterations: Important accentuations of the black lines, many details noted of the head, dewlap, legs and belly, which escaped us in 1902, as well as some parts of the hind-quarters of the little Bison.

Bison and Wild Boar.

Plates XXXVIII, XXXVIII. Distance between muzzles of the two heads: 2 metres 25 cms. Size of the Bison: I metre 80.

This plate shews the following succession:

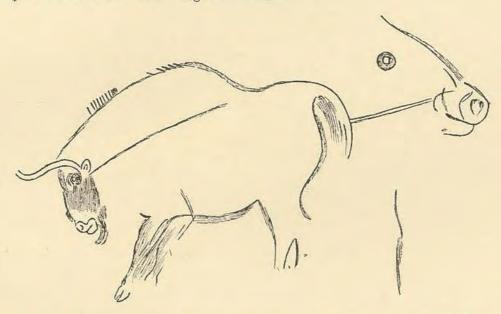


Fig. 16. Engraved parts of wild Boar and Bison in summer coat. Pl. XXXVII.

I. Two diverging sheaves of red parallel strokes and a line in the same colour, remains of the old red decoration of the ceiling; above the two animals a red combshaped sign, surcharged by the black of the polychrome and a red line not previously shewn against the Bison's hump.

No traces of black frescoes.

- 2. Several animals have been painted in polychrome. The mane on the right may belong to a Horse which has disappeared.
- 3. An enormous wild Boar; the head, from ears to snout, measures a metre; the snout turned three quarter face shews the two nostrils.

Engraved parts (fig. 16): Mouth, snout and the details, line of the forehead, outline of the eye and pupil.

Parts scraped: Neck, part of the eye between the pupil and rim, band sloping downwards defining a great leg; this slight scraped band also defines the spine of a Wolf, at the expense of another Bison.

4. Lastly, destroying the whole body of the preceding animal, a Bison, probably in its summer coat, for the hair is scanty.

Engraved parts (fig. 16): Mouth and nostrils, eye, ear, left horn (feebly), coat on the withers, hump, round the tail and haunch, whole of the front left leg, part of the right.

Parts scraped: Beard, surface and outline of front of head, line of the spine to the haunches, inside part of the tail, outside of the haunch, part of the outline of the hind legs and belly, surface and space between the front legs, line across the body.

Alterations: Blacks much strengthened, hoofs of the Bison re-drawn with more details; principal addition: an extra front leg hardly visible on the 1902 plate.

Medley of animals.

Plate XXXIX. Size: 2 ms. from the muzzle of the red and orange Hind's head to the Bison's tail.

This is the most difficult panel to decipher.

There seem to be five successive layers of paintings.

- I. Sheaves of horizontal parallel red strokes to the left.
- 2. Large blackish formless washes, particularly between the Bison's legs, above the small Hind's back and to the left of its hind-quarters, the forehead (probably of a wild Boar), and an indefinite spindle-shaped symbol.
- 3. Remains of a big Hind in flat red wash and yellow ochre. The muzzle on the left belongs to it, the eye is painted in black and was afterwards turned into the ear of a polychrome Bison. The painting of the Hind covers the engraving of a Hind's head, scarcely visible except for the eye, which is on the neck of the painted Hind with many other indistinct engravings; the outline of this head, nostrils, mouth and line of the forehead are finely engraved.
- 4. A small brown very faded Bison, in one shade, with hind hoofs rather darker, shewing the birth of the polychrome style; its outline is engraved and scraped on the red Hind of the 3rd layer.

Engraved parts (fig. 17): Eye, ears, upper outline of the head and neck, front legs, line of the belly, part of hind legs.

Parts scraped: Muzzle, lower outline of the head and neck, hind-quarter and back, surface of the belly. The latter scraping is to produce a high light and has sacrificed the red Hind, only a few fragments of this remaining. The dark hoofs were painted on top of



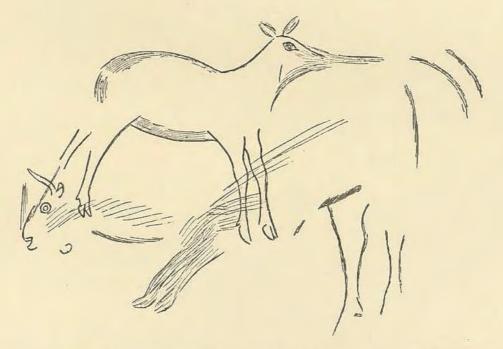


Fig. 17. Engraved parts and painting of a tangle of animals and signs. Pl. XXXIX.

the red. All round the brown Hind, there is a sort of light halo which was washed, framing the scraped and engraved outline. The result of this washing has been that the colour, though very diluted, has sunk into the lines of the engraving. In the parts where it is only engraved not washed, such as the legs, the red has sunk evenly into the strokes. We therefore think that the artist had begun again to spread and stomp colour, when painting the last animal, a Bison.

5. Unfinished Bison; the hind-quarters, belly and legs are partly finished. The eye is engraved on the orange colour of the Hind belonging to the 3rd layer, on the Hind's forehead on which it encroaches. The Hind's head looks better, if one screens the Bison's eye; the Hind's eye has been used for a Bison's ear.

Parts engraved: Eye, hind legs, horn ear and nostrils.

Parts scraped: Surface between eye and shoulder, whole of the front legs, sex, tail, rump and haunches.

Alterations: Colour of the Hind's muzzle of the 3rd layer is orange, not red as given before. More of the blackish remains on the 2nd layer; considerable accentuation of the black lines in the polychrome Bison and much more detail in its legs, tail and sex. The comb-shaped sign under the Bison's chest is mauve.

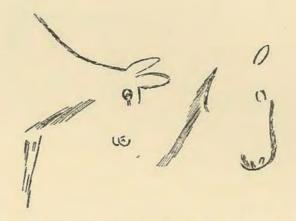


Fig. 18. Engraved parts of a Horse and Hind. Pl. XL.

Horse and Hind.

Plates XL, XLI. Size: 2 metres 12 cms. from the end of the tail to the tip of the muzzle.

The Hind was painted first in brown-red on old traces of red and orange, the engraved strokes and outlines of the animal, and indeed all of it, are covered by the red of the Horse, the Hind heing slightly darker; it seems to belong to the flat wash series slightly emphasized by black, the very dawn of polychrome.

Parts engraved (fig. 18): Eye, mouth, nostril and ears.

Parts scraped: Forehead, neck, chest, shoulders and front legs lightly scraped.

The Horse, a sort of pony, is unfinished; it belongs to the polychrome paintings, although its incomplete black outline shews that it must be one of the older ones.

Engraved parts: Eye, ear, outside edge of the mouth, mouth, nostril, chin, line of forehead, front of the neck which is scraped. Some traces of engraving are on the hock and on the back. To produce a high light and do away with the paint of earlier animals, the artist has washed round the mouth and under the belly. The painting of the Horse covers an engraved Hind's head on the Horse's back; at a certain distance under the belly, there is the hardly decipherable drawing of a human.

Whitish concretions along the back.

In 1932, this drawing was completely re-drawn by Breuil and he made besides a more careful study of the old red paintings; the alterations were: the lesser visibility of the painted Hind, a more correct interpretation of the legs, tail and head of the Horse. Its forelock, two ears and light muzzle were not produced clearly enough in 1902.



Fig. 19. Engraved parts of Bison. Pl. XLII.

Big Bison walking.

Plates XLII, XLIII. Size of the Bison: 2 metres 05 cms. Width of the panel: 3 metres 25 cms.

- r. Remains of plain red are very abundant round and beneath the polychrome Bison (see Plate VI); in front is a sort of plant-like pattern and there are two others behind, and, under the belly, a big club-shaped sign. The polychrome Bison is obviously superposed on these red signs. Covered up by the red signs, are different unintelligible engravings and two engraved huts (?), one to the left of the front legs, the other beyond them.
- 2. Not very important remains of hardly distinguishable small black drawings are near the front legs and above the tuft on the nape-hump; there are the horns of a Bison full-face, carried over from Plate XIX of the 1902 edition.

3. As for the Bison, it is one of the animals whose colouring has remained extremely bright.

Parts engraved: Horn, ear, eye, nostrils, upper lip, mouth, front left leg, cleft of the hoof of the front right leg, belly, sex, tuft of tail.

Parts scraped (fig. 19): Rump and haunches.

Alterations: This has been entirely re-drawn as much to correct an error in proportion (the head was too small), as to show the important mass of red decoration earlier than the Bison. Certain details of the Bison have been greatly altered (sex and hoofs).

Small black shaded Bisons.

Plates XLIV and XLIV bis, 1: Size of the two Bisons; left: 1 metre; right: 1 metre 12 cms.

To the left, bellowing Bison; remains of very faint engraving on the nape and deeper engraving on the dewlap.

To the right, another black Bison, a few traces indicating an engraved or scraped outline; the proportions of the animal were exaggerated in length by the Paleolithic artist. These two Bisons belong to the last layer before the polychromes; the one on the right has its hind-quarters on remains of red and yellow, all that is left of very old paintings. A comb-shaped red sign is painted above the left hand one, and the sign on the tail of the right hand Bison, which was given in the 1902 edition, is now reduced to a very faint mark.

This plate also bears different engravings: a Hind's head, slightly in front of the hump of the left hand Bison; another between the two Bisons, on top of the horns of the right hand one; a third near-by, a great many engravings, scarcely intelligible; several to the left of the bellowing Bison seem also to be rough sketches of Hind's heads.

Only one small Bison couchant remains of the latest layer of paintings; it is to the right at the same height as the right hand Bison; its position on the plate has been altered; the small boss with the shape of which it blends is partially destroyed by condensation; there remain only a few traces of black and red, and it looks as if it had never been finished.

Alterations: The position of the horns of the left hand Bison and rather more precission in its hoofs. A symbol, near the curled round Bison and quite unconnected with it, has been carried over on to Plate XXXIV.

Wild Boar walking.

Plate XLV. Size: I metre 45 cms. from tail to snout.

A galloping wild Boar had first been painted; its black hind legs and part of its front

legs are still visible. They resemble the engraved and scraped legs of the polychrome figures. If the body of the first Boar painted was red, it may have been reutilized when the figure was restored, and the restoration would alter its attitude. The body is rather faded and follows the shape of a low gently rounded boss. Its silhouette is rather lost in the rocky background.

Engraved parts (fig. 20): Most of the back and front legs, above the snout.

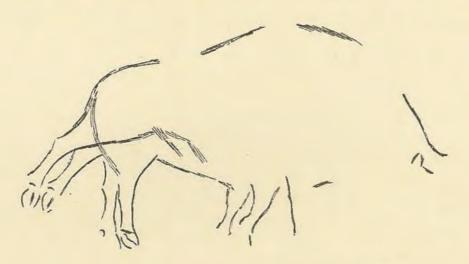


Fig. 20. Engraved parts of walking wild Boar. Pl. XLV.

Parts scraped: Belly, hind-quarters, backbone (a broken line with gaps) tusk and mouth, chest.

Many engravings near by: A Hind under the belly (fig. 62, 1), huts behind the hocks and behind the wild Boar in the direction of the big polychrome Bison. Above the back, (figs. 54, 1; 55, 1, 3) there are many delicate engravings of several Humans; there is one bigger, with stalactite on his head, which is above the Boar's head. Several other drawings of humans under the painting, either hardly decipherable or tangled in each other, hands, heads (one is prohably full-face), two eyes and a nose.

The plate already published had to have the colour considerably strengthened and it has faded a great deal since the 1902 copy.

Alterations: Some slight corrections of the legs, snout, ear and sex.

Stationary Bison bellowing.

Plates XLVI, XLVII. Size: I metre 62 cms. from muzzle to anus and I metre from withers to front hoof.

A smoked black inscription makes it very hard to decipher the front legs, as can be seen from the photograph.

Engraved parts (fig. 21): (deeply): Hair on the withers; fore leg, upper joint and

forehead, horn, ear, eye with a pupil, nostril, shoulder, upper part of a fore leg, belly and sex, rump, part of the legs and hocks, half of the hoofs (lightly), hump and haunches, inside line of the tail.

Scraped parts: Lower jaw, chest, shoulder and a zone at the edge of the thorax and belly.

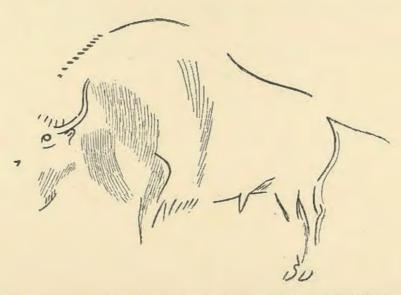


Fig. 21. Engraved parts of stationary bellowing Bison. Pl. XLVI.

Under the painting at the neck, is the engraving of a Man (fig. 54, 2). In front, vague reddish marks and a boss which has been painted, but the rock has deteriorated too much for the design to be intelligible.

Alterations: Very few, chiefly detail of the legs and the black outline which reaches the belly and the sex.

Big Hind.

Plates XLVIII, XLIX, XLIV bis b. Total length: 2 metres 25 cms.

- The oldest painted figures on this panel are red club-shaped signs, surcharged by the polychrome Hind.
- 2. Many engravings, immediately underneath the red club-shaped signs and also the polychrome Hind. They are all over the panel, many so tangled that they are difficult to decipher. There is a hut (?) above the Hind's backbone, another under the belly, a human figure above the haunches (fig. 54, 3), a second at the spring of the shoulder (figure 55, 2), hidden as are others less complete or indecipherable by the paint of the Hind. Another is beneath its front hoofs (fig. 56).
 - 3. A small black shaded Bison, rather faded, with no trace of engraving.

4. Polychrome Hind.

Engraved parts (fig. 22). The tear duct (deeply), nostril, mouth, eye, ears, edge of the jaw and neck, lower jaw.

Parts scraped: Right hind leg, from rump to fetlock, contour line from neck to tail,

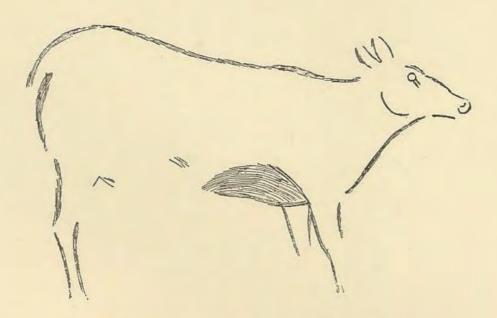


Fig. 22. Engraved parts of the big Hind. Pl. XLVIII.

from ears to nape and ears to nostrils, lower part of the neck, part of front legs, ventral line; a high light has been given on the chest in the same way.

It can be seen that a badly placed ear was partially rubbed out by the artist. Very dry white concretions are on the lower part of the rump.

Alterations: This plate has been entirely re-drawn, the very great dip in the roof of this part of the cave had thrown out the perspective as regards the position of the legs.

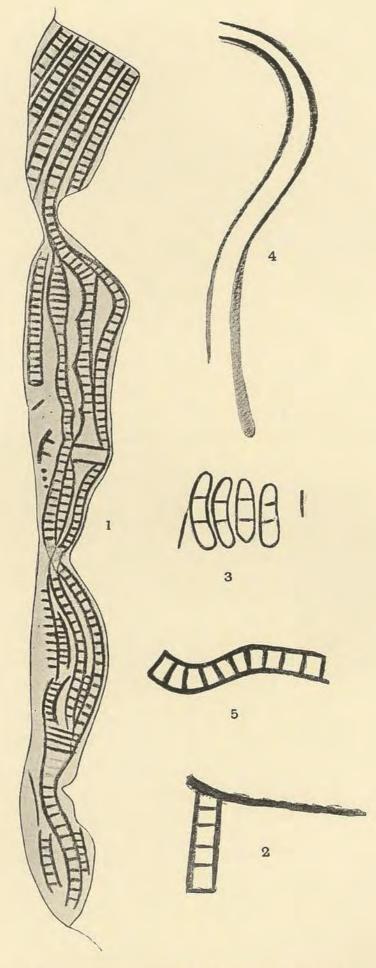


Fig. 23. Ladder-like signs painted in red, derived from degenerated tectiforms, painted in the cul-de-sac A of Hall III. No. 14.

CHAPTER IV

Decorations in the principal gallery and minor ornaments on the big ceiling.

I. Paintings.

Red paintings are only in a narrow fissure (fig. 23), not in the main gallery.

The recess, No. III A, on the plan is two metres wide at its entrance; this vertical fissure narrows rapidly and closes within 4 or 5 metres. The roof is a flat stretch of

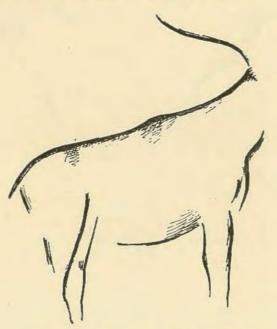


Fig. 24. Slightly shaded black Stag in the entrance hall; this figure was hidden behind the fallen blocks destroyed in 1910 by Alcalde del Río. Scale 1/5.

limestone about 3 metres above the floor, and it is easy to hoist oneself up with the help of the roughness of the walls if one wishes to reach and touch it. Four signs painted in brown lines can be seen from the threshold, ovals, close together, barred across twice and very much alike. Lower down, and to the left, there are quite different signs on the walls, they are very red on a white surface. There is a ribbon, like a ladder curled in an S; alongside another ladder-pattern is attached at the end to a straight line; one would say a lance with its pennant, or unfurled flag at the end of its staff, which lies horizontally. Beneath, near the ground, some reddish patches are perhaps the remains of other signs (C. A. Pl. IV, Nos. 2-6). To the left, there is nothing particular to he seen at first; but in stooping we perceive that the under part of a rocky shelf, 20 to 30 cms. wide, is ornamented for a length of 2 metres. Parallel ladder-like red bands, uniting, when the surface is narrow, spreading out and multiplying at the wider parts, cover the whole surface of the projecting ledge (fig. 23). The floor of this recess seems to be decidedly raised by deposits of sticky clay brought by infiltration. It is therefore possible that, in former times, this red ornamentation was seen on entering. The general appearance of these places, the situation of the signs, both combine to impress the modern

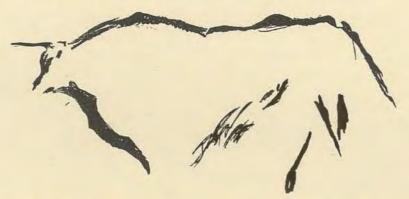


Fig. 25. Bovine animal drawn in black, 55 cms. Hall. III. No. 4.

visitor trying to discover something of the life and customs of the men of the past; here everything indicates a holy place. In no other parts of the cave of Altamira do we find these red ladder-like ribbons.

It seems to us essential to emphasize the indisputable relationship between the red and black series.

These discoveries in 1902 taught us a fact which was then unique. It is not so to-day; most of the Cantabrian caves shew similar corners laden with signs resembling the sort of tectiforms known at Castillo and Pasiega. The 4 brown signs, which evidently set a mysterious seal on the corner, are now less rare; they are related to the simplest of the black ladder and tectiform signs, and therefore of the whole group (C. C. chap. XII, pps. 179-191; PA. chap. V, pps. 37-41).

The custom of massing these signs in a particular recess does not seem to occur in France. Dr. Obermaier emphasized the peculiar character of the signs in the cave of Buxu

⁷ Tectiforms. C. C. Pls. LXXVI, LXXX, LXXXI, LXXXVII, chap. XII, pp. 179-191.—La Pasiega, Pls. X, XIII, XIV, XV, XXIII, XXV, pp. 36-41.



Fig. 26. Horses drawn in black: 1 and 2) Scale 1/5. Nos. 11 and 12.—3 and 6), at the back of the big hall.—3), Scale 1/4.—6), Scale 1/5.

(see p. 113), drawn in black and resembling the more recent group in the deep gallery of Altamira. We shall return to this subject later.

Besides the recess previously described, another narrow fissure, near it and running towards the recess, should be noted, which is entirely rubbed over with red. The same

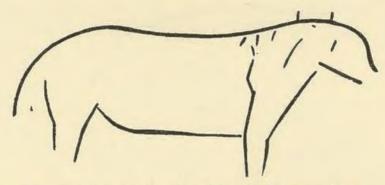


Fig. 27. Black drawing of a Feline (?); Scale 1/4. No. 27.

occurs at Gargas in a smaller recess, where it is certainly Aurignacian, and in this case all the walls are coated alike with red. Some splashes of red can be noted on some projecting point of the roof in the innermost part of the cave, such as are to be seen in many painted caves.

The red designs of the recess given above are, we think, contemporaneous, as they are at Castillo and La Pasiega, with the drawings in broad red lines of the other neighbouring caves, therefore probably Aurignacian.

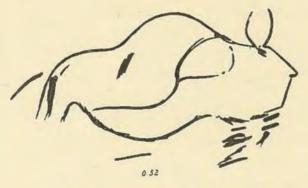


Fig. 28. Black drawing of a Bison, shewing the transition from signs to clearly animal figures; length 52 cms. No. 28.

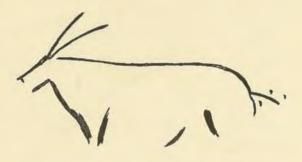


Fig. 29. Black Ibex covered by stalactite, 38 cms. long. No. 34.

In the red frieze consisting entirely of ladder-like bands, we see merely a tendency to exaggerate the style of other tectiforms of Castillo type. The big ladder band seems the result of a blending of five rather irregular tectiforms. Towards the middle, there are two supporting posts clearly defined.

1. Black paintings.

The black paintings in the gallery are of three kinds: 1. Animal figures.—2. Tectiforms.—3. Many drawings on the walls (fig. 35 a and b), signs or simply smears with charred sticks used for lighting.

I. Animal figures, usually very poor and drawn in a very cursory fashion. The best are of the same type as those on the big ceiling where we noted various Bisons, Horses, Stags, Bulls and Ibexes (Pls. VII, XXXVI, L). They are at wide distances apart starting almost at the entrance (C. C., fig. 209, p. 204), such as (fig. 24) the Stag, discovered in 1910,



Fig. 30. Two Ibexes and the head of a Hind painted in black. Scale 1/4. Nos. 35, 36.

when some of the fallen blocks were broken up by H. Alcalde del Río. The others are scattered at Nos. 4, 5, 11, 12, 13, 27, 28, in those parts of the gallery III, IV, V; several are in the lower hall VI (34 and 37 on the map) and there are yet more in the narrow end corridor, Nos. 48, 53, 59, 62 and 66.

These black drawings consist, if we include the big ceiling, of 9 Horses (figs. 26, 31), 3 Bisons (fig. 28), one small slightly shaded and one only a head, 2 bovine animals (fig. 25), 5 Stags (fig. 24), 1 Hind (fig. 30), Ibexes (figs. 29, 30), 1 Feline (?) (fig. 27) and various in-

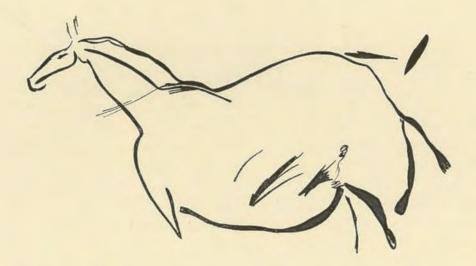


Fig. 31. Horse very roughly painted in black in the end corridor. No. 53.

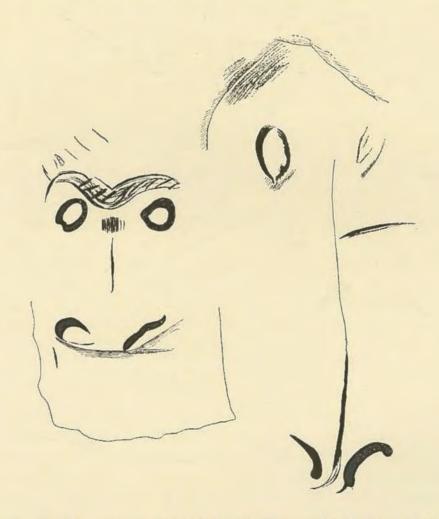


Fig. 32. Two heads or masks of animals (Bison and wild Boar?), drawn in black on angles of the rock in the end corridor. Scale 1/4. Nos. 59, 62.

determinate creatures. There is, besides, the forehead of a Bison on the big ceiling, and two faces or masks in the end corridor (fig. 32); one is a Bison, the other a far longer one, a Boar (?). These faces are on rocky angles on the left side of the very narrow end passage.

These black drawings, which we have just described, are exactly like those in Castillo, and although at one point there is an engraved Hind of the style of those on the shoulder-blades in the lower Magdalenian III of Castillo, cutting across a black line (fig. 57), the technique of the black Hind's head No. 35, shews that the two series are contemporaneous.

The very careless style of many of the drawings, especially those in the end corridor, makes one think they were drawn by beginners, perhaps during a time of initiation. Their very small number, 14 in all, in the gallery, may mean that it was not much fre-

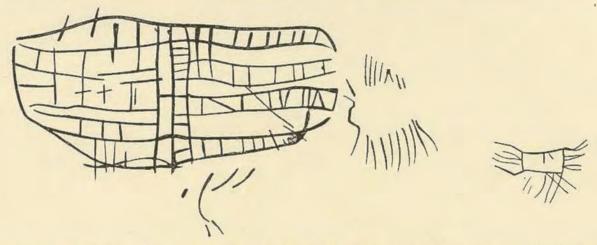


Fig. 33. Modified tectiform and other unintelligible figures, forming a group painted in black on the right wall of the same recess. Scale 1/5. No. 57 a.

quented at this date. On the big ceiling, these figures are best, though never well preserved, on the right hand side going inwards.

The colour of the drawings, probably made with charcoal, is exactly the same as that of the black signs, tectiforms and others of the same parts of the cave.

2. Black Tectiforms.

At 57 on the plan, 27 ms. 50 cms. from the end of the very low narrow gallery which forms the continuation of the cave, and 37 metres from its entrance, there is a very remarkable group of black tectiforms and some other surrounding signs (figs. 33, 34, Pl. LI). The care with which they have been executed contrasts with the negligence of most of the drawings in this part of the cave. Three of the surrounding signs are small radiating designs, very peculiar, one rectangular, another nearly oval. There are no such signs in any other Cantabrian or French caves, except at La Pileta (Málaga), where they are alongside

black line drawings of animals. It is perhaps possible they are small granaries mounted on piles, distorted in the drawing by a lack of perspective, but constructed, as are the granaries of some primitive peoples, such as the pygmies of Mount Elgon (Kenya Colony), for example. There are five bigger signs, 3 are pronounced triangles. The first only differs from the French type by the ladder-like floor and roof and its two supporting posts; Nos. 2 and 4 are almost rectangles. In this series of Altamira signs, the ladder-like type predominates; two have small bars projecting from the supporting poles, and one, a chevron, looking like a door. In No. 3, beyond the two supporting posts, all the outer

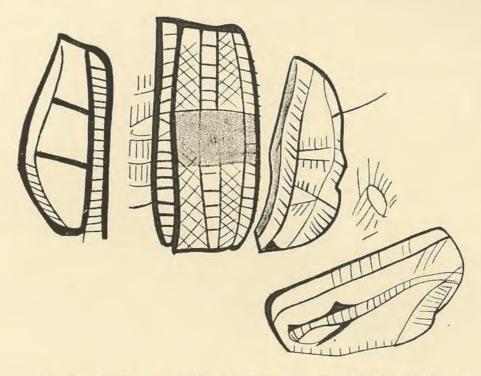


Fig. 34. Group of various black painted tectiforms on the left wall of a recess in the end gallery. Scale 1/5. No. 57 b.

part is covered with a fine lattice-work, the space hetween the posts being clear as if it was an entrance. But there is an extra horizontal line which is transformed later into a ladder-like band. In No. 4, in which the supporting posts are decorated, the inner horizontal ladder band becomes a separate design running across but not reaching the edges, and with several meanders. In No. 5, in which there is an indefinite number of supporting posts, the left half has two ladder-bands, but, in the right half, the cross-bars and horizontal lines are broken and confused, and it is easy to see the evolution of such a pattern as that at Castillo in which the interior is filled with a fairly regular lattice of vertical and horizontal lines (C. C. p. 185, fig. 184). In No. 5, at Altamira, the ends of the design are left open.

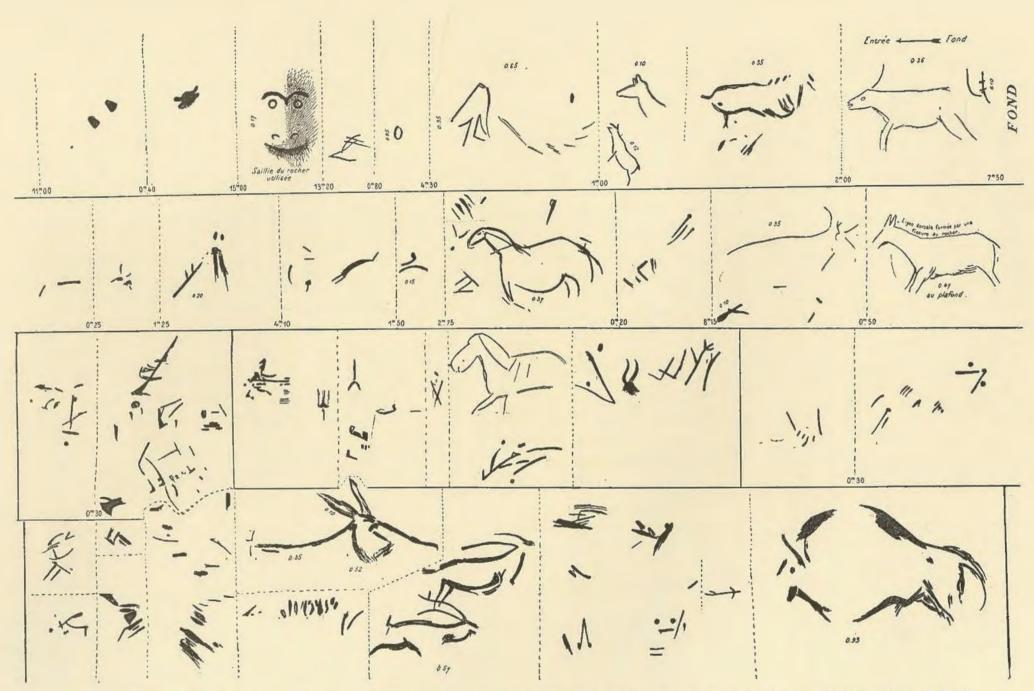


Fig. 35 a. Sketch of black figures copied in 1902 by H. Breuil. Elementary black signs and engravings on the left wall of the deep galleries between Hall VII and the back of the cave (corridor X).

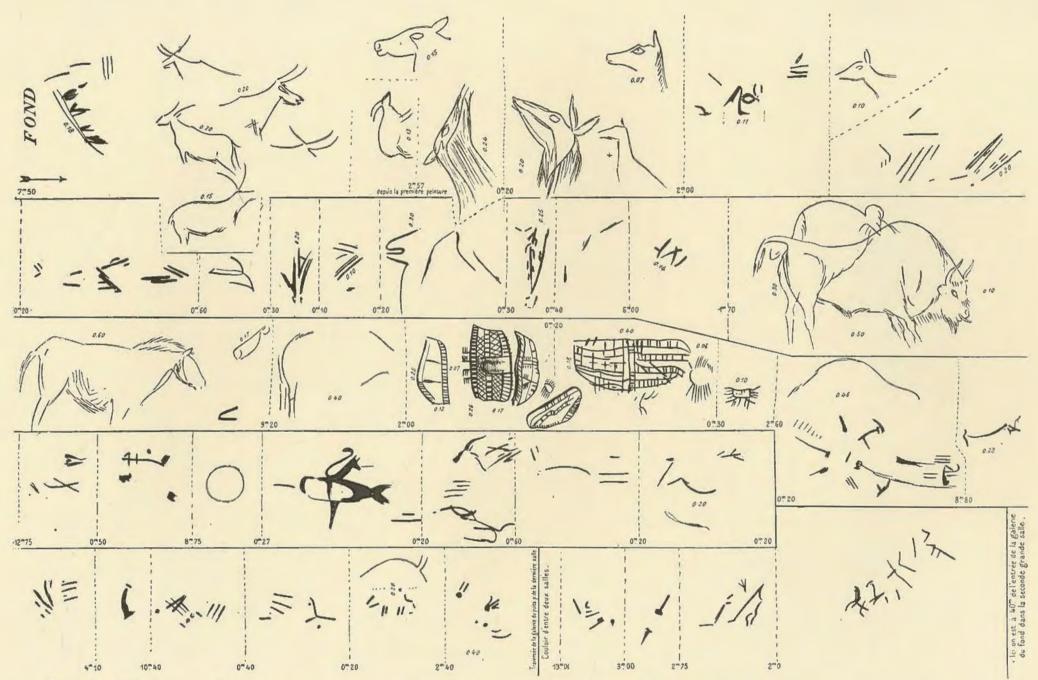


Fig. 35 b. Black elementary drawings and engravings on the right walls of the deep galleries between Hall VII (corridor C) and Hall VIII, to the back of the cave.

3. Elementary black marks.

In a great many places in the big gallery (fig. 36) and in the end corridor (figs. 35 a and b), black marks made with charcoal can be seen, their meaning is generally unintelligible; often the remains of the charcoal, which drew them, lie on the ground at the foot of the wall, as if the ends of burnt sticks used for lighting had been employed and "snuffed" against the wall. H. Breuil has often seen similar marks, due to this snuffing at Castillo, or, in 1932, in the cave of Gudón (Santander). In the latter, these marks, as well as the many hoof prints of cattle and Men, seem to be no older than the Visigothic period. It is probably thus that these elementary marks in the cave of Altamira were made, but they are old, as old as the black line drawings, for Magdalenian engravings cut across them twice, (Bison, fig. 67; Hind No. 15, fig. 57). Does this mean that they lack interest? Probably not, for in their primitive simplicity they display a certain systematic conventional character. In any case we can neither penetrate the mystery of these marks, nor pass them over in silence. The first are in the principal gallery near the recess. They succeed each other to the very end of the cave. Some are simply spots, others, circles, angles, short unequal lines, cross-lines, and curious combinations of these, hardly ever complicated. In some cases one would almost say written characters of an unknown alphabet.

But, amongst about 120 which we have copied, there are no two alike, and they are scattered in no appreciable order at more or less distance from each other. They are therefore not letters.

Could they be guiding marks, sign-posts to point the way? Then they would have been always drawn on very visible surfaces. Now some are bidden, they are not clear, not distinct enough, and anyhow too numerous to indicate a given spot. At some forks in the cave, there are none, places where sign-posts would naturally have been required.

Their undoubted age, since they are sometimes earlier than the Palaeolithic engravings, testify to their importance. They are perhaps comparable to the conventional inscriptions on the Australian "message sticks" or those of the Japanese Negritos.

Did they give information to the initiates during their mysterious ceremonies? or were they made by them? One cannot tell.

They vary, yet have a certain uniformity. To the lines which remind one of Japanese writing, succeed rudimentary sketches of animals, either fairly complete profiles, when they have the same quality of skill of hand possessed by those who made the engravings and black line drawings; or they are parts of pictures, a head, a muzzle, some lines of a back, a neck and shoulders, a hind-quarter. One slightly resembles a Cachalot with a Squirrel perched on it.

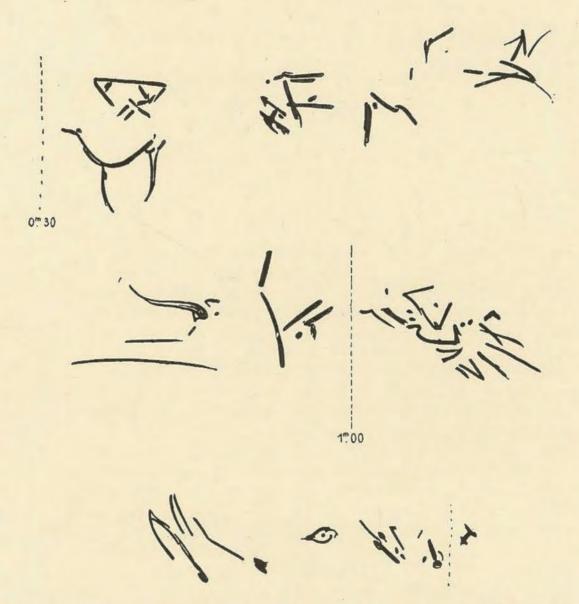


Fig. 36. Black signs scattered along gallery V, from the top downwards, following the guiding line on the figure. After H. Breuil. 1902.—Above, on the left, quadruped (?).—2nd. line, Bison's horn (?), forehead, eye and horns of a second.—3rd. line, solitary eye.

II. Aurignacian drawings.

1. Archaic drawings and tracings on clay.

At the entrance of the narrow final corridor, which is the end of the cave of Altamira, there is a horizontal part of the roof above one's head, but within reach of one's hand, covered with a layer of very plastic yellow red clay. M. Sautuola noticed that this surface bore traces of many human fingers. Messrs. Cartailhac and Breuil noticed these later, but attached no importance to them. There was no doubt that countless fingers had been trailed across, criss-crossing in every direction the surface disposable, and that these marks were old, for they were covered by some small calcite incrustations, but they seemed only to be marks of hands collecting clay for some everyday use.

To-day this is not an isolated instance, such designs are found at some places in Font-de-Gaume and Combarelles, over immense surfaces at Gargas and Hornos de la Peña, and a good many of later date at La Vache (Ariège), denoting the use of the same customs in very different regions.

We remember that, at Gargas and Hornos de la Peña, these surfaces smoothed by hand develop into real decoration made of spirals, ribbons fancifully twisted, or bizarre interlacings. The latter are sometimes made with the fingers, sometimes with an implement tracing several lines simultaneously.

Only about 27 metres from the actual threshold of the cave, between the back of the entrance hall and hall IV, there is an unbroken stretch of roof originally covered with clay, to-day only intact at the inner edge. What remains of it has been entirely decorated with drawings made by fingers (No. 2 on the map) which we only noticed in March 1932, and which H. Breuil studied in October 1932. To draw them, the prehistoric artists must have climbed on blocks fallen previously from the inner edge of the stretch of roof, and they also used these fallen blocks for finger drawings, or engravings of other figures on the inner section of the overhanging rock (3 on the map); H. Obermaier was the first to attract attention to these last.

The roof surface available is about 5 metres long, with a greatest width of 2 metres 50 cms. towards the left wall, reduced to 1 metre 10 cms. in the middle of the gallery. Reproductions are given here (fig. 37), but they are reduced considerably from the original sketch which was about $\frac{1}{10}$ of the real size. This frieze of finger drawings made with 3, 4 or 5 fingers tracing simultaneously is incomprehensible at first sight, so great is the mass of complicated interlacings, but a more careful examination led to a deciphering, on the narrowest side, of a very beautiful head of a primitive Bull, measuring 1 metre 20 cms. in



Fig. 37. Sketch of the decoration, drawn by fingers on clay, on the roof of part II of the right hand gallery, no. 2; length about 5 metres. In it can be seen an enormous head of Bos primigenius and several other heads which are less clear, as well as one leg. A hut is engraved at one end.

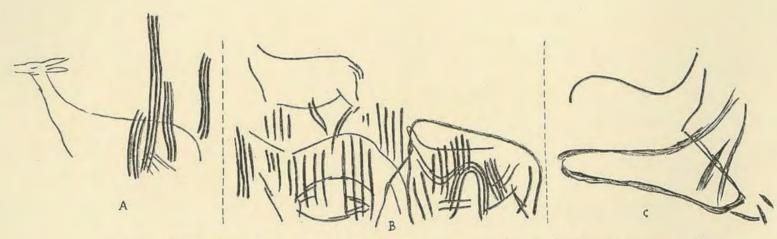


Fig. 38. Sketch of the frieze of engraved and finger-drawn designs; A, Aurignacian engraving of a Hind immediately beneath various bands drawn by fingers on the clay; length about 45 cms. B, Hind, Horse and Mammoth (?) engraved on finger-drawings; width of the panel I m. 40 cms. C, Unfinished engravings on finger-drawings, width 60 cms.

length, inclusive of the existing part of the neck. There is only one horn; the nostril and eye are visible, and an ear, though this is less clear.

More to the right (fig. 37), there are parts of another head in profile, a little older (an eye and the face). Towards the centre of the panel, there are probably two or three other heads, less decipherable, one with a big arched muzzle and an erect ear, the other with two unequal horns. Towards the end of the frieze is an engraved hut like those on the big ceiling, and various other incised lines, one cutting across a line drawn by a finger.

The neighbouring frieze on a section of the same shelf of rock consists of three mediocre panels (fig. 38). On the first, is a very simple engraved Hind, more primitive than those from Magd. III and reminding one of the engravings on small stone slabs in the lower levels of the cave of Parpalló (Valencia), which are late Aurignacian and Solutrean in date, and obviously older than the vertical finger drawings.

The second panel immediately to the right is covered with vertical lines made by fingers on which are superposed single line finger drawings of the body of a Deer fairly well done, and two very bad silhouettes of other animals.

The third panel boasts a line drawing cutting across a line drawn on the clay, the meaning of which is uncertain, which seems to have been done with a piece of wood.

Such interlacings are to be found at Altamira on a piece of frieze which fell in the big gallery and which, in falling, broke into many blocks lying side by side on the ground. On the upper part of the fallen blocks, flat as a table, the Magdalenian had installed a workshop for the preparation of red colouring matter, which left a layer of iron-ochre mixed with fragments of that mineral, fine flint flakes and bone stilettos.

Many meandering lines made with a three-pronged instrument are drawn on the vertical part of the frieze which Señor Alcalde del Río, who discovered it, managed to release from part of the fallen blocks. Most of the reproductions of these designs are on figures 39-42.

There is no doubt that there is a similarity between these decorations which are so rudimentary, and those of Gargas and Hornos. We remind our readers that, in the latter cave, the engravings, some of which are Aurignacian and others early Magdalenian, are cut on top of the meanders and interlacings. The same occurs on this frieze at Altamira.

Indeed the line drawings of Horses (figs. 39, 40), absolutely primitive in style, legless and with the details carelessly given, are also surcharged on the meanders; the very erect Horse's mane drawn by one extremely convex line, projecting at a very acute angle above the forehead, is seen in the oldest silhouettes of Gargas, Hornos and La Croze à Gontran de Tayac (Dordogne).

In all cases, these drawings can be classed as Aurignacian, and they are certainly so at Altamira. Amongst the figures to be noted is one (fig. 39) on the right of a small Horse rearing, a big vertical line crowned by two ears and flanked with an eye; it follows an angle of the rock which has been selected to define the front part of a Horse's (?) head.

Amongst the designs on the fallen frieze at the right hand end, there is an engraving of a roughly done figure (fig. 42) which, it is easy to see, resembles one of those problem-



Fig. 39. Frieze fallen in the big gallery. Primitive spirals and archaic Horses; the vertical line follows an angle of the rock and represents the forehead of a Horse. Scale 1/4. Hall IV. No. 23.

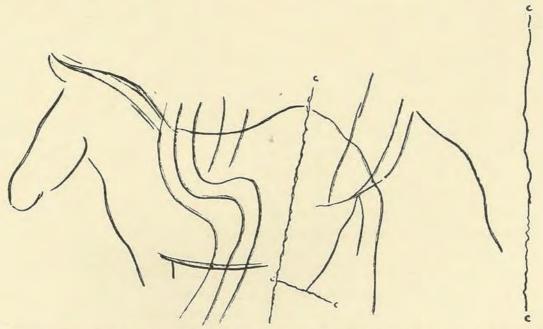


Fig. 40. Archaic Horses superposed on primitive meanders. Central part of the fallen frieze. Hall IV. Scale 1/4.

atical figures on the big ceiling, some of which, with Bird's heads and Bear's paws, others, with human arms and simian faces, have forced us to admit the hypothesis that disguise was practised in Quaternary times, as it is now by modern savages.

Messrs. Cartailhac and Breuil never thought, at the time they studied the cave of Alta-

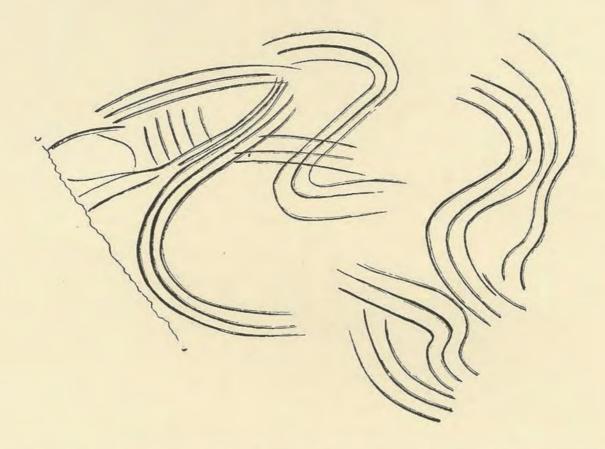


Fig. 41. Primitive meanders made with a comb-shaped implement, similar to some at Hornos and Gargas. From the fallen frieze. Scale 1/4. (See figs. 39 and 40).

mira, of classifying separately these engravings and the huts with radiating tops, like the straw-covered granaries of primitive peoples, which accompany them, from the mass of other drawings (figs. 53-56). Nowadays we think that the huts and humans are older, while the mass of engravings are upper Solutrean and Magdalenian. These human figures and huts, like the small Horses on the frieze and the anthropomorphic figure of Hornos are Aurignacian. They are never found, like the others, superposed on the big red animals, or on the black drawings, whilst they are in several instances immediately beneath, not only the Polychromes, which also surcharge the huts and humans, but even below those big red signs sprinkled over the background of the decorated roof. They therefore form a

very old group of pictures which should be carefully classed apart from the rest of the engravings in this Cantabrian cave.

Here and there in the gallery, there are other figures drawn with the same technique, either made with a finger or a stick.



Fig. 42. Problematical figure, analogous to the anthropomorphic figures on the big ceiling; from the fallen frieze. Scale 1/4. This figure was either accidentally destroyed, or hidden during the operations for preserving the cave.

In section V of the big corridor, immediately after the fallen frieze, are other animal drawings on a clay covered wall, not combined with interlacings, and which we only saw recently as they were very high up. Nos. 29, 30, and 31 (fig. 43) can be easily reached by a little climbing, these are the only decipherable remains of a frieze which began slightly before, and ran the whole length of an irregular strip on a shelf of rock full of inequalities. The only two figures which are decipherable are Ibexes, I metre apart, both looking to the left; they seem to have been drawn with a small stick, as are those on the wall facing. The drawing is very simple, without detail but fairly good, the horns are more or less full or 3/4 face.

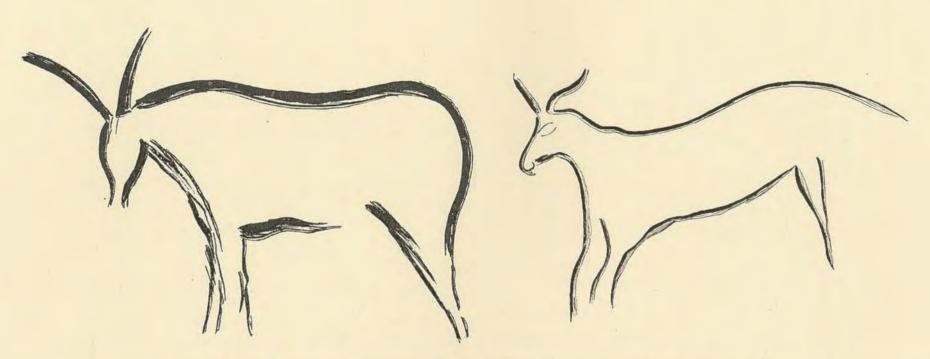


Fig. 43. Several Ibexes engraved on clay on the rock frieze. Nos. 29, 31; on the wall facing a bovine animal, No. 32, and nine metres before reaching it, on the left hand side of gallery V.

On the opposite wall of the same section, there is (fig. 44) first a drawing, fairly low down, of a Bull (No. 26) drawn in the same way, i.e. with a stick on the decomposed limestone; its lines cut through older finger drawings and it is fairly correct, the horns are also nearly full face.

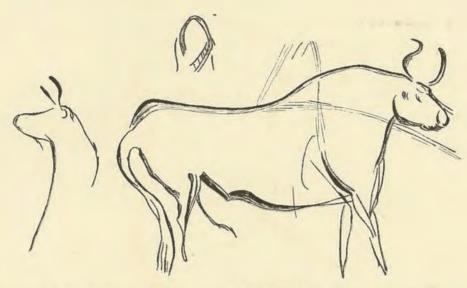


Fig. 44. Engraved head of an Izard (?), and a Bull; the latter cuts across the remains of very old Aurignacian engravings. Scale 1/4. No. 26.

Twenty-five centimetres to the left of the preceding Bull, the little head of a Chamois (Izard) turned to the left is drawn in strong plain lines and may be the same age.

At the other end of the same wall, just before the steep descent into the lower hall



Fig. 45. Bull and other engravings, high up on the frieze of the gallery V; the Bull is 60 cms. long and to the right at a distance of 60 cms. from the other engravings. Nos. 32, 33.

VI, there is a frieze, inaccessible at the present time except with a ladder, on which Nos. 32 and 33 are drawn with a stick (fig. 45). The first consists of two lines of backs, mixed together, one probably that of a bovine animal very roughly sketched, turning to the right, the muzzle and projecting horns, the line of the back and tail stretching back-

wards; the other drawing tangled in it seems, by the great steepness of the slope, to be the back of an Elephant facing left.

No. 33 is better and is a Bull running to the right (fig. 45), drawn in the same way; the two horns, springing from the top of its forehead upwards, clearly indicate the species: on the rising withers there is not even a rudimentary hump nor the clump of hair on the nape which distinguishes a Bison; these remarks apply also to No. 26.

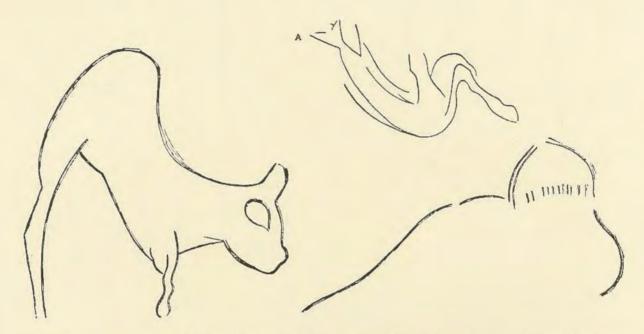


Fig. 46. Engravings on the right hand wall of the end gallery X.—1), Bison, forehead facing right, No. 50; —2), a kneeling Ibex (?), extremely vague as to the horns which have not been copied. No. 51.—The figure A, quite at the end of the gallery, may represent the hind leg of a grazing animal, or a swimming water-bird. Scale 1/4.

At 40 on the map, there are more poor drawings of similar technique, depicting probably two Horses and a head; these have not been copied.

The narrow end corridor contains no remains of this kind. We have mentioned already the many finger tracings which are not pictures, noted on the roof near the entrance from earliest times by Sautuola, and, some metres from these, on the right wall of the passage, there is a coarsely made Bison silhouette in the same style (fig. 46, 1), and remains of another close by (fig. 47). At 51 on the map, after the previous pictures, there is (fig. 46, 2) a barbarous drawing of an animal in wide deep lines: the hind-quarters stand high and the line of the back falls away steeply so that the head is almost on a level with the hoofs. It is probably a sketch of a kneeling kid grazing; its single front leg is ridiculously small. Its very small muzzle shews it to be a very young animal; the last time we examined it, is seemed

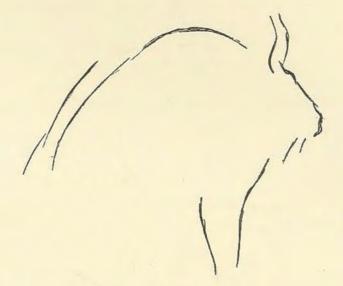


Fig. 47. Engraved Bison near the Bison of fig. 46, no. 50. Scale 1/4.

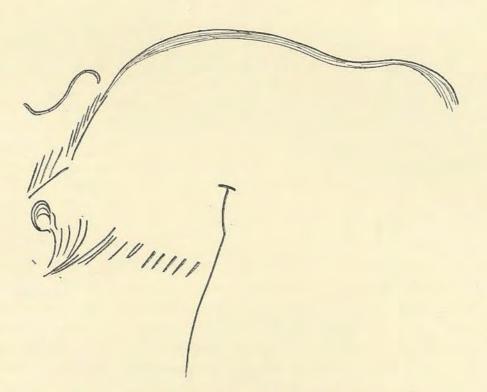


Fig. 48. Very roughly engraved Bison. Scale 1/4. No. 56.

to us to have a single wide horn springing from the forehead, rather indistinct; this is not shewn in our copy.

At 56, there is another Bison turning left (fig. 48), which might perhaps be attributed to the same date as can the hatchings on the roof, near the Stag (No. 55), which is clearly later. Bison (No. 56) has only one very incurved horn, but is very archaic in style.

We might perhaps, with certain reservations, be tempted to class with this collection of

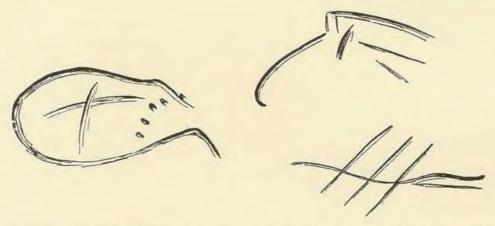


Fig. 49. Drawing of a Fish (?), Horse's head, etc. on the clay floor in the last few yards of the end gallery (X), near the wall. Scale 1/4.

drawings on clay, the rudimentary ones on the mud of the floor in the last metres of the narrow end gallery of Altamira. They are placed along the foot of the walls, thus saving them from being later trampled under foot (fig. 49). We can half make out a Horse's head and a sort of Fish (?). These drawings do not seem as fresh as the marks of Bear's claws found at the same place, we must therefore admit them to be earlier than the continuous occupation of the cave by Man, which, it seems, dates from the birth of Upper Solutrean times.

2. Large figures sculptured on the stalagmitic cascade.

The big cascade of earthy stalagmite, No. 6 on the map, covering all one side of hall 111, although in a ruinous condition, retains various figures sculptured in the soft rock (Figs. 50, 51).

The most complete, measuring about r m. 55 cms. in length (all that remains of it), is not a Bison as H. Breuil thought in 1902, for the foremost convexity on the spine is not a hump, but very high withers, more like a Bull. There is another animal of the same type on the left, as well as a group of very deep incisions difficult to interpret. These figures seem

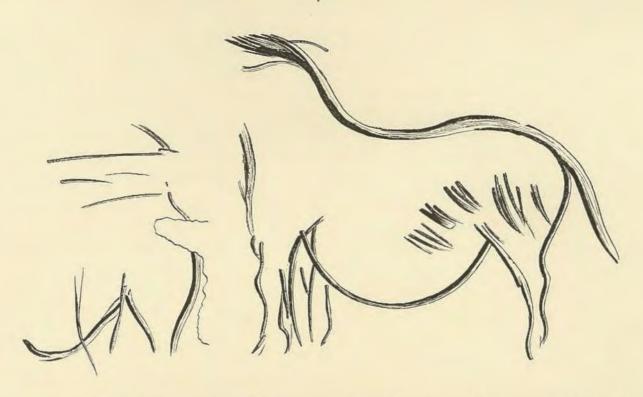


Fig. 50. Sketch of deeply sculptured figures, much damaged, on the cascade of earthy stalagmite in Hall III. No. 6. The big Bull (?), on the right, measures I m. 55 cms., without its head which is destroyed; what remains of the animal on the left measures 77 cms.; at some distance to the right, and on the same surface as the fig. 51.

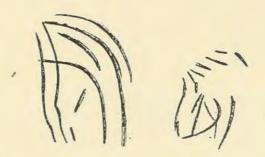


Fig. 51. Sketch of figures very deeply incised on the same cascade as Bull fig. 50, to the left of it. No. 6. Same scale as fig. 50.

to have been destroyed not by modern but by Palaeolithic Man, as were probably the Felines of Magdalenian age in the cave of Montespan.

On the cascade the figures are of Aurignacian style, as we noted in 1902.

3. Aurignacian engravings on the big ceiling.

Figures of animals, men and huts of the straw-roofed type (fig. 53) can be deciphered with some difficulty on the big ceiling; they are older, not only than the large polychromes, but also older than the black animals and the plain red animals and signs of that roof. Some of them are more recent than the remains of red Aurignacian line



Fig. 52. Engraved Ibex, Aurignacian, on a red Horse with finely engraved outline and under a big polychrome Bison; on the right side of the big painted ceiling, Pl. XI.

drawings which they cut across. The straw-roofed huts and the Men are almost all confined to the foot of the hall, the animals (fig. 52), on the contrary, being mostly on the right as you enter. The huts, numbering about seventy, are generally drawn by finely engraved lines radiating from a spot and forming a section of a little more than a quarter circle (fig. 53). It is odd that so far none have been found in other caves.

The human or semi-human figures deciphered in 1902 have not been added to in the course of our new discoveries; the lowering of the soil which was so essential for a proper view of the big frescoes, has made it difficult to locate them, and we could only do so by climbing on a chair and using our old notes as guide. The biggest measures 60 cms. in height (fig. 54, 1) and faces the side wall of the cave, between that and the head

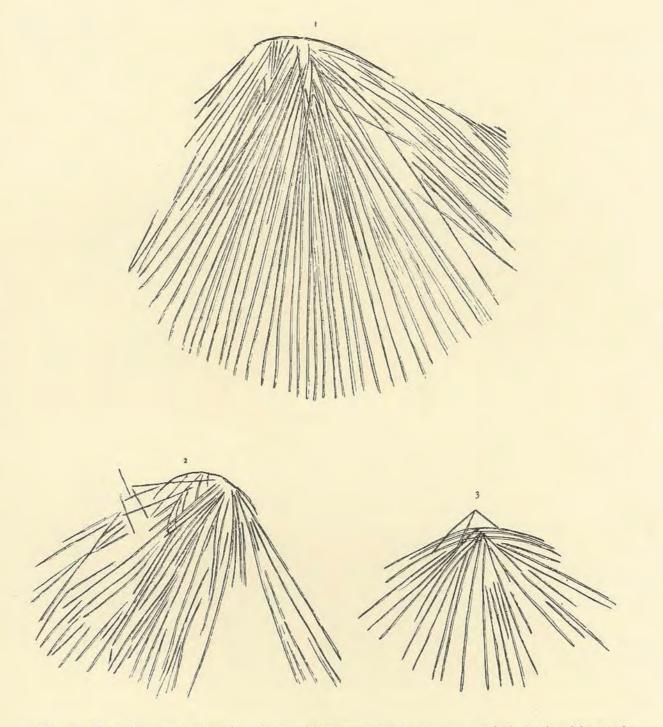


Fig. 53. Rayed figures on the big ceiling, probably representing huts.—I and 2), to the right, at the back of the big painted ceiling (see Pl. V).—3), to the right of the big Hind. Scale I/4.

of the walking wild Boar (Pl. XLV); the lines are fairly deeply incised. An animal head with muzzle and raised arms are noticeable, characteristics which most of the other figures have in common. The same is seen in a smaller drawing near the same wild Boar, of

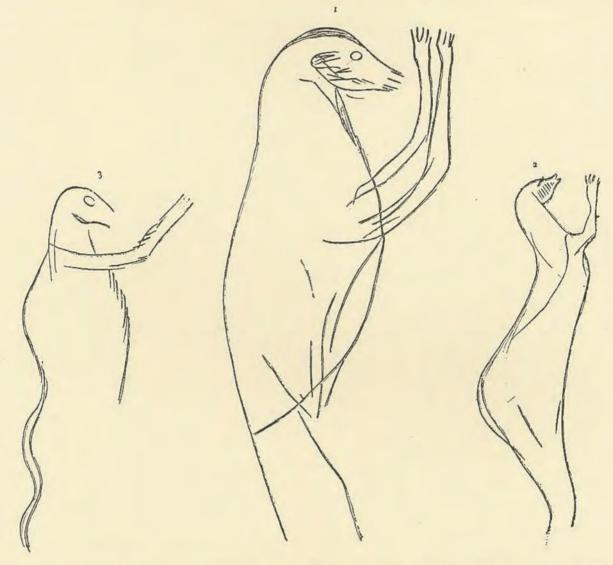


Fig. 54. Engravings of what appear to be masked Humans, nearly all with raised arms: 1,60 cms. high between the walking wild Boar and the left hand wall of the big painted hall.—2), 40 cms. high, on the bellowing brown Bison.—3), 40 cms. high, above the hind quarters of the big Hind.

an ithyphallic person whose legs can just be made out. Another figure, with no legs, is drawn on the shoulder of the same wild Boar (fig. 55, 3). The hind-quarters of the Boar cut through a couple closely embraced: the ithyphallic Man has his mouth open and is more easily made out than his partner who is enmeshed in too many irrelevant lines. H. Breuil saw this drawing in 1902, found it again after thirty years and decided to mention it.

There are many others in the neighbourhood of the big Hind (figs. 54, 55), such as one with an animal head, raised arms and accentuated rump, above the Hind's haunches, or another similar but with an aigrette at the back of the neck, behind the Hind's elbow (fig. 55, 2), and a bigger one, equally phallic, with the head of a bird and the legs of a Bear, is placed near the hoofs of the same Hind (fig. 56). A single engraving of a Hu-

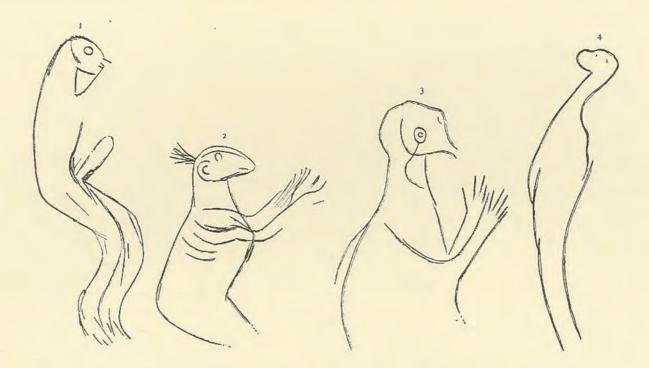


Fig. 55. Engravings of what appear to be Humans, probably masked and some with raised arms.—
1) Height: 35 cms., near the walking wild Boar.—2) Height: 22 cms., behind the elbow of the big Hind.—
3) Height: 30 cms., on the shoulder of the walking wild Boar.—4) Height: 32 cms., on the right of the big painted ceiling in the zone of the signs.

man is seen on the right, in the zone of the big club-like signs; this has no hands, but a head with a thick muzzle (fig. 55, 4).

These figures, which, in 1902, we could compare with only a very few Magdalenian engravings, are now found almost everywhere in greater or less degree and with the same characteristics. The "Monkey" at Hornos is of this type, with its artificial tail; in 1902, we did not notice it was ithyphallic; it is also Aurignacian.

Nearly all these figures have the heads of animals, raised arms, and sometimes the legs are animal. Nowadays it is not necessary to explain at length the meaning of these peculiarities; it is generally admitted that the use of ceremonial masks and hunting disguises in Upper Palaeolithic times is a known fact. As for the adoring attitude of these semi-human figures, various factors must be taken into account: the greater familiarity

with animal figures in art, the far less frequent drawings of humans, and that it was far easier to draw the arms in that position, even if it was hieratic.

It is strange that at Altamira the human figures are not usually amongst the engravings of animals, but are clustered near the huts.



Fig. 56. Engraved anthropomorphic figure, placed near the forelegs of the big Hind. The unfinished lines are doubtful, the phallus is in relief (champ-levé). Scale 1/4.

In contrast, the engravings of animals of various ages increase in number on the right immediately after entering the big hall, and are so terribly entangled, that only a few of them can be deciphered; these date from the time before the plain red paintings, or else are their contemporaries. The most remarkable is an Ibex, the head very accurate, but the front hoofs ridiculously small (fig. 52); it is completely covered by the paint of the red Horse (Pl. IX).

III. Magdalenian engravings.

The older layers of Cantabrian Magdalenian (Magd. III type), both at Castillo and Altamira, have yielded a series of shoulder blades, and sometimes other bones engraved with animal figures in a quite individual style; these are generally Hinds and sometimes Bisons. H. Alcalde del Río considered that they belonged to the final Solutrean of Altamira, but, though at Castillo there is no final Solutrean layer, there were many of these engraved bones in the lower Magdalenian level, so we cannot say that this style did not

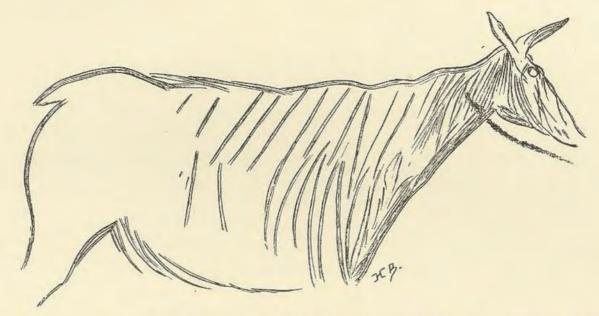


Fig. 57. Hind, 72 cms. long, engraved in wide strong but not very deep lines; more recent than a band of black paint, which they cut through. On the left side of the right hand gallery (between III and IV). No. 15.

begin rather earlier than the lower Magdalenian, especially when the unbroken continuity of human occupation of Altamira, during these two successive periods, is considered. The characteristic of these engravings on bone is, that the contour is drawn by a fairly fine line and the design is then partially filled in with clusters of fine, more or less parallel scratches. At both Altamira and Castillo, the walls display a good many pictures in this style.

In Altamira the most perfect (fig. 57) is a Hind, 72 cms. long, engraved in strong wide lines, two thirds of the fore-part of the animal being covered with oblique cuts. It is exactly at No. 15 on the map, to the left, at the mouth of the big gallery III-IV, at the point where the daylight coming from the entrance, dies. Others are on the big ceiling, superposed on the red paint of the animals in flat wash, and always immediately beneath

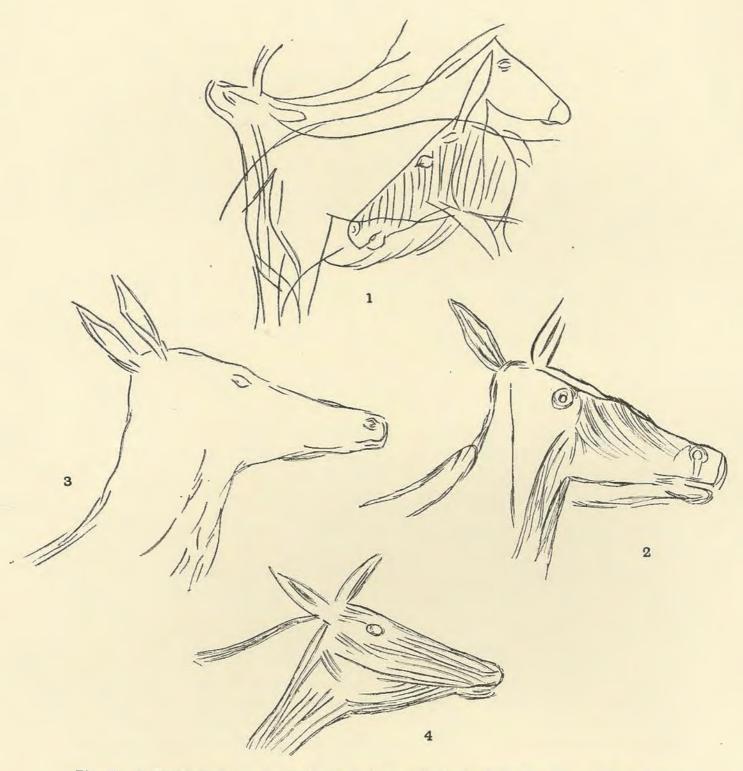


Fig. 58. 1) Tangle of engraved animals. Stag, Horse and Hind's head. No. 16.—2 and 3) Finely engraved Hind's heads. Nos. 18, 20.—4) Hind's head deeply engraved, in the midst of the big polychromes. Scale 1/4. Drawings by Miss Mowbray, except 4.

the polychromes. We mentioned a good many, when describing the plates, only a few of the most complete were copied (figs. 58, 4; 62, 70, 1). They are not all filled in with scratchings, but they have an undeniable family resemblance. Another head is behind the elbow (brisket) of the stationary polychrome Bison (fig. 58, 4, Pl. XIX). An Ibex head, of very good style and filled in the same way, is on the right of the painted ceiling, superposed on the fore-legs of a Horse in plain red (fig. 61, 2, Pl. IX). Cutting through the paint of Pl. X a, there are several small Stags and a Horse, and on the animal of similar colour Pl. X b, is the head of another Stag. Yet another, with very slightly developed antlers and running to the right, is engraved across its chest on the red which is re-utilized for a

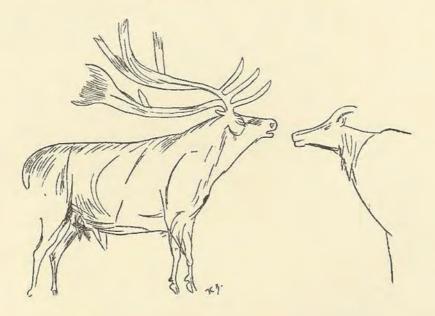


Fig. 59. Group of a big Stag and a Ibex which seems to defy it. To the right on the big ceiling. Hall I. Scale 1/10.

polychrome Bison Pl. XI. Oblique cuts cover the front and lower half of the neck and all the lower flanks; above the head, a smaller Hind with a fore-shortened or rather an atrophied head, but with big ears. It is slightly behind the hind hoofs of the polychrome Bison previously mentioned. Between it and the back of the red animal Pl. X a, is the fine roaring Stag facing to the right (figs. 59, 60), so well known as to be a classic. Unfortunately, since our most careful copy and our photograph (C. A. Pl. XXXI), other copies less lightly made have rather injured it.

Slanting cuts on the muzzle, back and lower belly, can be noted. It is a formidable animal, standing magnificently, the forelegs very carefully finished, the two antlers drawn in rather a conventional way: the left slants backward behind the right, which has three frontal tines; the shafts of both antlers increase in size, and broaden considerably, producing three rather short front tines, standing out well from the base and spreading into a



Fig. 60. Big Cervus elaphus, 66 cms. long (same as fig. 59), engraved on the right hand side of the painted roof, not far from the red Horses. Scale 1/4.

very wide forked palmette. Although the frontal tines are characteristic of the Red Deer species, the rest of the antlers seem to be rather different and more like the *Cervus somonensis*, although that species has only a single frontal tine.

This admirably drawn Stag faces an Ibex with a single short horn, of which H. Breuil could only make out the head and a little of the outline of the fore-quarters. Near here is the engraving of the pseudo-human Bison profile (fig. 61) which led to his article refuting its wrong interpretation by Martel *.



Fig. 61. Engraved heads of Bison and Ibex on the big ceiling. Scale 1/4.

Along the opposite wall, are classic Hind's heads of Magdalenian III style, very often covered by the big polychromes; there are at least three on top of Pl. XLIV a, five on Pl. XIX (one has been mentioned already), one on the polychrome Horse Pl. XL, an almost complete though sketchy Hind on the walking wild Boar (Pl. XLV, fig. 62, I), a Hind's head, a complete cervoid animal on Pl. XIII, a Hind's head on Pl. XIX, a badly drawn Horse, a Horse's head, two Hind's heads, one of a bovine and one of a horned animal on Pl. XVII; three Hind's heads, one of which is partly painted in black on Pl. XXXI. There is as well a goat-like head to the left on entering the big hall (fig. 70, 2)

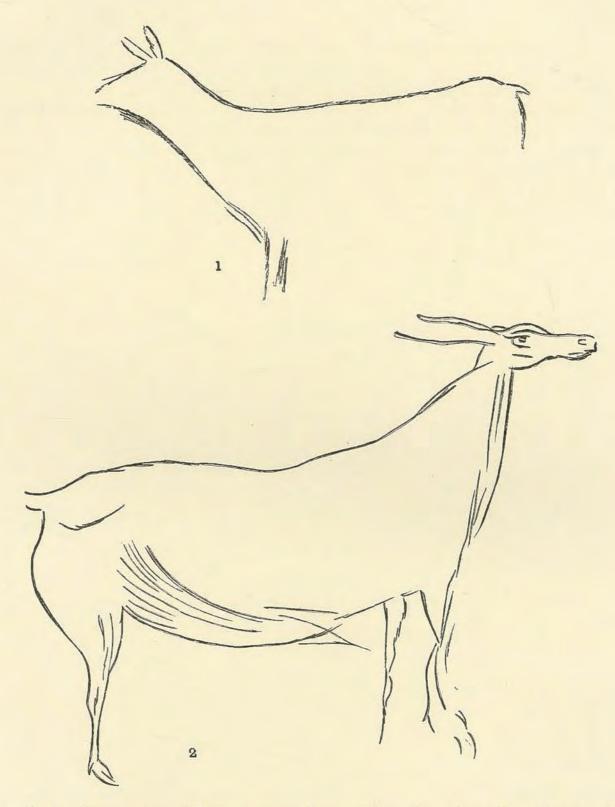


Fig. 62. Fine engravings of Hinds: 1), 55 cms. long, under the belly of the walking polychrome wild Boar.—2), 43 cms. long; No. 17. Drawings by Miss Mowbray.

(published in the "Cavernes Cantabriques"), and another very small Hind in the same hall (fig. 70, 1).

The big gallery also contains a rather small number of Magdalenian engravings of the same type, distributed at various places. We mentioned the most beautiful one (No. 15 on the map), but on the opposite wall, in the same section III-IV, between 16-22 on the map, there is a fairly compact group comprised of the following series:



Fig. 63. 1), Engraving of a Stag. No. 19.—2 and 3), small bad engravings. Nos. 8, 9.—Scale 1/4.—Drawings by Miss Mowbray.

- 1. No. 16 on the map: a panel 46 cms. wide (fig. 58), with various subjects tangled in each other, a Hind's head covered with slanting cuts and turned to the left. A very badly drawn Stag facing the same way, and probably a Horse turned to the right *.
- 9 We give here Nos. 16, 17, 18, new copies drawn to scale by Miss Cecil Mowbray under H. Breuil's direction. Nos. 19 and 20 were re-copied and re-drawn by him in October 1932, and a good many of his new copies were drawn to scale by Miss Mowbray. The copies made in the galleries in 1902 were mostly the work of E. Cartailhac, except for C. A. figs. 30, 31, no. 3 of fig. 38, no. 2 of fig. 39, and fig. 40, which are the work of Breuil.

- 2. No. 17 on the map: A pretty engraving of a fairly complete Hind, 43 cms. long, running to the right (fig. 62, 2).
 - 3. No. 18 on the map: Hind's head very finely engraved, facing right (fig. 58, 2).
- 4. No. 19, 1 m. 60 cms. to the left of the preceding pictures: a Stag reduced to its fore-quarters, very finely engraved, 28 cms. long (fig. 63, 1).
- 5. No. 20 on the map: after some uninteresting fragments and 50 cms. to the left of 4, another engraved Hind's head, 19 cms. long (fig. 58, 3).
- 6. No. 21 on the map, 50 cms. farther on below the frieze: another engraved Hind facing right, 45 cms. long (fig. 64).



Fig. 64. Engraved Hind running to the right. No. 21. Scale 1/4. Drawing by Miss Mowbray.

- 7. Above the hind-quarters of No. 21, there is an incomplete Hind with no hind-quarters, facing left.
 - 8. Another rather badly drawn Hind running to the left.

There is also at the entrance, to the left of the recess with red tectiforms (No. 7 on the map): a bad drawing of a Horse, facing left, 40 cms. long (fig. 65, 1), and some other fragments, then two badly drawn little Stags also turned left, reduced to their fore-quarters (fig. 63). A little to the right, H. Obermaier noticed an engraved Bison, badly made, 77 cms. long, of which only the head had been copied in 1902, or rather the forehead seen full face (fig. 66), which is allied with the engravings on bone of the lower Magdalenian at Le Placard. Farther on, these Magdalenian engravings grow scarce; at 24 on the map, there is a finely engraved Hind's head, turned to the right, 24 cms. long; at 25 on the map, 70 cms. farther on, the engraving of a Hind turned to the right, without belly or hoofs, 68 cms. in length, near which is a cleft in the rock with red daubing.

You must then push on to the end gallery to find more Magdalenian engravings, and here are two of the best in the cave, on the right wall at 60 and 61 on the map, only 15 metres beyond the fine panel of black tectiforms (57), between the two black faces on the opposite wall (Nos. 47 and 62), which are painted on angles of the rock. The first engraving is a Horse (fig. 65, 2) facing to the right, 62 cms. long; the second (fig. 67)

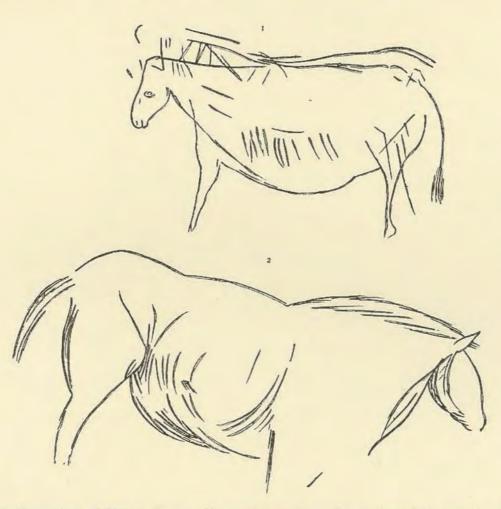


Fig. 65. Engravings of Horses: 1), near the narrow recess A. No. 7; 40 cms. long.—2), on the right of the end gallery X. No. 60; 62 cms. long.

a Bison, 55 cms. in length, and facing the same way. They are only 10 cms. apart. The Bison's attitude, head down and tongue out, is excellent; above its back rises the silhouette of another back, far more fore-shortened, one cannot say what animal it is, but it is not unlike the outline of the back and head of a Mammoth.

The chief group of less important engravings (fig. 68) is clustered at 67 on the map, on either side of a projection on the right wall. Six Hind's heads can be deciphered on the right, mostly filled in with cuts in the same style as those on the shoulder-blades, and,



Fig. 66. Incomplete Bison head, copied from a badly preserved drawing. No. 10. Scale 1/4.

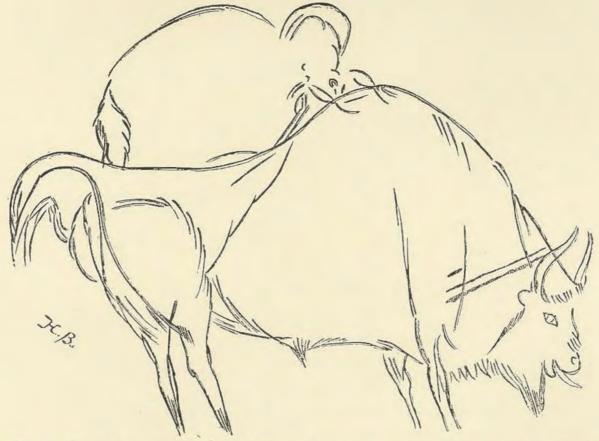


Fig. 67. Beautiful engraved Bison and other indefinite figures; the lines cut through two black painted bands crossing the neck and shoulders; 55 cms. long; to the right of the gallery X. No. 61.

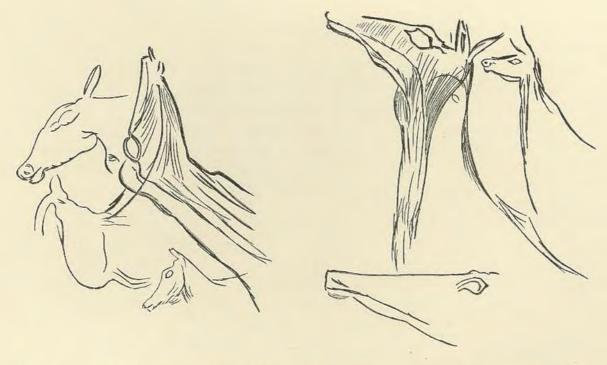


Fig. 68. A group of engraved Hind's heads and one Ibex, in the end corridor. No. 67. Scale 1/4. Drawing by Miss Mowbray.

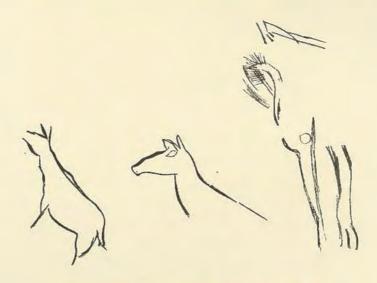


Fig. 69. Engravings: 1), a climbing Hind; No. 63. 2), a Hind's head; in the end corridor. No. 64.—3), a Hind's or Wolf's head; the eye is a natural accident of the rock; it is the last figure on the left at the end of the same corridor. Scale 1/4. Drawings by Miss Mowbray.

facing No. 67, Hind (fig. 68), galloping vertically, head up and 13 cms. in length, as well as a Hind's head.

To the left of the projection of the rock, in the same style as the Ibex, and perhaps a little older than the Hind's heads, there is (fig. 71) a group of four little Stags, only one complete, and, below, another Ibex or Stag. These Stags and Ibex have none of the filling in with slashes.

Other notable engravings in the end corridor are: a small animal in the style of the preceding ones (fig. 69, 1), climbing vertically, head to the left, and, to the right of it, a Hind's head, the same type as the others. (No. 66 on the map): A Stag, 50 cms. long,

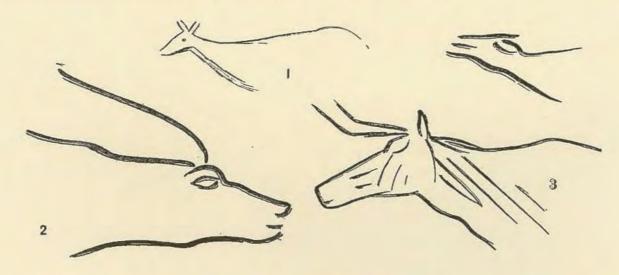


Fig. 70. 1), In the centre, very small Hind engraved on the big ceiling. Scale 1/3.—2), Ibex (?), to the left on entering, on the big ceiling.—3), on the right, Izard and an undetermined head, on the left in a low recess of the end corridor, with many other undecipherable lines. Scale 1/4; 2 and 3 are sketches.

with a short horn, is on the roof (55 on the map) running to the left (fig. 72). The back part of the neck and head are formed by low relief rocky edges; it is partly superposed on scraped surfaces, Aurignacian drawings of unknown meaning. On the neighbouring left hand wall, there is a bad very incomplete engraving of a Stag (54 on the map). A rather poor Hind or young Stag turned to the left, which we have already quoted as perhaps Aurignacian (fig. 73), is to the left of Bison 56, on the right hand wall towards the middle of the gallery.

Between the preceding figure and the back of the hall and on the same wall, is a head (fig. 69, 3) with a long muzzle, placed vertically, carelessly drawn; a round natural fossil forms the eye and seems to have been the artist's starting point in designing the rest of the head. Although the position is like that of the Hind's heads, the way the forehead and ears project, the former with rays of erect hairs, the latter pointed, seems rather to resemble a Wolf.

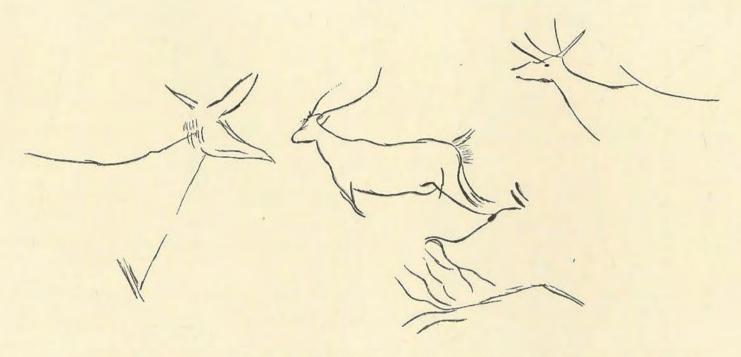


Fig. 71. Engraved Stag and Ibex, in the end corridor, to the left of the Hind's heads, etc. of fig. 68. No. 67. Scale 1/4. Drawing by Miss Mowbray.

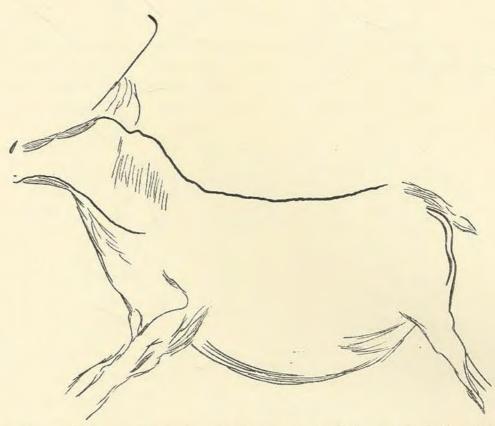


Fig. 72. Engraved Stag running to the left. To give the broad lines of the back and throat, slight natural reliefs and fissures of the rock have been utilized; on the roof of the end corridor. No. 55. Scale 1/4. Drawing by Miss Mowbray.

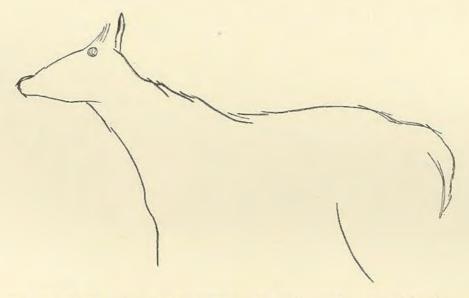


Fig. 73. Engraved Hind (?), towards the middle of the end corridor, to the left of no. 56. Scale 1/4. Drawing by Miss Mowbray.

Above and to the left of the preceding head, is a Stag (?), engraved (fig. 74), running to the left, careless in style, but certainly belonging to Magd. III, and 29 cms. long.

In a low niche at the end of the same passage, H. Alcalde del Río discovered, in 1906, a rather fine horned head of the same style, with another very simplified one (fig. 70, 3). The silhouette of the first head, which has a pair of horns projecting forward acutely, is suggestive of the engraved Chamois (Izards) on the pierced and engraved bâton in Sautuola's collection (figs. 134-135). A Bison facing to the left must also be mentioned

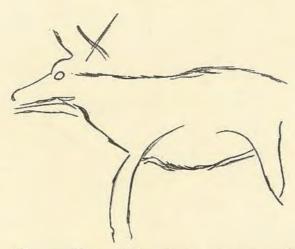


Fig. 74. Engraved Stag (?), to the left at the foot of the end corridor, above and to the left of the Hind's head (?), fig. 69, 3. Scale 1/4. Drawing by Miss Mowbray.

(fig. 46, 1); its horns are full face and it is like the one at the entrance of the narrow passage A.

Lastly (fig. 46, A), quite at the back of the hall, is a strange drawing ending on the right in the leg of a ruminant, on the left in the tail of a fish, or a bird with a forked tail. The whole is reminiscent of a bad drawing of a sea bird resting on the water and with too big a beak.

IV. Relative Chronology of painted and engraved figures in the Cave of Altamira.

We have to consider two groups of works of art; the vast palimpsest on the big painted ceiling with its many superpositions of figures, and the pictures in the large gallery which are usually isolated, and where there are no important superpositions. The succession of painted figures on the big ceiling gives us the following sequence: As this chart shews, we attribute all the old drawings to the Aurignacian age, although the excavations were not able to reach so old a level; we do so after a comparative study of the collections in other sites.

We consider only a small number of slightly shaded black line drawings and engravings, some few to be possibly final Solutrean and the greater part certainly lower Cantabrian Magdalenian in date, though there are considerable deposits of these ages at the cave entrance; the engravings can be clearly dated, being similar to those on shoulderblades at both Altamira and Castillo.

We attribute to Magdalenian V and VI date the much shaded black paintings and all the polychromes which certainly follow immediately after them, in direct superposition. There are no signs of human habitation of this date in the cave.

EVOLUTION OF THE PAINTINGS AND ENGRAVINGS IN THE CAVE OF ALTAMIRA

Age	ON THE BIG CEILING		IN THE GALLERY	
	Paintings	Engravings	PAINTINGS	Engravings
Aurignacian	Few remains of red line-drawings of animals.			Interlacings and other drawings made with fingers. Line drawings made with a finger or stick, and others on clay.
	2. Animals drawn in very barbaric style in thick lines.		Corner with tectiforms and ladder-like signs in red.	A few very simple engravings on the fallen frieze, and on the friezes still in place, and big animals sculptured on the stalagmitic cas- cade.
	3. Club-shaped signs, etc., animals in flat red wash, partly engraved. Positive hand in red.	Striated huts, masked Men and a few animals.	•	
	4. Stencilled hands and violet palmated signs.			
Solutrean 4 Magd. 3	5. Black line drawings, sometimes slightly shaded.	Striated Hind's heads, etc.	Black figures of animals, generally bad, and a group of tectiforms.	Striated figures of Stags, Hinds and Horses.
Magd. 5	6. Black figures much shaded.	Fine Stag and some of the best engravings.	741	The fine Bison and Horse of the end corridor.
UPPER MAGD, 6	7. Early polychromes, usually without a black contour line.			
	8. Large polychromes which are also engraved and entirely outlined in black.			
	9. Occasional red comb-like signs placed amongst them.			

CHAPTER V

Chronology of Paintings and Engravings in the Spanish Caves.

1

Chronology of Paintings in other Cantabrian caves.

We must now pursue our study of the evolution of Art on cave walls, first in those of the same region as Altamira, and then in France. Starting with those caves in which the superposed layers of paintings are most numerous, and varied, we will next take those in which there are very few sequences or where only one series is found; if the latter, the paintings can only be dated by comparison with others, but have the advantage of exhibiting a single definite phase in the evolution of wall art.

1. Cave of Castillo at Puente Viesgo (Santander).

There are very few figures in Castillo ¹⁰ (fig. 76) which are related to the Polychrome epoch, a rock surface washed with red and unfinished (C. C., fig. 146) and several fine figures of Bison, some obviously polychrome (C. C. fig. 147), others painted in black on reddened surfaces (some of these red washes were already there), and yet others with the same style of black painting, unfinished, which have never been given a red background (C. C. fig. 149). These paintings are certainly contemporaneous with the most evolved polychromes of Altamira, as is proved by the curled-round attitude of a Bison and the way the tufts of hair are rendered.

Now this panel (fig. 76) has two other successive layers of paintings; the oldest hands stencilled in red with all the fingers 11; the others are pictures of Hinds and small red signs in fairly fine line drawing.

¹⁰ H. Alcalde del Río, H. Breuil, and Lorenzo Sierra: Les Cavernes de la Région Cantabrique (peintures et gravures murales des Cavernes paléolithiques). Monaco, 1912, pp. 111-193. References to figures and plates are initialled C. C. Cavernes Cantabriques.

II At Gargas (Haute-Garonne), the red hands are older than the black ones which obliterate them. (See: fig. 77).



Fig. 75. Part of the frieze of hands in the cave of Castillo, shewing the superposition of yellow and red line drawings on the hands stencilled in red.

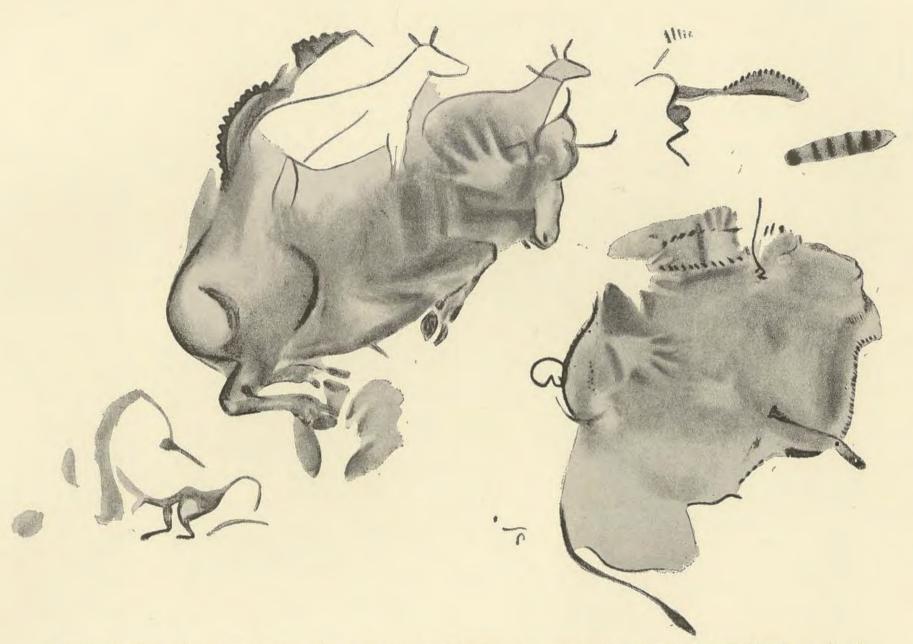


Fig. 76. Polychrome Bisons, superposed on red line drawings, which are themselves more recent than the hands stencilled in red. Castillo.

We have thus a well defined chronological starting-point which a study of this frieze of hands (C. C. Pl. LXV) will help us to develop further (fig. 75): the frieze provides us



Fig. 77. Group of hands stencilled in black and red, in the cave of Gargas. The black hands are superposed on the red hands. Notice the fingers which are lacking, either cut off or destroyed by some illness (leprosy?), and also the arbitrary arrangement of fingers of one or more hands. After Cartailhac and Breuil.

with more details of the ancient pictorial levels and their succession. There are many hands stencilled in red, associated with many discs of the same colour, all belonging to the oldest level. Above are line drawings in yellow of Bisons, of various successive dates, the early ones rather primitive in style, the later much more correct, with thick and thin

(shaded) lines. Superposed on these, is a Bison in wide red lines, with well drawn hind-quarters and carelessly drawn head, the two horns forming an almost complete circle. Some tectiforms and comb-shaped signs, etc., and some spots, also superposed on the hands, seem to be of the same date as the Bison. There is a fine line drawing of black Bison, very primitive in character, immediately beneath the red Bison mentioned above, which shews that, from early times, other black figures may have been drawn there, though few have survived. Another example is C. C. Pl. LXXVI.

The corners adjoining the frieze are ornamented with several fine red line drawings



Fig. 78. Yellow finger-drawings and animals drawn with the same technique. La Pileta, Málaga.

of animals associated with primitive tectiforms of the same technique (C. C. fig. 118), and there is a curious recess filled with brown-red tectiforms drawn in partially thick lines, of the same age as the old animals in thick lines. In the deep gallery, there are almost exclusively big discs, arranged in rows along a cornice and grouped on a thick column, of the same age as the hands, and an Elephant painted in fine red lines. Some of these discs are superposed on some very primitive line drawings in red, but are obliterated by black lines.

In the lower part of the big hall to the right, there are big figures drawn in wide red bands (C. C. figs. 121, 123), one of these a Bison obviously superposed on a primitive line drawing (C. C. fig. 122).

A more difficult problem to determine is the age of the coarsely made black paintings (C. C. figs. 127 to 130), often large sized figures: they seem to be unrelated to the Magdalenian style of painting, neither have they any connection with the series of red paintings. It is difficult to classify them exactly, they may be parallel with, or succeed the broad line drawings. H. Breuil is inclined to think them later, they may perhaps belong to the mid-Solutrean, a level of that date being in the vestibule.

There is no doubt that most of the black drawings and black-shaded paintings or

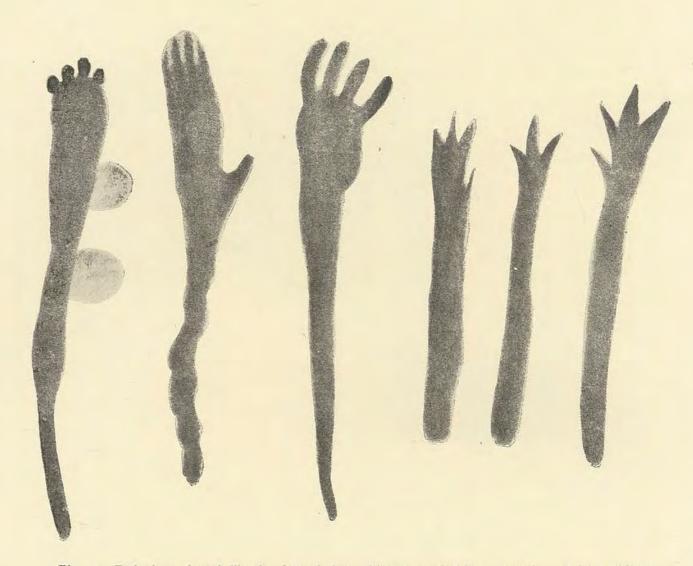


Fig. 79. Red signs shaped like hands and feet, either recognizable or transformed into tridents. Cave of Santián, Santander.

EVOLUTION OF THE PAINTINGS AND ENGRAVINGS IN THE CAVE OF CASTILLO

Age	PAINTINGS OF ANIMALS, ETC.	Painted Designs	Engravings
Aurignacian	 Red stencilled hands and incipient line drawings of dorsal outlines in red. Drawings in fine yellow lines, first fairly primitive, later in thick and thin lines. Drawings in fine red lines, sometimes in black. Drawings in thick ragged-edged red lines. Drawn in wide red bands. 	 Series of big dises. Small oval or cupola-shaped tectiforms; others bell-shaped with a central line, etc. All the red tectiforms and signs connected with them (Punctuations, etc.). 	1. Engraved with a flint, usually very simple (c. c. Figs. 152, 153 (1 & 2), 154.
Solutrean?	6?Drawn in wide black bands.		2. Single line engravings, not filled in, recalling the pre - Magdalenian ones of Parpalló. (c. c. Figs. 157, 158, 160, 161, 163 a.)
LOWER	7. Black charcoal drawings.8. Black paintings more or less shaded.		 Fine lines and more or less covered with slanting cuts like those on the shoulder-blades in Magd. 3 style; chiefly Hinds. (c. c. Figs. 163 b, 164 (1 & 3), 165, 166, 167, 168, 169, 170, 171 b.) Deeply incised without slanting cuts. (c. c. Figs. 153 (3), 155, 156, 159, 172, 173, 174.)
UPPER	9. Rare polychrome figures and unfinished black paintings of the same type.		5. ? c. c. Fig. 171 a, and an engraving on a poly- chrome Bison.
N EOLITHIC		Red or black human diagrams and punctuations. Black branching designs.	

striated engravings (C. C. figs. 131, 141, 144, and 145), belong to lower and mid Magdalenian times (figs. 94, 1 and 98) and are contemporaneous with similar designs at Altamira. The same is probably true of the figures with wide surfaces shaded in black (C. C. figs. 142, 143), although their barbarous style makes one doubt if they are not earlier, and contemporaneous with those painted in wide red lines, described in the preceding paragraph.



Fig. 80. Red or yellow Horses and Stags of different Aurignacian dates. La Pasiega, Santander, Notice the antlers with the principal shafts wide apart, almost like the drawings of Stags seen full face, while the tines are in profile. Notice also the position on a Stag of a trident shaped sign similar to those at Santián and Altamira.

The Horse (C. C. fig. 142) is anyhow superposed on an older red wash. H. Breuil thinks the striated engravings are not, as he said before, earlier but later than this figure, and, as they are old Magdalenian, they should be pushed rather backwards in date. In the Dordogne we now know figures in flat black wash, whose late Aurignacian date is certain.

2. La Pasiega 12.

Quite near the cave of Castillo, is that of La Pasiega, situated in the same mountain; it contains various painted and engraved figures, a certain number definitely superposed, but scattered about in various galleries. The most recent figures are black paintings superposed and often partly utilizing older paintings; for example, the brown line drawing of part of an Aurignacian Bison (PA. Pl. XXVIII, No. 83), is retraced in black from the belly to the face; an animal (Horse?) in plain red is re-made into a Bison by outlining in

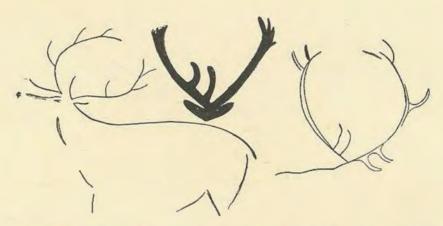


Fig. 81. Complete Stag in fine red line drawing, from La Pasiega, Santander, and two pairs of antlers, one black, the other red, in the same style, from the cave of Le Portel, Ariège.

black the fore-quarters, and by the addition of horns and tufts of hair (PA. Pl. XXVIII, 73). The black horns of a Bison are superposed on the head of an anthropoid silhouette (PA. Pl. XXIII, 77): a Stag (PA. fig. 94, 3), drawn with a single antler, slightly overlaps the horn of a red Bull almost entirely covered with a colour wash (PA. Pl. XVIII, 28); three Horses, black line drawings of late Magdalenian style, are superposed on red animals drawn with wide ragged-edged lines or in wide bands of colour, and there are some retouches to the outline of a red Horse's head drawn with ragged-edged lines and partially filled in, seen on the same (PA. Pl. XVI, 25); also the rapid sketch of a head superposed on a Hind drawn in wide red bands (PA. Pl. IV, 21).

On panel 86 (PA. fig. 8), two heads, one a Horse, the other an Ibex, are superposed on red club-like signs resembling those on Altantira roof, and cut through by striated hatching

¹² H. Breuil, H. Obermaier, H. Alcalde del Río: La Pasiega à Puente-Viesgo (Santander). (Peintures et gravures murales des Cavernes paléolithiques.) Monaco, 1913. References to figures and plates are initialled PA.

as in old Magdalenian engravings. There is also the back of a black Bison, cutting across a small Man in plain red (PA. Pl. XXV, 75).

Besides a certain number of black line drawings, slightly, or not at all shaded (PA. Nos. 70, 86, 88), there are others in wide black washes (PA. Nos. 17, 20, 30, 67, 72, 89, 90); a fine Stag belonging to the first set has only one antler in Magdalenian fashion (fig. 94, 3).

Earlier than the preceding black paintings comes the great mass of red and yellow figures.

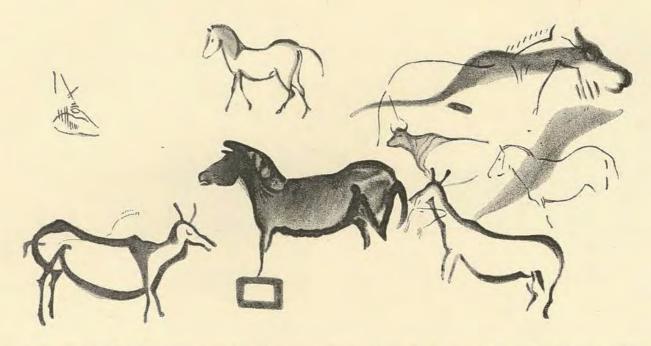


Fig. 82. Red Aurignacian drawings of varied technique from La Pasiega. The central Horse has its body painted almost all over in red and its head outlined in black to make it stand ont. The superposed black line drawings of Horses are old Magdalenian.

The most recent of these are very roughly-made signs surcharged on animal paintings: (PA. Pl. II, 15) on a Horse drawn with a ragged-edged red line is a big yellow ochre pointed sign; a three-toed mark in brownish-violet is superposed on a Stag's back, of the same technique as the Horse mentioned above (PA. Pl. VIII, 41); it reminds (fig. 80) one of the tridents at Altamira and Santian. Some few signs in yellow ochre should be classed with them: a double lozenge (PA. Pl. XXV, 74); a wide-lined rectangle (PA. Pl. XVI, 25), four yellow spots, and a sort of square phallus completing the red line drawing of an anthropoid figure (PA. Pl. XXIII, 77). H. Breuil thinks the Horse's head in ochre (PA. No. 14) belongs to the same group.

Amongst the remaining red and yellow signs, there are: fine line drawings; others

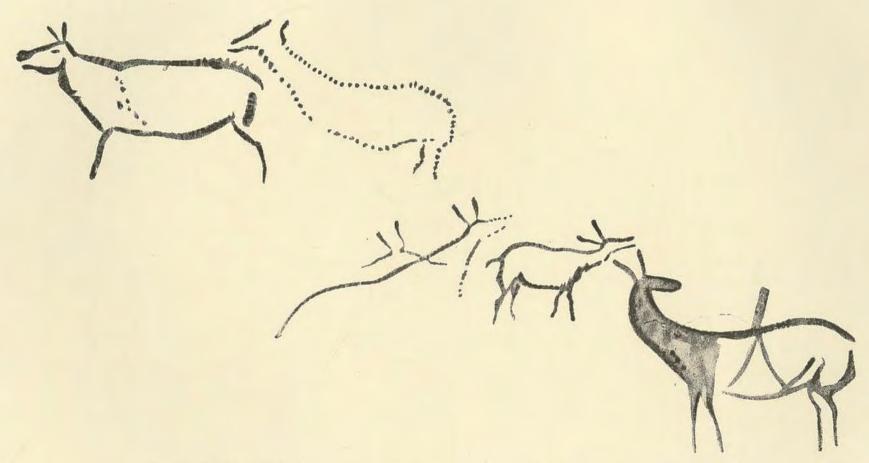


Fig. 83. Hinds and hornless cervoid animals, from the cave of Covalanas (Santander); drawn in wide ragged-edged red lines made by stomping a series of spots. Aurignacian.

with wide ragged-edged lines; others with colour put on in broad bands; others with the colour more or less completely covering the figure (fig. 84).

The following instances of superposition are clear:

PA. Pl. VI, 18: A Hind in thick and thin shaded lines obliterates a primitive yellow line drawing, similar in type to the frieze of hands at Castillo.

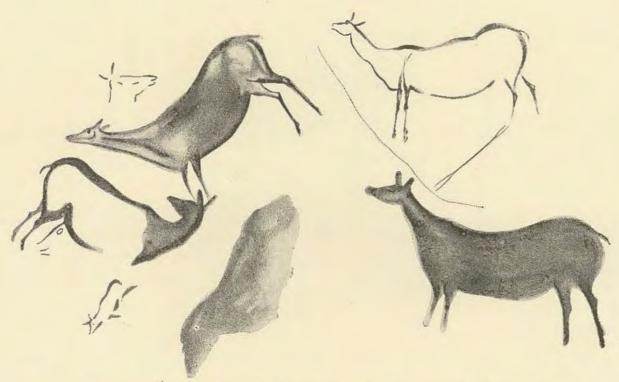


Fig. 84. Red Aurignacian Hinds of varied technique from the cave of La Pasiega; the oldest are drawn in fine red lines; next come those which are more or less filled in with colour, and the latest are coloured all over and finely engraved. Notice the superposition of a black drawing of a head on one of them. This is Magdalenian.

PA. Pl. VIII, 3: Horses of the same style as the preceding Hind obliterate a very fine reddish-violet line drawing of a Stag's head, with antlers, the two shafts of which are in twisted perspective (fig. 80).

PA. Pl. VIII, 30: A Hind and a Horse in wide ragged-edged lines obliterate a Horse in very thin red lines.

PA. Pl. XI, 34: A Horse in broad ragged-edged red lines obliterates a tectiform in very thin red lines.

PA. Pl. XIII, 36: Another of these drawings is surcharged by a Hind drawn in broad ragged-edged red and spotted lines.

PA. Pl. XV, 37: Two other similar tectiforms are surcharged by a Stag and a Bull in wide ragged-edged red lines.

PA. Pl. XVI, 25: A fine line drawing of a Hind's head is immediately beneath a Hind in ragged-edged red lines, which in its turn surcharges, first, a fairly fine line drawing of a Bull, with neck and shoulders covered with colour, belonging to an earlier but now vanished figure; secondly, a Bison (?) drawn with thick red bands of paint (fig. 82).

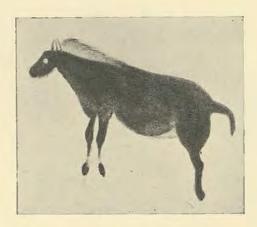


Fig. 85. Small plain red Horse, engraved and painted, from the cave of Le Portel; its technique and small size recall the eastern Spanish art. Length 17 cms.

PA. Pl. XVIII, 27: A small red line drawing of a head, is obliterated by a Bull drawn in ragged-edged red lines.

PA. Pl. XXIII, 78: Some old yellow lines are immediately beneath a big red tectiform drawn with wide lines, and a ragged-edged violet Hind obliterates a Bison drawn in fine yellow lines.

PA. Pl. XXV, 75: An ugly Horse's head with ragged-edged red outline obliterates a blackish primitive drawing which completes a positive hand-print of the same blackish colour.

These facts permit of our verifying exactly the sequence shewn in the accompanying chart.

EVOLUTION OF THE PAINTINGS AND ENGRAVINGS IN THE CAVE OF LA PASIEGA

Age	PAINTINGS OF ANIMALS, ETC.	Painted signs	Engravings
Aurignacian	 1.? Blackish lines completing a hand-print. Old fine line-drawings in yellow. Old fine line-drawings in red. Red line-drawings in thick and thin lines. Red drawings in wide bands. Drawn in thin red lines, first partly, then more or less completely filled in, sometimes combined with engraving. Ragged-edged contour lines, often made of a series of spots, sometimes more or less filled in with colour, generally red, but towards the end sometimes yellow. Drawings in wide bands of yellow ochre. 	 1.? Blackish hand-print. 2. Red or yellow tectiforms drawn in very fine lines. 3. Fine red line drawings of tectiforms. 4. Red hand print and rectangle associated with it. 5. Tectiforms, etc., with thick outlines, small club shaped signs, "magic inscription". 6. Roughly made signs in yellow ochre or violet. 	 Incised in very archaic style, PA. fig. 9. Advanced Aurignacian style (cf. Hornos; PA. figs. 10, 11). Incised, recalling more or less the pre-Magdalenian ones of Parpalló (PA. fig. 13).
Magdalenian 3	9. Black line drawings.10.Black drawings filled in with strokes.11.Black shaded drawings.		4. Usually striated in Magd. 3 style (PA. figs. 7, 8, 12, 14, 15, 16, 17). 15 is combined with primitive black shaded painting, others are later than the black line drawings.

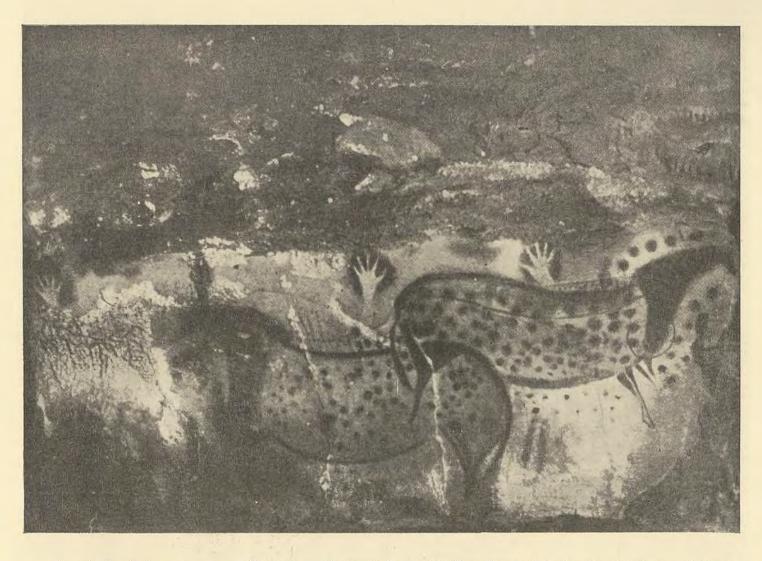


Fig. 86. Panel from the cave of Pech-Merle, Cabrerets (Lot), with three layers of Aurignacian paintings.—I), hands stencilled in black; 2), red line drawing of a Pike; 3), Horses painted in black, partly flat wash and partly line drawing, the whole sprinkled with red stains like discs or horse-shoes. After Abbé Lemozi.

Several caves, either with varied paintings but none superposed, or only containing the figures of a single age, are compared on the chart laterally with the established series of Altamira, Castillo and Pasiega.

Covalanas (fig. 83) corresponds exactly to the series in ragged-red lines of Castillo

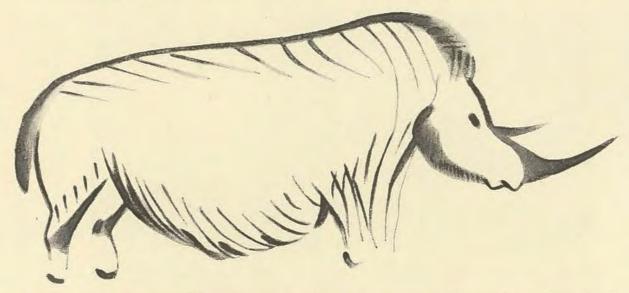


Fig. 87. Red line drawing of a Rhinoceros, Aurignacian, from the cave of Font-de-Gaume. After Breuil-

and Pasiega, and La Haza, to those figures with wide lines partially filled in of Altamira, Castillo and Pasiega.

Novales contains a proto-polychrome.

Santián, with its red tridents, etc. (fig. 79), resembles the differently coloured similar signs in Altamira and Pasiega.

Santimamiñe, Cova Negra, and Buxu display the more or less shaded black pictures of Castillo and Altamira.

Pindal contributes primitive red line drawings in thick and thin lines, red ragged-edged or dotted line paintings, black shaded drawings (fig. 94, 2) and polychromes.

EVOLUTION OF THE PAINTINGS AND ENGRAVINGS IN THE CAVE OF SAN ROMÁN DE CANDAMO

Age	Paintings of Animals, etc.	Painted designs	Engravings
z	1. Red line drawings.	Group arranged in a square of two sheaves each of three red lines; curved triangular signs (op. cit. fig. 71), one of which resembles a human foot.	
Aurignacian	2. Red paintings with ragged-edged or punctuated lines.3. Paintings in burnt sienna of similar technique.		Partly engraved, combined with figures in burnt sienna (op. cit. fig. 55 and pl. xvII).
SOLUTREAN?	4.? Archaic figures in black lines, more or less shaded or in flat wash (perhaps rather older).		? Fairly deeply incised, pre-Magdalenian in type (op. cit. figs. 10, 20, 52, 53, 60).
MAGDALENIAN 3.	Black painted figures more or less shaded and engraved in Magdalenian 3 style.	Groups of black spots.	Usually with striated surface of Magdalenian 3 style, not all of the same date (op. cit. figs. 11—17, 21—24, 36, 37, 38, 41—51, 62).

3. La Peña de Candamo 13.

In the Cantabrian region we must now consider the succession of paintings in the cave of San Román de Candamo, studied by Messrs. Paul Wernert and J. Cabré and published by E. Hernández Pacheco.

This painted cave, the most westerly in Cantabria, presents a rather important collection of paintings with a notable series of superpositions:

The most recent designs (mostly on the big panel) are old Magdalenian engravings also painted, more or less shaded in black (an Izard, op. cit. Pl. XXIII; Ibex, fig. 45; Bull, fig. 21; Stags, figs. 11, 12 and 14; Horse, fig. 57).

Other figures in this style are only painted or merely silhouetted with a black line (op. cit. Bison, fig. 39, 40; Hind, fig. 19; problematical figure, fig. 61). These seem to be more archaic in style. They are all cut through by striated engravings which are certainly Magdalenian III in date ¹⁴. These various figures are distinctly later than a series of red or yellow line drawings and the following few isolated ones: an engraved and painted Horse painted with a ragged-edged line, spotted and outlined in burnt sienna (op. cit. Pl. XVII, fig. 55) and another only painted (op. cit. Pl. XIX, fig. 58), some red paintings of Horses with rather ragged-edged lines (op. cit., figs. 54, 56), and a blackish figure painted all over its surface and of pre-Magdalenian style. As there are no superpositions, they can only be compared vaguely with those in other localities.

¹³ E. Hernández-Pacheco: La Caverna de la Peña de Candamo (Asturias). Memoria no. 24 de la "Comisión de Investigaciones Paleontológicas y Prehistóricas". Madrid, 1919, See also: H. Obermaier: E. Hernández-Pacheco, La Caverna de la Peña de Candamo (Asturias). Boletín de la Sociedad Ibérica de Ciencias Naturales, Zaragoza, 1920, pps. 45-51.

¹⁴ Magdalenian III facies is the oldest Magdalenian in the Cantabrian region; the custom of shading the interior of the figures by striation seems to have been in vogue here since the very end of the Solutrean period (see chapter VIII).

II

Evolution of the Engravings in the Cantabrian Caves.

With the exception of Altamira we have left unstudied the sequence of engravings which runs parallel to that of the paintings.

We are sure today of two very important fixed points: That the style of engraving of a Horse on a Horse's frontal at Hornos (fig. 109) of mid-Aurignacian age is identical with that of other engravings in the same cave; and that the old Magdalenian and perhaps very late Solutrean engravings on shoulder-blades etc. of Castillo and Altamira are identical in style with wall-engravings in these two caves and many others. Up to a certain point these facts permit us to class chronologically the rest of Cantabrian wall art.

"Maccaroni" and other drawings on clay are obliterated several times at Hornos 15

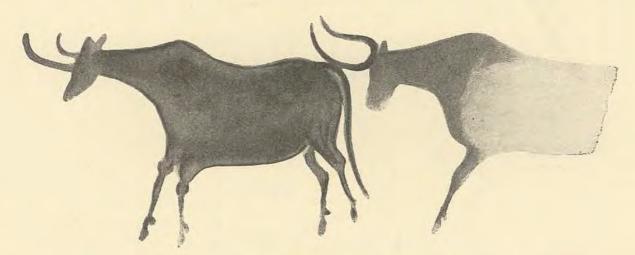


Fig. 88. Black Bulls, upper Aurignacian, from the cave of Font-de-Gaume. After Breuil.

(Cavernes Cantabriques, pps. 85-111), by Aurignacian engravings in various stages of development (fig. 111), superposed on each other; the date of those which, at Hornos and in some other caves, can be given approximately by a study of their style, such as the figures on clay at Clotilde de Sta. Isabel and Quintanal, the incised engravings at Venta de la Perra, and certain others in Castillo and la Pasiega. The analogy of certain non-striated fine engravings with the figures of Hinds on pre-Magdalenian pebbles at Parpalló (Valencia), must also be considered; there was one such engraving at Altamira, immedi-

¹⁵ Hornos de la Peña, near San Felices de Buelna (Torrelavega).

EVOLUTION OF WALL PAINTINGS IN CANTABRIAN CAVES

Санрамо	SANTIMAMIÑE	Santian	Novales	Buxu	COVALANAS	La Haza	PINDAL	Pasiega	Castillo	ALTAMIRA
× Burnt sienna × Black		Red Signs			×	×	×	 Primitive black lines. Fine yellow line-drawings. Fine red line drawings. Thick and thin red line drawings. Broad red bands. Fine red line-drawings, more or less filled in. One red positive hand. Wide red or yellow raggededged line-drawings. Yellow ochre drawings, and roughly - made yellow or violet signs. 	 Stencilled red hands and discs. Yellow line-drawings. Red line drawings. Red ragged-edged drawings. Wide red bands. Thick black line drawings. 	 Red line drawings. Drawings in wide red bands More or less flat red wash. Red positive hand. Tectiform in thick red lines. Violet stencilled hands. Violet signs.
×	×		×	×			×	9. Black line drawings.10.Black drawings shaded with strokes.11.Black shaded drawings.	7. Black line drawings.8. Black more or less shaded drawings.9. Polychrome paintings.	 Black line drawings. More or less shaded black drawings. Black tectiforms. Black very well shaded drawings. Proto - polychrome. Polychrome.
			×				×		10.Neolithic.	10.Signs.

EVOLUTION OF THE WALL ENGRAVINGS IN CANTABRIAN CAVES

	4-						C	ANTAI	BRIAN	Regio	И					And	ALUSIA
Age		Engravings	ALTAMIRA	САЅПІТО	PASIEGA	САИВАЖО	HORNOS	CLOTILDE DE STA. ISABEL	VENTA DE LA PERRA	PINDAL	roly	QUINTANAL	BUXU	PENDO	SANTIMAMIÑE	PILETA	ARDALES
	Finger drawings on clay. "Maccaroni" and earliest figures.						×	×				×					×
Aurignacian	ger drawings	2. Line drawings of animals on clay; sometimes primitive engravings.	×	engraved			×		7	×				-		×	×
	Still some finger drawings	3. More elaborate incised engravings, sometimes associated with red paintings.		×			×		×								
Final Solutrean and Magd. 3	4. U	Isually striated.	×	×	×	×	×			×			×	×	×		
Magd. 5	5. Advanced style, unassociated with painting.		×	×	×		c. c. fig. 99 ×			×	? ×						
16.16	6. A	ssociated with polychromes.	×	×						×							
Magd. 6	7. St	uperposed on polychromes.	×														

ately beneath certain simple finger-drawings. Others can be clearly seen at Castillo, la Pasiega, and St. Román; they perhaps date as far back as the Solutrean, or late Aurignacian.

The fine engravings, usually partly, rarely completely filled in with long parallel striations, which are so clearly of Magdalenian III date, are found at Altamira, Castillo, Pasiega, Hornos, St. Román de Candamo, Pindal, Buxu, Santimamiñe, and, perhaps, at Pendo. They are often clearly combined with black paintings, and also cut across them.

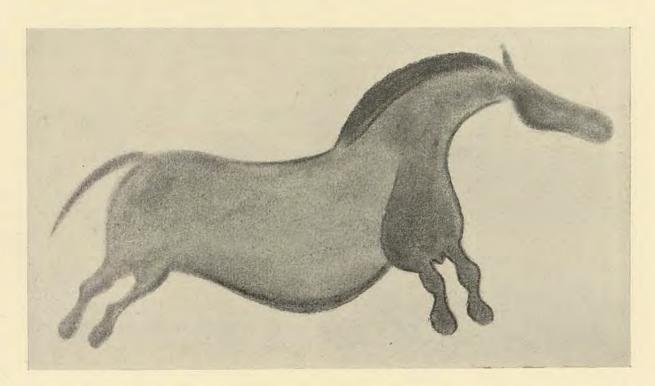


Fig. 89. Brown-black Horse, upper Aurignacian; cave of Le Portel. Original drawing by Breuil, Length: 95 cms.

It should be noted that several antlers of Stags at Candamo, the most western of the painted caves, display the twisted perspective, typical of Aurignacian and eastern Spanish art.

Other engravings of a different style are identical with the lines accompanying various polychromes, and are therefore rightly considered contemporary with them; they are almost exclusively Bisons. The very rare occasions in which very simple engravings are associated with very old paintings (Aurignacian), either in flat wash as at Pasiega, or drawn in burnt sienna as at Candamo, or in ragged-edged red lines as at Pindal, is another noticeable fact.

It is thanks to these details that we have been able to make out the accompanying chart.

III

Andalusia.

We add the very few facts known about Andalusia.

- 1) The only engraving of a Horse in the cave of La Pileta 16 is covered by a painting in the same style, wide yellow lines and very archaic.
- 2) The engravings on blocks (which originally had a coating of clay) from the cave of Ardales 17, are very definitely Aurignacian in style; there are certain serpent-like designs here, reminding us of the yellow finger-drawings at la Pileta.
- 3) The few line-engravings in the same cave are very primitive and exactly similar to those in the upper Aurignacian levels of Parpalló; it is curious that there is a sign here (Ardales, fig. 7, low in the centre) very like two figures at Candamo (op. cit. figs. 62, 63), which we would willingly describe as Seals; in the latter cave they are lower Magdalenian in age.

The evolution of art in the province of Málaga, fairly obvious by the superposition of paintings, presents analogies with the Cantabrian regions such as we would not have expected at that distance.

So far no hands have been found in Andalusia, for those at Pretina (Cadiz) are eneolithic; but the series of pictures (fig. 78) begins at la Pileta with real "maccaroni" painted in yellow or mahogany, in the midst of which snakelike forms and three mammals stand out, Rhinoceros, Bull and Ibex, drawn in similar multiple parallel lines.

After, or at the same time, in the cave of Ardales, come yellow animals, first simple heads, tangled together in such a way that it was only whilst copying them that H. Breuil saw, that they were figures, and not mere meaningless finger-traces (op. cit., figs. 2, 3).

Then, at Pileta and Ardales, regular artistic line-drawing develops, first chiefly in yellow, then red; at La Pileta, with the most evolved red drawings, there is a great outcrop of signs in the same colour, partly of tectiform type, mostly ovals with a toothed contour, and the centre sprinkled with double spots; here are also strange spiral twists.

Then come small red or brown animals, the body partly filled with colour; their small size and even their proportions recall certain examples in the eastern Spanish palaeolithic art.

¹⁶ H. Breuil, H. Obermaier and Col. Willoughby Verner: La Pileta à Benaoján (Málaga). (Peintures et gravures murales des Cavernes paléolithiques.) Monaco, 1915. References to illustrations are initialled PI.

¹⁷ H. Breuil: Nouvelles Cavernes ornées paléolitiques dans la province de Málaga. L'Anthropologie, 1921, pp. 239-253.



Fig. 90. Panel from the cave of Font-de-Gaume, shewing the superposition of an unfinished polychrome on an old Magdalenian (?) black line drawing, upper Aurignacian black Bulls and the head of a Rhinoceros in red line drawing.

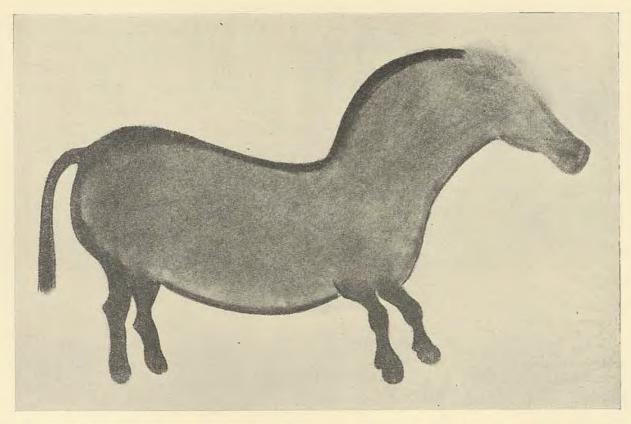


Fig. 91. Bi-chrome Aurignacian Horse from the cave of Le Portel: on a red or brownish-red washed background, outlined in black. Original drawing by Breuil. Length: 1,15 m.

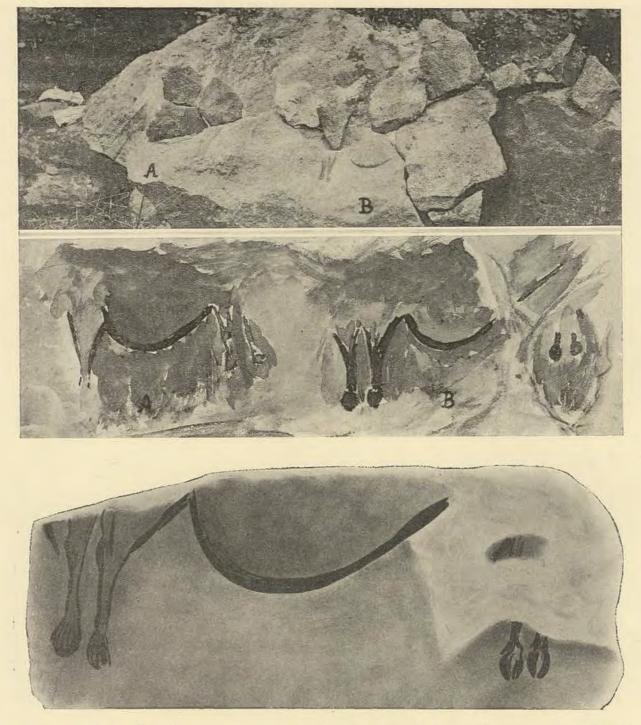


Fig. 92. Above. Two Bisons painted on a rock fallen into the late mid Aurignacian hearths of the Abri Blanchard, Sergeac (Dordogne). Photograph by L. Didon, the discoverer. The original at the Museum of Périgueux.

In the middle. Original sketch by L. Didon at the moment the painting was unearthed.

Below. Original drawing by H. Breuil of the right hand Bison, 45 cms. long. On a red flat wash background the animal is silhouetted in black. Notice the identity of style between this painting and figures 88, 89, 90 and 91; an identity which assures them an approximative date.

EVOLUTION OF WALL ART IN SOUTHERN ANDALUSIA

Age	PAINTINGS	PILETA	Ardales	CALA	PALOMAS (CADIZ)	Engravings
Aurignacian	Meanders and snaky-lines in yellow or mahogany, and a few animals of the same technique	× P.				
	2. Animal heads in yellow, the neck generally ends in a stem; and some signs.		× P.			
	3. Yellow line-drawings of animals, very advanced style, a very few signs associated with them.	× P. × E.	× P. × E.		× P.	1. Horses and snaky lines on clay and sometimes on rock at Ardales.
V .	4. Animals drawn with fine red lines, with no associated signs.		× P. × E.			2. On a hard rock of Ardales, similar to those at Parpalló (Upper Aurignacian).
- 4	5. Animals drawn with thick red lines, and associated signs; at La Pileta these are very numerous.	× P.	× P.	× P.		
N	6. Red or brown wash animals, rather like certain figures in Eastern Spain.	× P. red.	× P. brown.			
Post-Aurignacian Northern Magdalenian	7. Black animals, snaky lines, conventionalized human figures, rectangles with rays (cf. Altamira, Magd. 3)	× P. × P.	× P.	*		
Pos.	Nothing comparable to the ev	volved Ma	agdalenian	nor the	develop	ed Eastern Spanish paintings.
G.	8. Encolithic diagrams.	× P. black.			× P. red.	P. painting. E. engraving.

Only after that, come the black paintings of mammals, Bisons, Horses, and Ibexes, drawn in fine, or thick and thin lines; on these are superposed big Fish, and one large black Bull, slightly shaded; the style of these figures is still very near the Aurignacian, and with no sign of evolution towards the Magdalenian conception of design. In any case, the connection with the epoch of the Altamira and Buxu black drawings (fig. 95), is confirmed by the execution in La Pileta (fig. 96), of rectangles with long rays at the corners, which are not found elsewhere 18.



Fig. 93. Small black Stag painted on a rock which has fallen between two upper Aurignacian layers of the Abri Labattut, Sergeac (Dordogne). Discovered by Mons. L. Didon; the original at the St.-Germain-en-Laye Museum. The position of the antlers is the same as in the Aurignacian drawing of La Pasiega, Le Portel and the Eastern Spanish art. Length: 40 cms.

On the other hand, the approach of the era of conventionalised art, which produced such large panels of encolithic art at La Pileta, is heralded by the appearance (PI. Pl. XIII) of some human diagrams and several comb-like signs, whilst the connexion with earlier art is marked by fairly abundant serpent-like designs.

Thus we can affirm that relations certainly existed between the artists in Andalusia, those in the Cantabrian region, and those in the Spanish Levant.

18 Compare figs. 33, 34 of the present volume with Pl. VI, figs. 3, 4, 6, 8, Pls. VIII, X, XI, of H. Obermaier and Conde de la Vega de la Sella: La Cuesa 2, Tuxu (Asturias), Mem. 20 de la "Comisión de Investigaciones paleontológicas 3. See also La Pileta (op. cit., fig. 13, Pl. XIII).

EVOLUTION OF WALL ART IN SOUTHERN ANDALUSIA

Age	PAINTINGS	PILETA	Ardales	CALA	PALOMAS (CADIZ)	Engravings
Aurignacian	1. Meanders and snaky-lines in yellow or mahogany, and a few animals of the same technique	× P.				
	2. Animal heads in yellow, the neck generally ends in a stem; and some signs.		× P.			
	3. Yellow line-drawings of animals, very advanced style, a very few signs associated with them.	× P. × E.	× P. × E.		× P.	Horses and snaky lines on clay and sometimes on rock at Ardales.
, A	4. Animals drawn with fine red lines, with no associated signs.		× P. × E.			2. On a hard rock of Ardales, similar to those at Parpalló (Upper Aurignacian).
	5. Animals drawn with thick red lines, and associated signs; at La Pileta these are very numerous.	× P.	× P.	× P.		
LENIAN	6. Red or brown wash animals, rather like certain figures in Eastern Spain.	× P. red.	× P. brown.			
Post-Aurignacian ce. Northern Magdalenian	7. Black animals, snaky lines, conventionalized human figures, rectangles with rays (cf. Altamira, Magd. 3)	× P. × P.	× P.			
Pos Nor	Nothing comparable to the ev	volved Ma	agdalenian	nor the	develop	ed Eastern Spanish paintings.
25	8. Eneolithic diagrams.	× P. black.			× P. red.	P. painting. E. engraving.

Only after that, come the black paintings of mammals, Bisons, Horses, and Ibexes, drawn in fine, or thick and thin lines; on these are superposed big Fisb, and one large black Bull, slightly shaded; the style of these figures is still very near the Aurignacian, and with no sign of evolution towards the Magdalenian conception of design. In any case, the connection with the epoch of the Altamira and Buxu black drawings (fig. 95), is confirmed by the execution in La Pileta (fig. 96), of rectangles with long rays at the corners, which are not found elsewhere 18.



Fig. 93. Small black Stag painted on a rock which has fallen between two upper Aurignacian layers of the Abri Labattut, Sergeac (Dordogne). Discovered by Mons. L. Didon; the original at the St.-Germain-en-Laye Museum. The position of the antlers is the same as in the Aurignacian drawing of La Pasiega, Le Portel and the Eastern Spanish art. Length: 40 cms.

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Thus we can affirm that relations certainly existed between the artists in Andalusia, those in the Cantabrian region, and those in the Spanish Levant.

¹⁸ Compare figs. 33, 34 of the present volume with Pl. VI, figs. 3, 4, 6, 8, Pls. VIII, X, XI, of H. Obermaier and Conde de la Vega de la Sella: La Cueva del Buxu (Asturias), Mem. 20 de la "Comisión de Investigaciones paleontológicas y prehistóricas", Madrid, 1918. See also La Pileta (op. cit., fig. 13, Pl. XIII).

CHAPTER VI

Relative chronology of Paintings and Engravings in French Caves.

I. Pyrenean Caves.

1. Paintings.

At Marsoulas (Haute Garonne) 19, we find rich palimpsests on the rock walls, revealing the relative chronology of the latest five or six levels of Palaeolithic paintings in the Pyrenees.

There are (fig. 104) two layers of pictures of more recent date than the big polychromes; the latest, which no engraving cuts across, consists of red barbed bands, Azilian in style, combined with a few spots. Whether they are Azilian, or a little earlier, as the numerous barbed lines engraved on chisels and javelins from the same region, very late Magdalenian in date, suggest, we cannot say for certain.

The earlier layer with darker red signs is cut across by large size animal engravings, and superposed on polychromes. Besides strokes ending in a small cross-bar, and punctuations, there are comb-like signs with five teeth (the outer one bent), which may be conventionalised hands, like those few examples, equally conventional, appearing amongst the big polychromes of Altamira. There are also certain types of tectiforms, one of which, with a wide spotted band for the roof, is more Cantabrian than French.

The big polychrome Bison immediately underlying is also very much of the style of Altamira; it is close to a very big Horse, polychrome too, resembling the only figure in this style recently found at La Bastide (Hautes Pyrénées) and one in the cave of Bédeilhac.

The polychrome almost obliterates black shaded and stomped Bisons and one small black line-drawing of an animal. In another part of the cave, there is a Bison with a polychrome head, very well engraved. Its body is covered with a serried field of spots and it cannot be far removed in age from the polychromes. It is superposed on another plain black one, also covered (except for the head which is shaded) with black spots.

¹⁹ E. Cartailhac and H. Breuil: Les peintures et gravures murales des Cavernes pyrénéennes: II, Marsoulas. L'Anthr. 1905, pp. 431-444.

The other shaded or plain black figures of Marsoulas can only be given a comparative date 20.

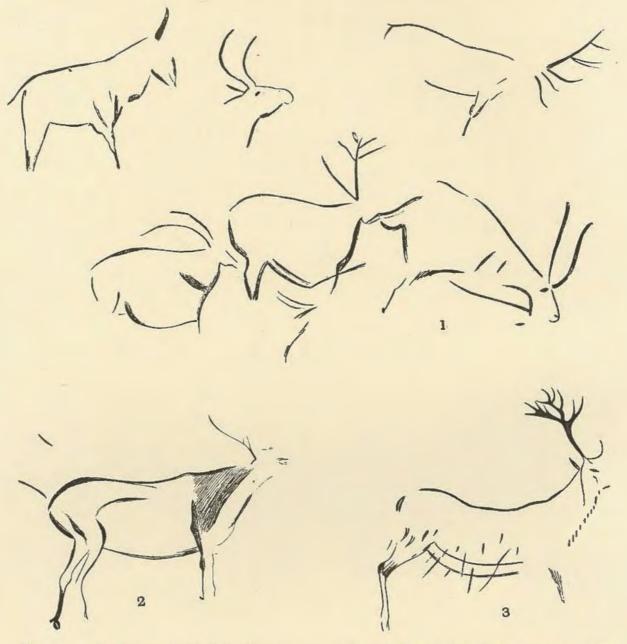


Fig. 94. Early Magdalenian black line drawings, some slightly shaded: 1) Small black drawings of Ibexes and Stags from Castillo, size of the panel, 73 cms.—2) Black Stag from Pindal.—3) Black Stag from La Pasiega. Scale of last two figures: 2/15. Notice that almost all these Stags have only one antler in profile; if occasionally they have two, they are both in profile.

20 The upper cave of Gargas has some feeble remains of black shaded and polychrome paintings; we know that, in prehistoric times, it was entirely separated from the lower cave which is purely Aurignacian.

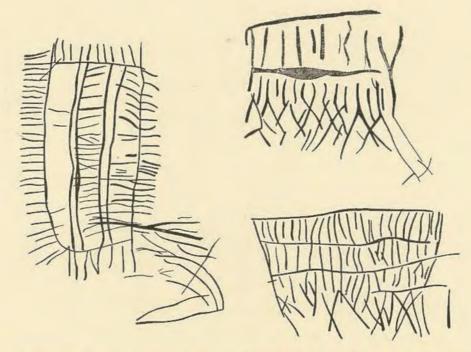


Fig. 95. Tectiforms, painted or engraved, from the cave of Buxu (Cangas de Onís, Asturias). After Obermaier. To be compared with those in the deep corridor of Altamira and to some at La Pileta.

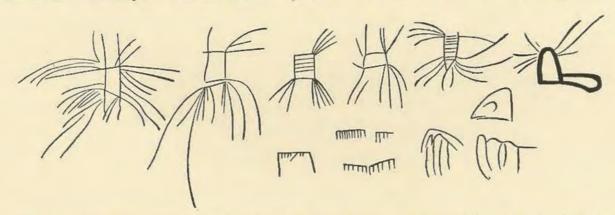


Fig. 96. Rectangles drawn in black with radiations at the angles; a comb-like sign and others from the cave of La Pileta, Málaga; related to one of the signs in the deep corridor of Altamira and to those at Buxu.

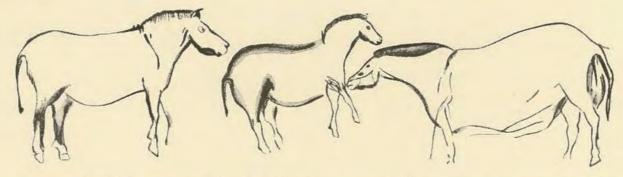


Fig. 97. Small black Horses, slightly shaded and also engraved, from the end of the cave at Combarelles. Old Magdalenian. After Breuil.

Bédeilhac contains a series of polychrome and shaded black figures comparable with the collection at Marsoulas, but there are also two big brown washed Bisons; they must be a little earlier than the polychromes. Various small black line drawings of very simple type are like the oldest ones at Niaux.

The big cave of Niaux ²¹ has a great many black paintings, chiefly centred in the "Salon noir" (fig. 99). The oldest are small very simple line-drawings, obliterated by big pictures shaded with black strokes. There are no other paintings, except some red signs, associated with animals (fig. 105), occasionally superposed, in the case of arrow-heads and small club-signs, on black Bison shaded with strokes. They are not unlike the Azilian painted pebbles; the neighbouring cave of La Vache (Aillat) has a layer of that age. Amongst these signs, there are many spots, arranged in circles or bands, a tectiform like that at

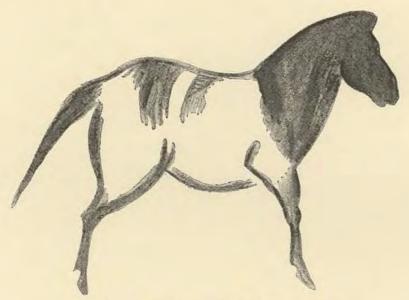


Fig. 98. Small black shaded Horse, shading passing into flat wash. Castillo. Scale 1/2.

Marsoulas, long strokes with feathers at one end, like arrows; also figures of Bisons, and Horses, traced very simply in red and utilizing natural rock reliefs. There are some of these signs, as well as very simple red animals, in the vast cave of the Eglises D'Ussat and H. Breuil considers them as dating from the last stage of Pyrenean Palaeolithic art, just on the point of its disappearance.

21 E. Cartailhac and H. Breuil: Les peintures et gravures murales des Cavernes pyrénéennes: III, Niaux (Ariège). L'Antr., 1908, pp. 15-46.

CAVE OF MARSOULAS

CAVE OF NIAUX

Engravings		Animals on the sandy ground and small Bison on the rock wall.			
PAINTED SIGNS		Black arrows.		Red signs: Feathered and barbed arrows. Club-shaped signs. Punctuations.	
PAINTED ANIMALS, ETC.	1. Black line-draw- ings.	2. Slightly shaded black figures. 3. Black figures shaded with strokes.		4. Red line drawings of Bisons and Horses (the same at Ussat)	
Engravings	With striated surfaces (Horses)			The engraving of a Horse cuts through these signs.	
PAINTED SIGNS			+	5. Punctuations, tectiforms, conventionalized hands.	Barbed bands more or less Azilian
PAINTED ANIMALS, ETC.	1. Black line-draw- ings.	2. Much shaded black pictures. 3. Black punctuated figures.	4. Polychromes sometimes with punctuations.		
Age	Magd. 3	Magd. 5	Magd. 6	Late Magd. 6	Azilian

Le Portel takes us farther back ²². There are various Bisons and Horses shaded with strokes, like the simplest at Niaux, which seem to be the most recent painting in the cave (except for a small red Bull, very poor style, and a head close to it, also red and equally bad, which may be pre-Azilian). A beautiful painting of a black Bison almost entirely covered with a black wash, remarkable, for its brutal, forceful Magdalenian style, is close to some figures shaded with black strokes, and is more archaic in style than they. The earlier date of the Bison is proved by the fact that some corrections were engraved at a later date on the black paint of the animal, which have none of the spirit of the original, but are in the style of the neighbouring figures.

Various black figures, sometimes shaded, otherwise in wide bands, but simpler in style, are superposed on older pictures, red line drawings Aurignacian in type; with them must be classed several other black or brown line-drawings, just as archaic. Amongst the most archaic, are two sketches of the dorsal line of Deer (fig. 81, 2, 3), their horns in twisted perspective, as in the Aurignacian art of Cantabrian (Pasiega) and eastern Spanish art.

Between these two groups should be ranged various other groups belonging to neither series, impossible to class, except by similarity of style; such are two big signs in flat red wash: one, a large stain with four branches like the spread-out fingers of a gigantic hand; and the other, a sort of cupola hut with a double entrance. Their special character makes them difficult to date; H. Breuil is inclined to class them with the big red signs on the roof of Altamira ²³.

A second group consists of several heavy Horses with short legs, very Aurignacian in style, most of them in blackish flat wash, or painted in very wide bands (fig. 89); one only, in dark red outlined in black (fig. 91); in spite of being bi-chrome, this figure has no connection with the beautiful Magdalenian polychromes. Its date is made certain by the discoveries of M. Didon, at the Abri Blanchard and the Abri Labattut, Sergeac (Dordogne), of rocks with large bi-chrome paintings of the same technique, which had fallen into the late mid-Aurignacian (fig. 92) and upper Aurignacian levels. They therefore cannot be more recent than the end of the mid-Aurignacian. There is a last figure to mention: a quite small Horse (fig. 85) in flat red wash, both painted and engraved, an abnormal style in our caves (though there is an incomplete one at Mas d'Azil ²⁴ on the right bank, in the

²² L. Jammes, R. Jeannel and F. Regnault: Nouvelles peintures paléolithiques dans la grotte du Portel, Soc. Nat. Hist. Toulouse, 18 March 1908.—R. Jeannel: Sur la découverte dans la grotte du Portel de peintures paléolithiques représentant l'Homme et des animaux. C. R. Académie des Sciences, 23 Novembre 1906.—H. Breuil, L. Jammes and R. Jeannel: Les dernières peintures découvertes dans la grotte du Portel (Ariège). C. R. Académie des Sciences, 1 Juin 1908.

²³ H. Breuil: L'Age des cavernes et roches ornées de France et d'Espagne. Rev. Archéol. 1912, pp. 134-193, fig. 29.

²⁴ Comte H. Begouën and H. Breuil: Peintures et gravures préhistoriques dans la grotte du Mas d'Azil. Bull. Soc. Arch. du Midi, 1931.

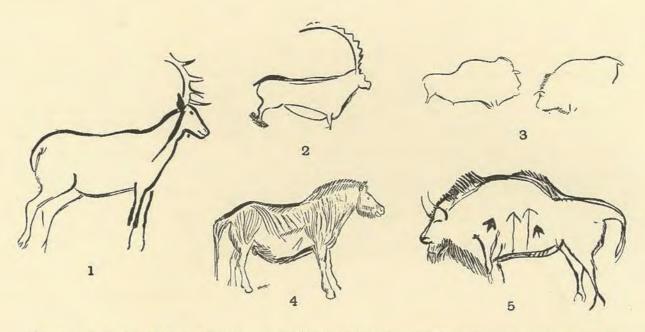


Fig. 99.—1, 2, 3), Black single line or very slightly shaded drawings from the cave of Niaux.—4 and 5), in black shaded with slashes.

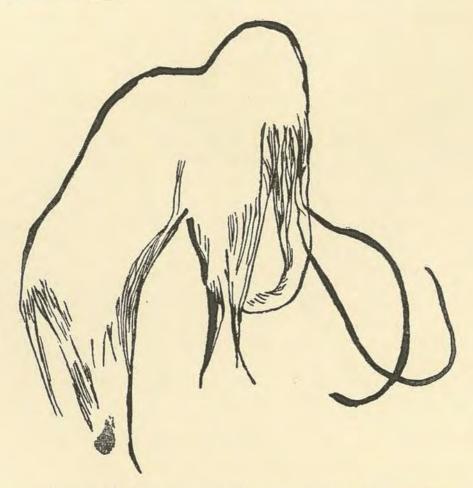


Fig. 100. Mammoth drawn in black, partially shaded with slashes. Cave of Pech-Merle, Cabrerets. After Abbé Lemozi.

lower gallery); in its technique and its small size, it approaches eastern Spanish art; it is difficult to say more about it, it is probably more recent than the Aurignacian figures of Portel, and must be older than the black Magdalenian pictures.

Mas d'Azil, Tuc d'Audoubert and Trois Frères have very few remains of paintings, some faint traces of old red ones, and some black of Magdalenian. The "Sorcerer" or horned God of Trois Frères 25 is shaded with black, and so is a fine painting of a Bison

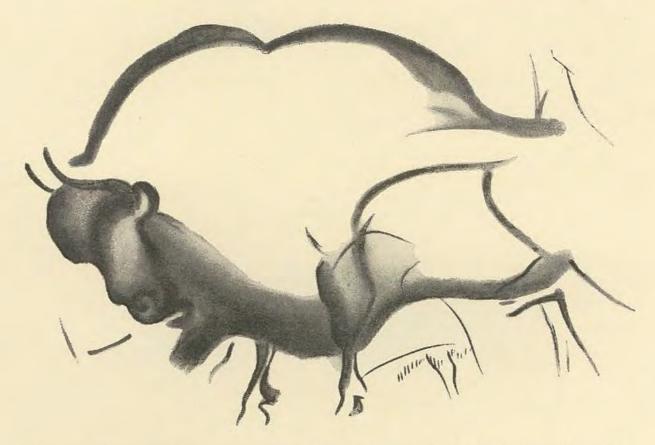


Fig. 101. Black shaded Bison, superposed on black line drawings, from Font-de-Gaume. After Breuil.

in the upper gallery, and one of a Lioness. In another gallery, there are some red stencilled hands, reminding us of Gargas, the chief cave for hands in the Pyrenees, which boasts about a hundred of them.

The lower cave of Gargas was sealed by a fall of rock at the entrance at the end

²⁵ Comte H. Begouën and H. Breuil: Un dessin relevé dans la caverne des Trois Frères à Montesquieu-Avantès (Ariège) (Le Sorcier). C. R. Acad. Inscrip. et Belles Lettres, 1920, p. 303.—Nouvelle gravure d'Homme masqué de la caverne des Trois Frères, Montesquieu-Avantès (Ariège). C. R. Acad. Inscr. et Belles Lettres, 1930.

of Aurignacian times: no one entering it until historic times ²⁶. As painted decoration (with the exception of some small clusters of spots and a sort of sketch of a rudimentary animal in red), there are only hands, chiefly left hands, often with fingers missing; they are not all of the same date: the oldest are stencilled in red, and those generally outlined in black, but sometimes in yellow or white, are superposed on the red ones (fig. 77).

2. Engravings.

We must now study the evolution in the Pyrenees of engravings and sculptures on the walls, an evolution parallel to that of the preceding paintings. Except for the clay-covered stalagmitic cascade of Altamira, the Cantabrian caves gave us no sculptures; their rock is too hard. It is the same in the French Pyrenees; but there are sculptures on the soft stalagmite ²⁷ of Isturitz (fig. 115), and statues and bas-reliefs modelled in clay ²⁸ at Tuc d'Audoubert (fig. 120), Montespan ²⁹ and Bédeilhac ³⁰.

If we proceed from the most recent to the oldest, we once more begin at Marsoulas with some badly made line-engravings cut into the polychromes, and the oldest of the red signs superposed on them. The other engravings can be classed in groups of varying style:

rst: Those combined with the polychrome paintings, incised drawings of very fine technique, the outlines very deeply cut and the small details meticulously given; the are Magdalenian VI.

2nd: Chiefly on the right hand wall, Bison lightly drawn (fig. 123), previously buried under a heap of blown loess (the cave is rather shallow), which at the same time buried and protected them. H. Breuil used to think that they belonged to the age of the polychromes,

- 26 E. Cartailhac and H. Breuil: Les peintures et gravures murales des Cavernes pyrénéennes: IV, Gargas, commune d'Aventignan (Hautes-Pyrénées). L'Anthr., pp. 129-148.—Une seconde campagne aux cavernes ornées de Niaux (Ariège) et de Gargas (Hautes-Pyrénées). C. R. Acad. Inscr. et Belles Lettres, 1907, p. 213.
- 27 E. Passemard: Les Stations Paléolithiques du Pays Basque et leur relation avec les terrasses d'alluvions. Bayonne, 1924, fig. 109, p. 158.
- 28 Comte Begouën: Les statues d'argile préhistoriques de la caverne du Tuc d'Audoubert (Ariège). C.R. Acad. Inscr. et Belles Lettres, 1912, p. 532.—Les statues d'argile de la caverne du Tuc d'Audoubert. Rev. Anthr. No. I, 1921.
- 29 Comte Begouën and Norbert Casteret: La Caverne de Montespan (Haute-Garonne). Revue Anthr. 1932, nos. 11-12.—Comte Begouën: Les modelages en argile de la caverne de Montespan (Haute-Garonne). C. R. Acad. Inscr. et Belles Lettres. 2 Octobre 1923.
- 30 Comte Begouën: Les modelages d'argile de la caverne de Bédeilhac (Ariège). I. P. E. K., 1931, pp. 7, 8.

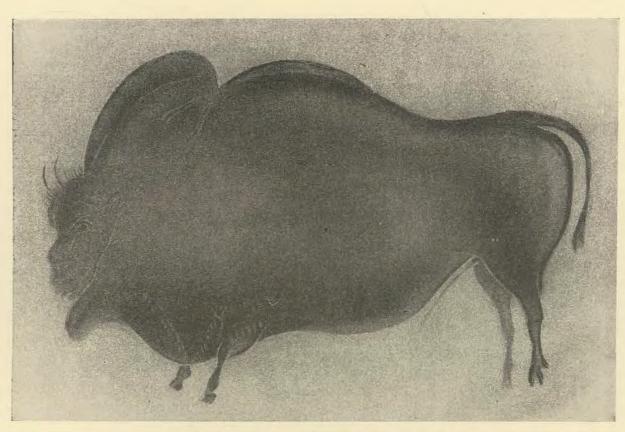


Fig. 102. Painted and engraved Bison in brownish-black flat wash. Font-de-Gaume. After Breuil.

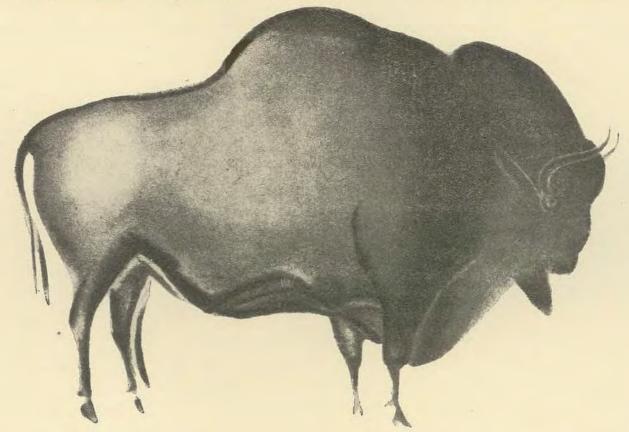


Fig. 103. Painted and engraved Bison in polychrome, blackish-brown, brownish-red and red. Font-de-Gaume. After Breuil.

because of their perfection and fine execution, comparable to the Mammoth superposed on the polychromes at Font de Gaume; but now he thinks they must be classed with the most recent series of Trois Frères, probably late Magdalenian IV.

3rd: The left wall on entering has a good many engravings of equine animals in very good style, filled in with slanting strokes, comparable to the Magdalenian III of the Cantabrian Pyrenees (fig. 121); we class them as such, rather doubtfully.

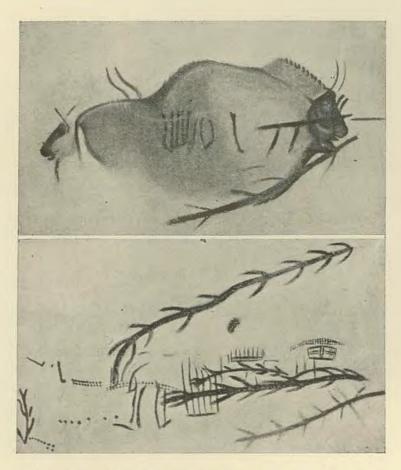


Fig. 104. Above: Polychrome Bison, both painted and engraved; length 1 m. 80 cms.; superposed on black shaded figures and bearing red signs, some older cut across by engravings, others more recent, probably Azilian. From the cave of Marsoulas.—Below, a development of the lower portion of the red signs of the preceding figure; the big barbed oblique line is the same as that on the polychrome Bison. After Breuil.

Like the rest of the engravings, sometimes almost bas-reliefs, found invarious parts of the cave, they must differ in date, but are mostly Magdalenian IV, it is difficult to be precise; the same applies to the few engravings at Mas d'Azil.

Niaux, dating, H. Breuil thinks, from Magdalenian V, produced only one small wall en-

graving; the rest are on the hard sandy floor; it is the same at Bédeilhac, which has one small poor sculpture in clay on the wall, and some engravings 31, Magdalenian IV in date.

In the Tuc d'Audoubert ³² and Trois Frères ³³, the most recent engravings are very good style with very fine lines, sometimes combined with black shading (stomp). The sanctuary of Trois Frères has the most extraordinary accumulation of engravings that can be imagined: Bison horns seen in profile, the lines extraordinarily fine, details of the coats,

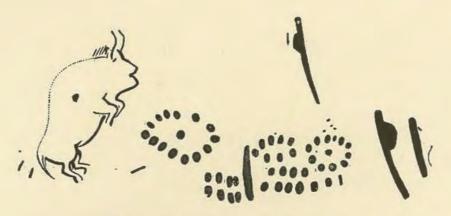


Fig. 105. Pictograph painted in red in the deep gallery of the cave of Niaux. Bison, line-drawing in red, the backbone formed by a ridge of the rock, with a wound marked on its flank. Club-shaped signs and spots grouped in Azilian style. This panel probably dates from the extreme end of the Magdalenian. After Breuil.

legs and hoofs minutely rendered, contrasting with the rough nature of the drawings immediately underlying on the same walls, in which the Bison's horns are drawn full or ‡ face, and the legs and hoofs carelessly made (fig. 122). The latter characteristic unites the oldest group to the dawn of the Magdalenian age at least.

The panel in the lower hall of the Tuc d'Audoubert ³⁴ is probably intermediate in date, with its simple but correct drawing. We may mention by the way that the most recent group of Trois Frères was executed under quite different conditions to those in which we see most of the figures to-day: at the time they were made, the rocky surface was entirely covered with a thin coating of clay; underneath this, the limestone has weathered

³¹ Comte Begouën: Les peintures et dessins de la grotte de Bédeilhac (Ariège). I. P. E. K. 1929, pp. 1-5.

³² Comte Begouën: L'Art mobilier et pariétal dans la caverne du Tuc d'Audoubert. Acad. Inscr. et B. L. 30 Août 1912.—I. P. E. K. 1925, pp. 219-228.

³³ Comte Begouën and H. Breuil: Les Ours déguisés de la caverne des Trois Frères (Ariège). "Festschrift" du R. P. W. Schmidt. Wien, 1928, pp. 777-780.

³⁴ Comte H. Begouën: Une nouvelle grotte à gravures dans l'Ariège: la Caverne du Tuc d'Audoubert. Congrès Intern. d'Anthr. et d'Archéol. préhist. Genève, 1912, pp. 489-497.

white, and the underlying living rock was blackish blue. The artists, by using the various shades of these different levels, produced a work of art like a cameo 35.

At Montespan it was the same: all the walls in the lower part of the cave are covered with remains of engraved lines which were originally deeper, the fine shading of which is nowadays lost. They are probably Magdalenian IV in date, as well as the engravings and reliefs on clay in the higher part of the cave.

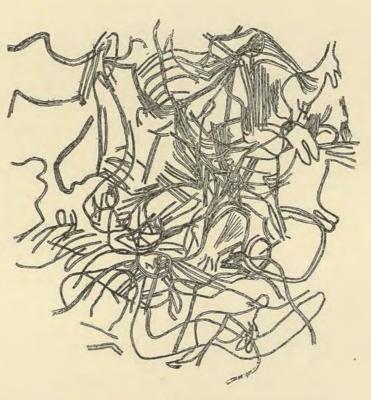


Fig. 106. Part of the roof of the cave of Pech-Merle, Cabrerets; various designs on clay, fingerdrawings, a Mammoth and some Women. After Abbé Lemozi

Returning to the Trois Frères, in the upper final gallery, the most recent series of the sanctuary is not represented; some figures in the little corridor to the left probably belong to an older series; but in the right hand corridor, there is quite another style, extremely archaic, in which the Aurignacian technique is at once recognizable: meanders and "maccaroni" in clay on the roof and walls, drawings and engravings of animals in the same technique. We find these again at Gargas. At the Trois Frères, some of them had been outlined in black at a later date, in Magdalenian style.

35 H. Fairfield Osborn: The birth of Sculpture in southern France. Natural History, 1922, vol. XXII, no. 1, figs. 4-34.

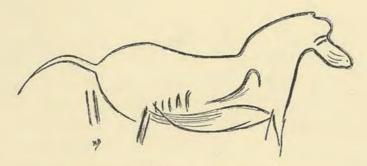


Fig. 107. Horse drawn on clay from the cave of Gargas. Very reduced in size. After Breuil.

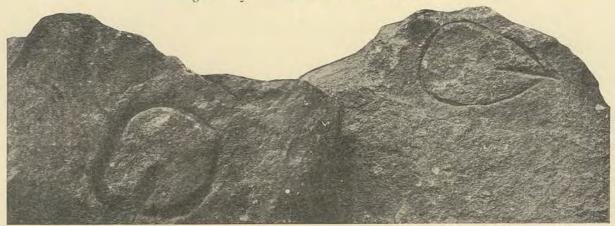


Fig. 108. Vulvae incised on pieces of rock from the mid-Aurignacian of the Abri Blanchard, Sergeac, Dordogne. After L. Didon.



Fig. 109. Hind-quarter of a Horse engraved on a frontal bone of that animal, from the base of the Aurignacian at Hornos de la Peña. Actual size.

As for the fine clay statues of Bisons (fig. 120), their style so much resembles the Magdalenian IV sculptures on reindeer horn, etc. in the caves of Montesquieu and Mas d'Azil, that we are certain they are of the same age: and so probably are the modelled figures on the floor of Montespan and the Bear and Feline statues in the same cave.

It is too soon to speak of the numerous engravings at La Bastide, recently discovered by M. Casteret ³⁶; as they are varied in style, they probably belong to different stages of Magdalenian IV.

We now turn to Gargas. As we have said, everything there is forcedly Aurignacian.

There are different groups of engravings: the oldest, large panels of "maccaroni" on clay, amongst which can be seen extremely archaic figures of Bisons and Horses (fig. 107), exactly the same as those of Altamira and Hornos (Cantabrian) and, this time, painted in yellow and not on clay, in the cave of La Pileta (Málaga).

Then, superposed on "maccaroni", come incised drawings on the walls, unequal in style, but naturalistic and very living, resembling sometimes (for instance in the Ibex heads) the technique which predominated in the Magdalenian. The discovery by Breuil of a small schist plaque, engraved with similar figures in the upper Aurignacian level of the deposits, dates it, and shows that, as at Hornos, the upper Aurignacian art of engraving had already reached a high level, which the few samples found of mobiliary art of this kind had not led us to expect.

³⁶ Norbert Casteret: A new discovery of a prehistoric cave in scuthern France. "Illustrated Lendon News". 17 September 1932.—Les gravures sur roches de la grotte de La Bastide. (Hautes-Pyrénées.) "Sciences et Voyages". 1932.

II. Rock shelters and Caves north and east of the Garonne, in Lot, Dordogne, Charente, Gironde and Gard.

1. Paintings.

Except for a small unpublished cave in the neighbourhood of Cabrerets (Lot), in which red paintings, including a very simple line drawing of an Ibex in that colour, remind one of the last red paintings at the end of Magdalenian VI in the Pyrenees, it is at Font-de-Gaume (Dordogne) ³⁷ that we find the most recent paintings superposed on nearly all those

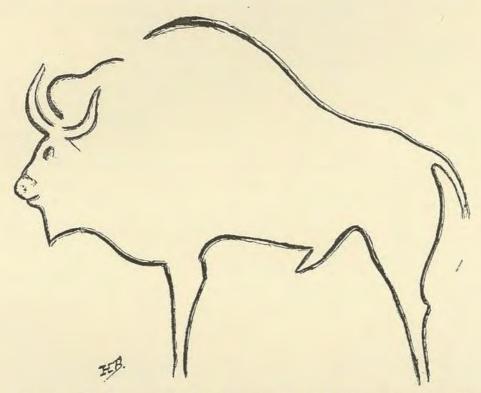


Fig. 110. Deeply engraved Bison from the cave of La Grèze (Dordogne). Fairly archaic Aurignacian. After Breuil.

of almost every variety of technique which flourished there. Indeed it is the only cave north of the Garonne where polychromes (fig. 103) exist and in great number.

Certain red line tectiforms are sometimes superposed on the polychromes, but the reverse is equally true, and they must be considered as contemporaries. The polychromes are

³⁷ L. Capitan, H. Breuil and D. Peyrony. La Caverne de Font-de-Gaume, aux Eyzies (Dordogne). (Peintures et gravures murales des Cavernes paléolithiques). Monaco, 1910.

often superposed on each other, showing that this style of painting lasted an appreciable time in that region. The colour is nearly always applied to fully engraved figures, often so deeply engraved (thanks to the rock being fairly soft) that parts are really in slight relief figs. 125, 126). As at Altamira, the outline is generally indicated in black, except for the oldest amongst them, which are in red or brown with only a few black touches on the hoofs and eyes. Often they are superposed on those of older technique, the most modern of which are pictures in plain brown (fig. 102), beautifully drawn and engraved (fig. 125), more finely than the polychromes and smaller in size.

Before the polychromes and plain brown figures, and in various instances obliterated by them, are black drawings. The most recent (fig. 101) black shaded models of very

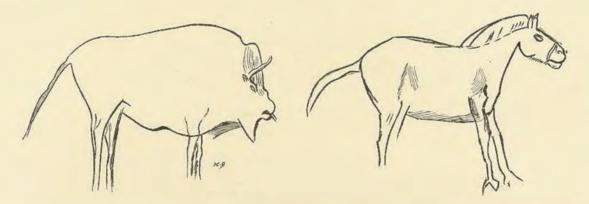


Fig. 111. Engravings a Bison and a Horse, probably upper Aurignacian, from the cave of Hornos de la Peña (Santander). After Breuil.

advanced technique (blurred as if stomping had been used), are still of very fine style, not one bit behind the best polychrome figures as regards dimensions, delicacy and beauty of form. Still older are the black paintings fully shaded, generally smaller, and which hlend into yet older ones shaded first with slashes, then with thick and thin lines, and the earliest drawn with a single line. With these, we reach the oldest Magdalenian stage.

The remains of earlier paintings are less numerous. Bulls in black wash (figs. 88, 90), which H. Breuil originally thought belonged to Magdalenian times, like those in flat red wash, also Aurignacian, at Altamira, cover almost all the figures in the narrow end passage. The Bulls are covered in their turn by an unfinished polychrome and a black line drawing. By their rough style and their stiff legs, they belong to an evolved stage of the Aurignacian.

Yet older are the red line drawings: sometimes the body is striated (Rhinoceros) (fig. 87); others are drawn in more or less ragged-edged red lines; others, very simple red line figures, or sometimes blue-black, are certainly Aurignacian. Finally, at two places in the big gallery, there are hands stencilled in black, which are the oldest paintings in the cave.

The most recent remains at La Mouthe are a big polychrome hut, both painted and

engraved, and the big Reindeer with bands of spots on their flanks (like a proto-polychrome Reindeer at Font-de-Gaume). The paint on these animals has almost entirely vanished, owing to the sandy nature of the rock, except for some traces of brown shading on the head and legs, but they were probably slightly polychrome. The only remains of colour, which are older, are some few very simple indications of black line drawings.

Combarelles 38 has several figures painted in black and slightly shaded, pretty lit-



Fig. 112. Fallen bloc with bas-relief of a Horse, found by Mons. L. Didon at the Abri Labattut, Sergeac (Dordogne) between two upper Aurignacian levels; length 68 cms. Original at the Museum of Natural History, New York.

tle Horses (fig. 97) and a rather shallow engraving. Incomplete black sketches are sometimes associated with deeply engraved figures contemporaneous with the black paintings. But all the shallow or deep engravings in the cave, all old or mid-Magdalenian in date, invariably cut across blue-black lines, thin, extremely old, and rarely decipherable. Some few red tectiforms, more archaic than those at Font-de-Gaume, are the same date as the engravings; and lastly, a quite small black hand is hidden in a niche of the roof and is quite unconnected with the rest.

Bernifal also displays some few coloured figures: a frightful attempt at painting a figure

38 L. Capitan, H. Breuil and D. Peyrony: Les Combarelles, aux Eyzies (Dordogne). Peintures et gravures murales des Cavernes paléolithiques.) Monaco, 1924.

in broad black bands, large clusters of black discs, a Mammoth in red line drawing, and, lastly, black stencilled hands. The whole is clearly Aurignacian.

Lot has its painted caves too. The celebrated one of Pech-Merle at Cabrerets 30 with its

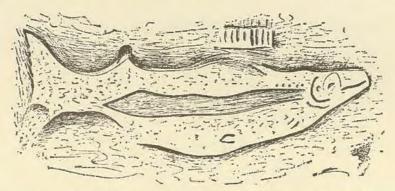


Fig. 113. Salmon carved in bas-relief on the roof of an abri in Gorge-d'Enfer, Les Eyzies (Dordogne); length I metre. Drawing by Breuil.

old entrance the cave of Marcenac, now a separate cave, has panels painted in various ages. One of them, and a few other figures, belong almost entirely to the black Magdalenian



Fig. 114. Fighting Ibexes carved on a limestone block, fallen into the upper Solutrean level of the Vallée du Roc, Sers (Charente). After Dr. H. Martin.

line-drawing stage; the bodies of some of the figures, however, are partially covered with slashes. Both the conception of the design, still rather archaic, and the very slight development of the shading (fig. 100), mark this group as a little older than the beautiful figures

39 A. Lemozi: La Grotte-Temple du Pech-Merle, un nouveau Sanctuaire préhistorique. A. Picard, Paris, 1929.

in the "Salon noir" of Niaux. They are superposed on clusters of red spots in which there is possibly an animal's head: the only contact between the Magdalenian and Aurignacian series. The panel facing belongs entirely to the latter; it consists (fig. 86) of a substratum of big red spots and curved strokes, black stencilled hands, a red drawing of a Pike, and two Horses, their bodies drawn in black, their legs exceptionally slender, their very small



Fig. 115. Panel of a Reindeer and a Stag carved in bas-relief on a big conical stalagmitic mass in the cave of Isturitz (Basses Pyrénées). From a photograph by Mons. E. Passemard.

heads and shoulders washed over with flat black. This series seems to us to follow in the above order which differs from the sequence suggested by Abbé Lemozi.

Several other Aurignacian drawings are seen here and there: stencilled red hands combined with big spots; a Stag with antlers in twisted perspective; an Ibex and a Bull all drawn in fine red lines: a Man pierced with arrows (?) in reddish violet; strange little diagrams of Bisons in line drawing, or filled in with colour. But these various pictures can only be given a comparative date.

As for the black line drawings classed as Aurignacian by their discoverer, H. Breuil's idea is that they are inseparable, as regards their style, from the Magdalenian frieze, or belong only to the oldest part of that frieze.

There is only one painted cave, outside the region we are studying, the Hermitage cave, near Collias (Gard) ⁴⁰ which has positive red hands, fine red line drawings (Ibex), figures drawn with a ragged red line and spotted in the same colour, and a shaded black Horse's head. The latter seems to be of Magdalenian style; as for the others, they suggest different stages in the Aurignacian. But, in this region, the limit of expansion of the Upper Palaeoli-

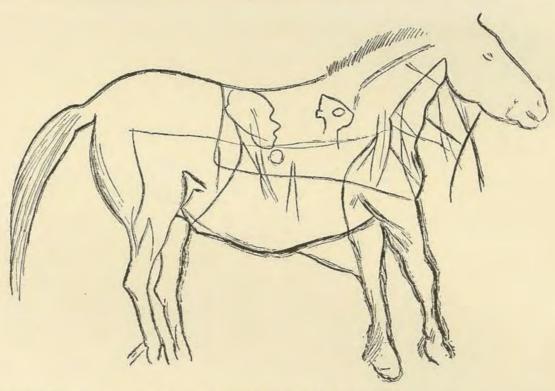


Fig. 116. Horse partly carved (front legs and belly) and deeply engraved; inside, two small anthropoid drawings. Combarelles. After Breuil.

thic industries of Aquitaine, where the excavations at the Pont du Gard by the Abbé Bayol (explorer also of the Hermitage) shewed the persistence of a primitive Solutrean as late as Magdalenian IV, it may be that these figures are partly later than those of the "classic" region, and only due to a prolongation of the archaic Solutrean.

The Dordogne has provided a group of objects which are very valuable for dating the figures, painted blocks either still in place, or fallen and buried in archaeological deposits.

M. Peyrony ⁴¹ discovered a certain number of fragments at La Ferrassie in those upper mid-Aurignacian levels which contain Reindeer horn points of long lozenge shape

⁴⁰ J. Bayol, P. Marcelin and Lucien Mayet: Une grotte avec dessins pariétaux de l'âge du Renne dans la vallée du Gardon: la Baoumo-d'en-aut, à Collias (Gard). C. R. Acad. Sc. 2 Mai 1927.

⁴¹ L. Capitan and D. Peyrony: Les origines de l'art à l'Aurignacian moyen: nouvelles découvertes à la Ferrassie. Rev. Anthr. 1921, pp. 92-112.

with an oval section. They are black drawings, their fragmentary state seemed to H. Breuil to make their interpretation most uncertain, and he considered them simply as débris of unrecognizable animal figures; the same as those with remains of black figures in lines and wide washes which M. Peyrony interprets as Bisons and which come from the lower level (with spindle-shaped points) of the mid-Aurignacian of the same site.



Fig. 117. Sculpture in high relief of two of the Horses on the frieze of the rock shelter of Cap-Blanc (Dordogne); dated by the Magdalenian III hearths. Discovered by Dr. Lalanne. Photograph by Mons. Belvès.

The discoveries of Mons. Didon at Sergeac are much more important. At Abri Blanchard ⁴², he found a large part of the wall of a rock shelter which had fallen down into a level of the late mid-Aurignacian; it had on it two Bisons outlined with a wide black line and painted on a plain red background (fig. 92); all the four legs were drawn, particularly stiffly, but the hoofs were detailed and fairly well done.

A large animal in the same technique, not yet copied, is on a huge rock fallen between

⁴² L. Didon: L'Abri Blanchard des Roches, commune de Sergeac: gisement aurignacien moyen. Bull. Soc. Hist. et Archéol. du Périgord. 1911.

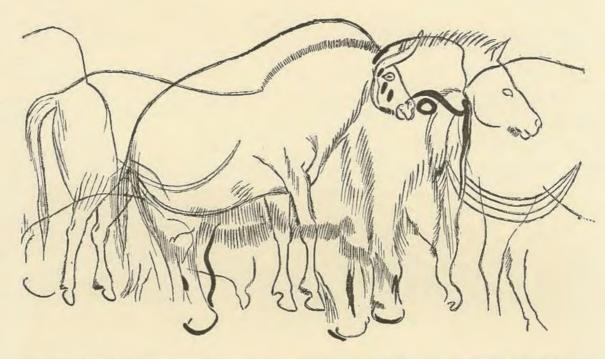


Fig. 118. Panel of fine engravings, partly enhanced by black lines, from the depths of the cave of Combarelles. Drawings of Mammoths, a Horse and an equine animal with cars intentionally transformed into horns of a primitive Bull. Width of the panel, 1 m. 30 cms. After Breuil.

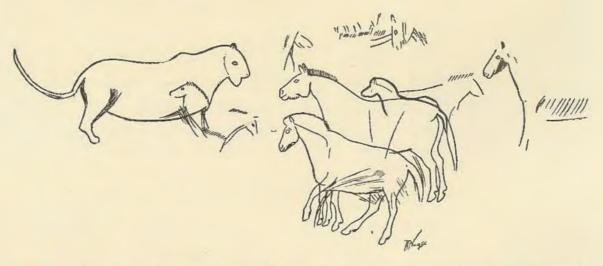


Fig. 119. Engraved panel, 4 metres from the ground, in a narrow fissure in the back of the cave of Font-de-Gaume. A Feline, fairly deeply incised, seems to be hunting Horses, two of which appear to be in perspective. After Breuil.

two upper Aurignacian levels of the Abri Labattut, quite near the preceding rock shelter. Mons. Didon gave it to the Museum of St. Germain. On the same rock, and looking not quite so old, are several small animals drawn in blue-black: one, rather better preserved than the rest, is a Stag 43, more delicately drawn than one would have expected in such a distant epoch. The twisted perspective of its antlers (fig. 93) is the same as that of the Aurignacian Stags in Cantabria, and also those in eastern Spanish art. With the discovery of the paintings on flat stones of the pre-Magdalenian levels at Parpalló (Valencia), the Stag of the Abri Labattut, which, up till then, had been unique in French wall art, established the connection between Franco-Cantabrian Aurignacian art, and that of Eas-



Fig. 120. Bisons modelled in clay and propped against a rock in the midst of the last hall of the cave of Tuc d'Audoubert (Ariège). Photograph by Max Begouën. Discovered by Count Begouën and his sons.

tern Spain, which seems to be its continuation and development during the Solutrean and Magdalenian ages.

Another block, fallen from the roof in the Abri Labattut, displayed a red stencilled hand. It is evident that these blocks, which fell on to the hearths and were buried by them, prove that all the drawings are of earlier date than the levels containing them, but we cannot be more precise: they may be only slightly older, perhaps practically contemporaneous, or they may be much older. Personally, H. Breuil thought only the little Stag was upper

⁴³ H. Breuil: Oeuvres d'art paléolithiques inédites du Périgord et art oriental d'Espagne. Revue Anthr. 1927.

Aurignacian, and the stencilled red hand and the big bi-chrome animal belonged to the end of the mid-Aurignacian.

Only one painted block hailing from Laugerie Basse 44, rested directly on the upper layer (Magd. V and VI) of the Abri des Marseilles: the style is rather late, certainly belong-

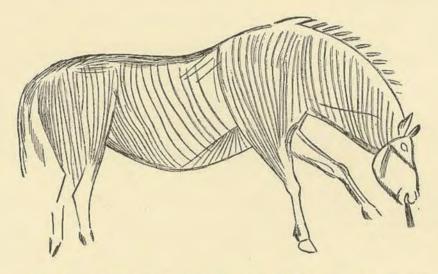


Fig. 121. Horse engraved in the cave of Marsoulas. After Breuil. Scale 1/4. Notice the filling in with scratches comparable to the old Magdalenian of the Cantabrian Pyrenees.

ing to the upper Magdalenian. The head and horns are black, the rest of the body painted in flat red wash plastered with red or brown stains, or with black spots arranged in quincunx, like those on the Bison of Marsoulas, which we mentioned before.

44. D. Peyrony: Sur deux oeuvres d'art magdaléniennes découvertes récemment en Dordogne. A. F. A. S. 1921, pp. 905. 906.

FRENCH CAVES: EVOLUTION OF THE PAINTING

Age	EVOLUTION OF THE PAINTINGS IN THE FRENCH CAVES	GARGAS	TROIS FRÈRES	TUC D'AUDOUBERT	PORTEL	MARSOULAS	BÉDEILHAC	NIAUX	LA BASTIDE	USSAT	MAS D'AZIL	PECH DAVID	MARCENAC	(3 CAVE)	MERVEILLES, ROCAMADOUR	GROTTE BAYOL AT COLLIAS (GARD.)	FONT DE GAUME	LA MOUTHE	BERNIFAL	COMBARELLES	BEYSSAC	PAINTINGS ON ROCK EITHER FALLEN FROM THE ROOF OR NOT	Level IN WHICH FOUND	REAL AGE
	Red stencilled hands Black, etc., stencilled hands Red and b'ack positif hands.	×	×				×					×			×	a remant of an archaic Solutrean nonulation			×	×	×	At Abri Labattut (Sergeac) Red hand fallen in- to the level	Upper Aurig.	Lower Aurignacian
	Rudimentary red lines.	×														olutrea	×					La Ferrassie	Mid Aurig.	Mid Aurignacian
NA	Fine red line-drawings. Some black line-drawings.				×							×				× ×	×	×	×	bluish		La Ferrassie	Mid Aurig.	Mid Aurignacian
AURIGNACIAN	In thick and thin lines more or less ragged-edged.			remains	×						×					×	×					La Ferrassie	Mid Aurig.	Mid Aurignacian
Aur	In wide black bands, archaic style.				×							×			×	mnant	blac flat wash	9	×?			La Ferrassie	Mid Aurig.	Mid Aurignacian
	In two colours, archaic style.				×											wing to a re	9					Abri Blanchard (Sergeac) Abri Labattut (fallen)	Mid Aurig. Upper *	Upper Mid Aurig. Upper Aurig.
	Small plain red figures.			-	×						×					Perhans owing to						Abri Labattut: black line drawing of Stag (fallen)	Upper Aurig.	Upper Aurig.
MAGD. 3 AND CHIEFLY 4	Black flat wash or in more or less broad hands, still primitive in style.				×											×	×		×?					
	Simple black line - drawings, slightly shaded.		×		×	×	×	×									×			×				
	Beautiful black figures shaded with strokes.				×			×				×	×				×							
Magd, 4	Black figures shaded by stom- ping.		×			×	×					×				×	×			×				
AND 5	Figures covered with spots or in black or brown flat wash of ad- vanced style.					×	×										×	×				Laugerie Basse: Bison spotted with black.	Magd, 5	Magdalenian 5
MAGD. 6	Polychromes.					×	×		×								×							
LATE MAGD. 6	Red line-drawings. Many signs.		×		×	×	×	××		×				×										1
AZILIAN	Barbed bands.		-			×																1		



Fig. 122. Bisons engraved on a rock wall thinly coated with clay; their horns full face; very archaic Magdalenian technique. From the cave of Trois Frères (Ariège). Notice the conventionalized arrows on the Bison's flanks. Discovered by Count Begouën and his sons; photograph by Max Begouën; the silhouette of the Bisons is much deformed by the perspective of the photograph.

2. Evolution of engravings in the caves of the same region.

The cave of Teyjat 45 (north-west Dordogne) contained exclusively upper Magd. V and Magd. VI deposits. Pieces of very clear amber stalagmite, broken of the cascade by Magdalenian Man, and the part that was left intact, had been engraved with delightful animal



Fig. 123. Very finely engraved Bison from the foot of the cave of Marsoulas. Scale 1/6. After Breuil.

figures (fig. 124), in a firm precise line; one part had been buried in the Magd. VI level. The contemporaneity of the engravings with the upper Magd. V level is confirmed by the discovery in the layer at its base of a piece of an engraved Bison, the other half of which

⁴⁵ L. Capitan, H. Breuil, D. Peyrony et P. Bourrinet: Les gravures sur cascade stalagmitique de la grotte de la Mairie à Teyjat (Dordogne). Congrès Internat. d'Anth. et d'Archéol. préhist. 1912. Genève, pps. 418-514.—H. Breuil, D. Peyrony et P. Bourrinet: Concrétions avec contre-empreinte des gravures de Teyjat. Bull. et Mém. Soc. Anth. Paris, 9 Jan. 1908.

was discovered in the intermediate sterile layer; part of another block, on which was a Horse, was broken, and the other part, on which were the hoofs, was found in the Magd. VI level. Except for some traces of colour along the back of a small Reindeer, there are no signs of painting.

At Font-de-Gaume, cutting through the large polychrome Bisons, but covered sometimes by red tectiforms of later date, are little Mammoths drawn in infinitely delicate lines (fig. 127); their heavy coats are very marked; they can only belong to Magd. VI, in spite of the rarity of this animal at that period; as they are all by the same hand and of the last age, we conclude that the passage across the country of one the last troops of these pachyderms struck the imagination of these late Magdalenians very strongly. We have noted that the polychromes and the figures in flat brown wash at Font-de-Gaume are sometimes (figs. 125, 126) so deeply cut that they are almost in relief, and others are engraved with a fine, but very firm line, giving an almost excessive delicacy to the details: this shews us what the artists of Magd. V and VI could do.

It is difficult at Font-de-Gaume to date the other very few engravings, except comparatively. The Horses facing the Feline (fig. 119) in the end fissure shew a very fine art, comparable to the most recent figures in Combarelles (sector farthest in), principally of the same age as the slightly shaded black paintings in the same part of the cave (fig. 118).

Older engravings (Magd. IV and III), more deeply cut, are in the front part of Combarelles (figs. 116, 118); like most of those at Bernifal ⁴⁶ and Calévie, they pretty often attempted real reliefs, but these stand out better and are more perfect at Comarque ⁴⁷ and especially at the rock-shelter ⁴⁸ of Cap Blanc (fig. 117). There a block, fallen into the Magd. III hearths, fixes the age of the magnificent frieze, and, by extension, of the other analogous sculptures in the neighbourhood (Abri Reverdit at Sergeac ⁴⁹, etc.). The blocks sculptured with animals at Laugeries Haute ⁵⁰ and Basse ⁵¹, and at Jean-Blanc ⁵², are the same. We must not forget that sculptured blocks of the same art (fig. 114) were

47 L. Capitan, H. Breuil et D. Peyrony: Nouvelles grottes ornées de la vallée de la Beune. L'Anthr. 1915, pp. 505-518.

48 Dr. Lalanne and H. Breuil: L'Abri sculpté de Cap-Blanc à Laussel (Dordogne). L'Anthr., 1911, pp. 385-402.

49 Frank Delage: Sergeac, un beau site périgourdin, un centre de recherches préhistoriques. Montignac, 1927.

50 D. Peyrony: Une tête d'Ovibos sculptée, découverte à Laugerie Haute (Dordogne). L'Anthr. 1925, pp. 267-270.

51 Comte Begouën: Un bloc de pierre calcaire gravé des Eyzies à Berlin. Praehistorische Zeitschrift, 1930, pp. 246-266.

52 D. Peyrony: Nouvelles fouilles aux Champs-Blancs cu Jean-Blanc. A. F. A. S. 1912, pp. 522-528.

⁴⁶ L. Capitan, H. Breuil et D. Peyrony: Les figures gravées à l'époque paléolithique sur les parois de la grotte de Bernifal (Dordogne). Rev. de l'Ecole d'Anthr. 1903, pp. 202-209.

found at Fourneau du Diable, Bourdeilles ⁵³ (Dordogne) and La Vallée du Roc, Sers ⁵⁴ (Charente), buried in the final *upper* Solutrean levels, which were already steeped in Magdalenian III elements, which must have existed as early as that on the banks of the Vezère and elsewhere.

This is a magnificent art, not newly born, but in full possession of its faculties, and comparable to that at Isturitz (Basses Pyrénées); the earlier efforts, both in Dordogne and Charente, as in the Pyrenees, are very far from this, and infinitely more primitive in style.

La Mouthe ⁵⁵ produced engravings which still show traces of faded painting of spotted Reindeer, a small Mammoth, and a fine scraped and engraved Reindeer, which may be contemporaries of the polychromes, and a good many older drawings, some comparable to the Combarelles engravings, such as the Ibex, etc.; in the hall of the "Hut", and, on the wall to the right of the spotted Reindeer, the Horses and Rhinoceros, like the panel of little Bisons, are in more archaic Magdalenian style: there is a stiffness in their legs, and the horns of the Bisons are seen three-quarter face, as they are in the Magd. II and I engravings at Le Placard. Some very simple drawings on a panel in the spotted Reindeer hall are so very primitive in style that they must be Aurignacian, and H. Breuil thinks the same of the large Bovines sculptured on the roof of the first hall with drawings.

La Croze à Gontran de Tayac ⁵⁶, with the remains of meanders on its walls, which once were clay-covered, and to-day are covered with concretions, has some animals of a very archaic style, which must belong to a fairly ancient Aurignacian period.

La Grèze ⁵⁷, with its very stiff Bison with full face horns (fig. 110), and some other remains of animals, not always in pure profile, is of the same type. The animal was buried under a Solutrean deposit.

But the numerous engraved blocks found in the upper Aurignacian of Sergeac 58 (La-

- 53 D. Peyrony: Les gisements préhistoriques de Bourdeilles (Dordogne). Mém. 10 des Archives de l'Institut de Paléontologie Humaine. 1932.
- L. Capitan and D. Peyrony: Les Reliefs solutréens du Fourneau du Diable, commune de Bourdeilles (Dordogne). C. R. Acad. Inscr. et B. L. 1925, p. 43.
- 54 Dr. H. Martin: La Frise sculptée et l'atelier solutréen du Roc (Charente), Mém. 5 des Archives de l'Institut de Paléontologie Humaine, 1928.—Les Sculptures du Roc (Charente). Préhistoire, T. I, fasc. I.—L'atelier solutréen du Roc (Charente), sa frise sculptée. L'Anthr. 1928, pp. 2-16.
- 55 Emile Rivière: La grotte de La Mouthe (Dordogne). A. F. A. S. 11 Août 1897.—Les dessins gravés et peints de la grotte de la Mouthe (Dordogne). C. R. Acad. des Sc. 30 Septembre 1901 and Revue Scientifique, 19 Octobre 1901.
- 56 H. Breuil, L. Capitan and D. Peyrony: La Croze à Gontran, Tayac, Dordogne, grotte à dessins aurignaciens. Rev. Anthr. 1914, pp. 277-280.
- 57 L. Capitan, H. Breuil and M. Ampoulange: Une nouvelle grotte préhistorique à parois gravées: La grotte de la Grèze. C. R. Acad. Inscr. et B. L. 1904, pp. 487-495, and Revue. Ecole d'Anthr. 1904, pp. 320-325.
- 58 G. Grant MacCurdy: Paleolithic art as represented in the collections of the American Museum of Natural History. The American Museum Journal. 1914, pp. 225-237.

battut) (fig. 112), of Laussel 59 and La Ferrassie, shew us that, at this time, the Dordogne artists were already capable of making fine bas-reliefs, though they were nearly always rather stiff and primitive. This is the age of the Venuses and Archer of Laussel,

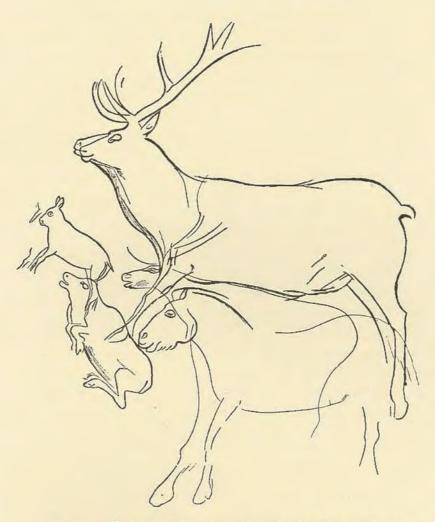


Fig. 124. Fine engravings on a stalagmitic block from the Grotte de la Mairie, Teyjat (Dordogne), shewing: one Cervus elaphus, one Horse and one Reindeer (female lying down with her fawn), coming from the Magdalenian V level. Width of the panel 54 cms. After Breuil.

and the Fish * o at the Gorge d'Enfer rock-shelter (fig. 113), extraordinary bas-reliefs which have no competitors in the dark caves.

⁵⁹ G. Lalanne: Bas-relief à figuration humaine de l'abri sous roche de Laussel (Dordogne). L'Anthr. 1912, pp. 129-140.—Découverte d'un bas-relief à représentation humaine dans les fouilles de Laussel. L'Anthr. 1911, pp. 257-260.

⁶⁰ D. Peyrony: Les abris Lartet et du Poisson à Gorge-d'Enfer (Dordogne). L'Anthr, 1932. pp. 242-268.

In Gironde, the Pair-non-Pair ⁶¹ engravings are also Aurignacian. Daleau, their discoverer, did not give their real character; they are far more detailed and more finished than his painstaking, but very inadequate copies would have one think. They were buried in an upper Aurignacian level, and date therefore from the dawn of that age.

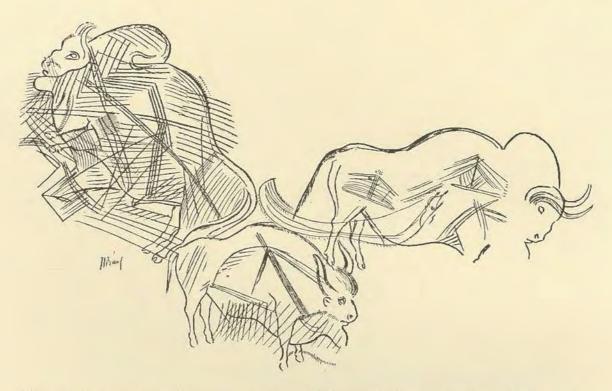


Fig. 125. Engravings associated with several painted Bisons; the Bison on the left is the same as the one in brown flat wash, fig. 102; the two others are early polychromes. Font-de-Gaume. After Breuil.

In the Dordogne, since mid, and even lower Aurignacian times, there were, on blocks, rough attempts at animal figures of a really very primitive type. These were associated with silhouettes of many vulvae (fig. 108) and an occasional phallus. In the Pyrenees at Gargas, there is only a single example of a similar vulva, and far from the daylight; in other places they are entirely lacking in wall art in the galleries, and are confined to sculptured blocks in the rock shelters. The small size of the Dordogne caves, and the generally sandy character of their deposits, does not often leave a clay coating on the walls, and finger drawings of "maccaroni" type are only found at La Croze à Gontran.

⁶¹ F. Daleau: Les gravures sur rocher de la caverne de Pair-non-Pair. Actes de la Soc. Archéologique de Bordeaux, 1897 (séance du 13 Novembre).

The cave of Pech-Merle (Pech-David) *2 is quite different. There are hardly any Magdalenian engravings (op. cit., fig. 39 Bull and Hind; fig. 45, Bear's head), but, where the great extent of clay-covered walls allowed, the Aurignacians multiplied the "maccaroni" and finger trails which had no real meaning (op. cit. figs. 18, 37-40, 42, 44, 46, part of 49 and 51). Amongst them (fig. 106) there are rudimentary or more complete animal heads (op. cit., figs. 43 and 53, here a Bulls head), Bulls (part of fig. 53, op. cit.), Ibexes (op. cit.,

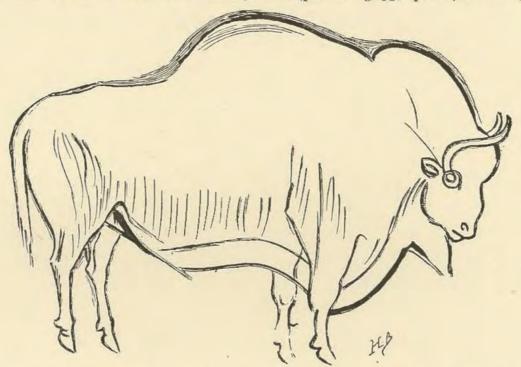


Fig. 126. Engraving, deeply cut in some parts, acompanying the polychrome Bison figure 103. After Breuil.

fig. 50), Bisons (op. cit., fig. 51), Cervus megaceros (op. cit., fig. 19), another Deer (op. cit., fig. 21), human figures rampant, etc. (figs. 15, 16, Pl. 19 and Pl. 49), and various Mammoths (op. cit., figs. 36, 43, 49, Pl. 53) 63.

62 A. Lemozi: La Grotte-Temple du Pech-Merle, un nouveau Sanctuaire préhistorique. A. Picard, 1929. H. Breuil: Nouvelles figurations humaines de la caverne David à Cabrerets (Lot). Rev. Anthr. 1924, pp. 232-238.

63 To be noted in the south-east of France: I), drawings on clay of Aurignacian style in the cave of Aldène: M. Guerret: Découverte de dessins préhistoriques dans la grotte d'Aldène (commune de Cesseras, Hérault). Bull. Soc. Hist. Nat. Toulonse, 1927. 2nd trimestre.—2), Engravings of archaic Aurignacian style in the cave of Chabot à Aiguèze Gard): A. Lombard-Dumas: La Sculpture préhistorique dans le département du Gard. Nimes, 1899.—P. Raymond: Les gravures de la grotte magdalénienne (inexact) Chabot à Aiguèze (Gard). Rev. Préh. 1905.—3), the archaic bas-reliefs in the grotte du Figuier at St. Martin (Ardèche): P. Raymond: Une nouvelle grotte magdalénienne (?) à gravures dans l'Ardèche. Rev. Préhistorique, 1906, p. 25n.

We have therefore at Cabrerets ("Pech-Merle" or "Pech-David") one of the most remarkable collections of finger-drawings in any cave, similar in every way to those of Trois Frères, Gargas, Hornos and Altamira. There is no doubt they are all the same age, though at Cabrerets they can only be dated by comparison with other sites. So ends our detailed objective analysis of Aquitano-Cantabrian wall art, with its annex in Andalusia. We have not enlarged on, though we noted, its upper Aurignacian connexion with the upper Palaeo-lithic art in rock shelters of the Spanish Levant.

FRENCH CAVES: EVOLUTION OF 1

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		GARGAS	TROIS FRÈRES	TUC D'AUDOUBERT	PORTEL	MAS D'AZIL	верепнис	NIAUX	USSAT	MARSOULAS	LA BASTIDE	MONTESPAN	ISTURITZ	PECH DAVID	MARCENAC (CABRERETS)	STE. EULALIE (LOT)	LASUDRIE, VILLAR (DORDOGNE) sandstone region of Brive.	PAIR-NON-PAIR	VALLÉE DU ROC	MOUTHIERS	FIGUIER	СНАВОТ	CROZE À GONTRAN (TAYAC)	LA GRÈZE	СА МОЛТНЕ	COMBARELLES	CAP BLANC	COMARQUE	
	Finger drawings on clay, no figures	×	×											×									×				-		
	Finger drawings on clay, with figures	×	×											×									×						
N V	Engravings on clay, on walls	×	×											×									×						
Aurignacian	Archaic shallow rock-engravings	×	×											?								×	×	×	×	×?			
*	Deeply cut archaic engravings	×	×					+						?			×	×		,	×	×		×	×				
	Archaic bas-reliefs																	×			×								
EAN	Engravings (Aurignacian tradition)				74																								
SOLUTREAN	Sculptures in high relief												×						×										
3-4	Sculptures in high relief									×	×		×							×				×		×	×	×	×
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3.4	Engravings, surface striated							×	×	×					×										×	×			
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MAGDALENIAN 4	Clay modelling			.×			wall					floor ×																	
MAGDA 4	Clay statues			×								×																	
4	Drawings on clay						×	×				×																	
	loor			×			×	×				×																	
4-5-6	Single line engravings		×	×	×	×		×				×		×															
6	Late shallow engravings									×						×													

UTION OF THE ENGRAVINGS

		_							15			-					
LA GRÈZE	ГА МОЙТИЕ	COMBARELLES	CAP BLANC	COMARQUE	CALÉVIE	GROTTE NANCY À VIEIL MOULY	BERNIFAL	LE ROC, PRÈS SARLAT	ÉGLISE DE TAYAC	GORGE D'ENFER	OREILLE D'ENFER	LAUGERIE HAUTE	ABRI REVERDIT (SERGEAC)	TEYJAT	FONT DE GAUME	ENGRAVINGS ON BLOCKS WHICH HAVE FALLEN OR ARE IN PLACE	FOUND IN
No			*														
						×											
×	×	×?						×								Animals at Laussel, La Ferrassie, Roches de Sergeac, utilizing natural accidents of the rock.	Mid and Upper Aurignacian
×	×										×					Animals at Laussel, La Ferrassie, Roches de Sergeac, and other sites at Sergeac, Gorge d'Enfer, etc.; vulvae.	39 39 39 37
										×	×					Bas-reliefs of Women, Men & Animals: Laussel, La Ferrassie, Labattut (Sergeac)	Upper Aurignacian
																Bourdeilles	Mid Solutrean.
												×				Bourdeilles, Laugerie Haute.	
×		×	×	×	×	×			×			×	×			Jean Blancs, Cap Blanc, Laugeries Haute and Basse, Abri Reverdit, etc.	Magdalenian 2 and 3
	×	×		×	×		×	×				×			×	Laugeries Haute and Basse, La Madeleine, etc.	Magdalenian 3 and 4
	×	×															
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							×							×	×	Laugeries Haute and Basse, La Madeleine, etc.	Magdalenian 4, 5 and 6.
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	T	130	-														

CHAPTER VII

General view of the Evolution of Art on cave walls.

I. Evolution of the Paintings.

Let us now glance backwards and note the astonishing uniformity in general evolution of this art of Palaeolithic peoples, often separated by considerable distances and differing greatly in their bone and flint outfit 64.

The hands, stencilled first in red and later in black, or other colours and other designs, are found at the start just as much in Cantabria as in the Pyrenees, in Dordogne and in Lot. They seem to last longer in the Cantabrian Pyrenees. The red positives of hands also persist longer there, combined with archaic figures in flat red wash, stencilled violet hands, big red or sometimes violet signs like clubs, conventionalised hands and feet, all sometimes reduced to tridents. Portel is the only Pyrenean site at which such hands are found. There are red hand-prints at Collias (Gard), combined with animals in spotted or ragged-edged red lines, which seem to be a survival, as we have said before.

In Andalusia *5, there are no hands, but these are replaced by yellow finger drawings, meanders and snaky lines, from which animals emerge, comparable to the "maccaroni" in the northern clay.

These timid attempts at red line drawing combined with hands, quickly pass into figures drawn in thick and thin lines, red, or more often yellow (according to the place) and very rarely in black. These are found from Andalusia to Cantabria, from the Pyrenees to Lot and Dordogne.

Then comes the line which tries first to show the reliefs by shading, and very oc-

⁶⁴ The first attempts made to construct a chronology of Palaeolithic art were: H. Breuil: L'Evolution de la Peinture et de la Gravure sur murailles dans les cavernes ornées de l'âge du Renne. Premier Congrès Préhistorique de France, 1905—Abbé H. Breuil: L'Evolution de l'art pariétal des cavernes de l'âge du Renne. C. R. 13ême Congrès d'Anth. and Archéol. Préhist. Monaco, 1906, pp. 367-386. Sucessive corrections and additions to this previous attempt were made in the volumes of Font-de-Gaume, Cavernes Cantabriques, aud La Pasiega.

⁶⁵ No archaeological layer containing bone and flint tools is known as yet in Audalusia.

casionally by slashes; it thickens, widens, has ragged edges or turns into wide bands made with a pad, a running together of spots (Cantabria and Collias): several times, the red paint covers considerable parts of the animal or else the whole body. Red is most popular in Cantabria and the Pyrenees; black soon predominates in Dordogne and Lot.

It is not long before certain figures are excellently drawn, but there are also very crude and exaggerated ones (Altamira). Sometimes the engraved line is combined with old washes of colour or with ragged-edged drawings. Here and there, at Abri Blanchard

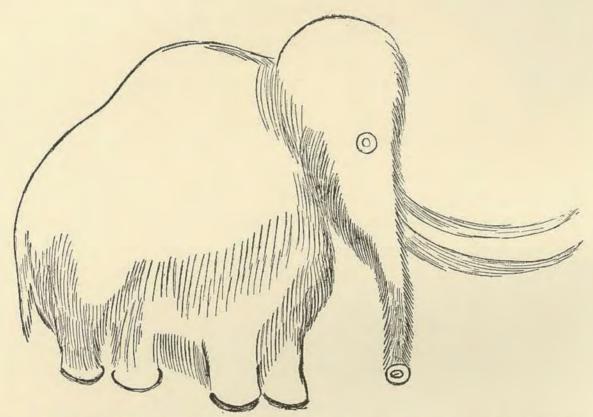


Fig. 127. Very lightly drawn Mammoth, 61 cms. long, later than the polychrome figures of the cave of Font-de-Gaume. After Breuil.

(Sergeac) and Portel, a black contour line is combined with a red background, and two-colour studies are produced, which certainly date from the mid-Aurignacian (Sergeac). At Sergeac (Labattut), the upper Aurignacian already boasts delicate drawings of Deer slightly shaded in black which might be Magdalenian, if it were not for their horns, which are in twisted perspective, similar to those of all the Aurignacian Deer in Dordogne, Lot, the Pyrenees and Cantabria, and also those in the paintings of the Spanish Levant. Except at Candamo, a cave just beyond the circle we are studying, no Stag in Magdalenian art is ever again drawn in this manner.

As well as the figures of animals, painted signs of the same technique are constantly as-

sociated in Cantabria and Andalusia with the paintings: first, simple thin line drawings of small designs, then in long thick lines. They are mostly tectiforms, but, in Andalusia, they are combined with others, also red and in the same technique, spirals or spotted ovals, etc.



Fig. 128. The two first Solutrean flints picked up by Messrs. Taylor-Ballota and Harlé. Actual size.

These collections of signs are lacking in France, but found on flat stones at Parpalló (Valencia).

Such is the first Aurignacian cycle of Palaeolithic art.

The second cycle begins modestly with slightly traced black drawings, often simple

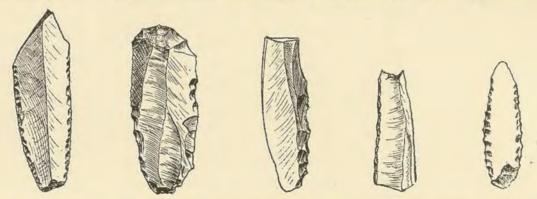


Fig. 129. Graver, scraper, etc. of Magdalenian type, arrow-head with non-Solutrean retouch. With the exception of the trimmed blade in the centre which belonged to the de la Pedraja collection, all the objects are in the Altamira Museum. 2/3 actual size.

sketches; then wide black smears more or less primitive; but soon the line steadies and a graceful silhouette is produced, more fluid in style than the Aurignacian; slashing cuts are ingeniously employed to shew the coat and to give the parts in relief. But only the first stage of this new cycle is practised in the Andalusian caves, where the latest stage seems never to have even begun. Here and there, the colour covers the body as in the first stage,

and black (blurred as if applied with a stomp) takes the place of the slashes. Then brown, or sometimes flat red wash, or a series of spots, or a mixture of both, is used to vary the filling in of the body. Black, which at first was limited to certain parts of the figures, now outlines them entirely. This is the age of the beautiful polychromes, in which the draw-

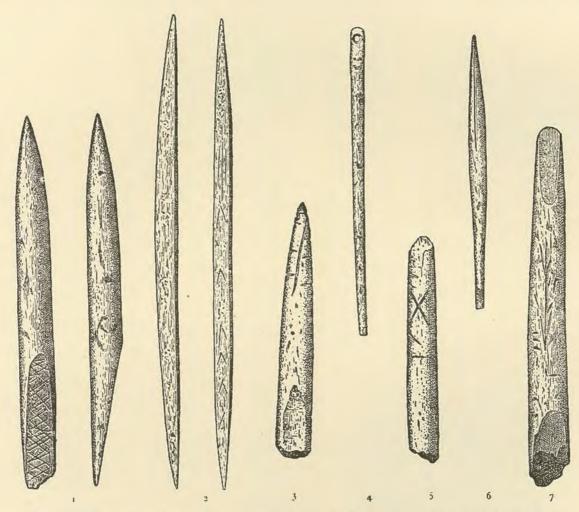


Fig. 130. Bone and stagshorn instruments collected by Messrs. Sautuola and Harlé. Actual size.

ing is perhaps not quite so pure as that of the slashed black figures and the later stomped ones, though their technical perfection is distinctly superior. Engraving, which, up till then, was rarely united with painting, now is usually associated with it.

In the Cantabrian region, tectiforms continue, combined with old Magdalenian black drawings and rectangles with radiations, which occur again in Andalusia. The signs accompanying the polychromes, simple comb-shaped red signs, rare in the Cantabrian region, are more numerous in the Pyrenees (Marsoulas), where the comb-shaped signs (conventionalised hands) and tectiforns occur; the latter are found with the polychromes at Font de Gaume and La Mouthe, though they are different in type to the Cantabrian ones.

Then comes the end of Magdalenian art; small red line drawings of animals at Niaux, Ussat and the little cave at Cabrerets (the latter not published), combined with spots of Azilian style, arrows and red club-shaped and other signs. Finally, the barbed bands of Marsoulas are definitely the last manifestations on rock walls of dying Upper Palaeolithic art.

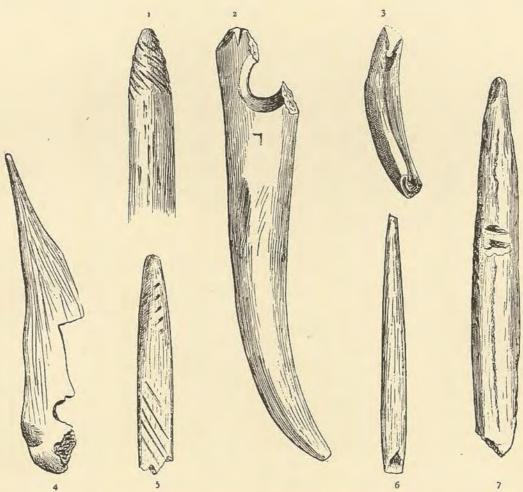


Fig. 131. Bone and stagshorn objects collected in the cave. Scale 2/3:—1, 4, 6). Ex collection de la Pedraja.—3) At the Museum of St.-Germain-en-Laye.—5) At the Institut de Paléontologie Humaine, Paris; the rest come from Mr. de Sautuola's excavations and are at the Altamira Museum.

II. Evolution of the engravings.

Parallel with this evolution of painting, there is the evolution of engraving and sculpture on walls. More than painting, it depends entirely on the quality of the rock, whether hard or easy to work.

Except perhaps in Andalusia, the art of engraving or drawing on rock surfaces al-

ways originates from mechanical lines, parallel furrows left by fingers on soft clay of the walls or roofs of caves; animal figures spring from the complicated meanders and "maccaroni". At first, these also are drawn in parallel sheaves and furrows made by fingers, soon to be replaced by toothed tools, then by ends of stick etc. in the case of those drawn with a single line. We have seen that the origin of painting in Andalusia was exactly complementary to this.

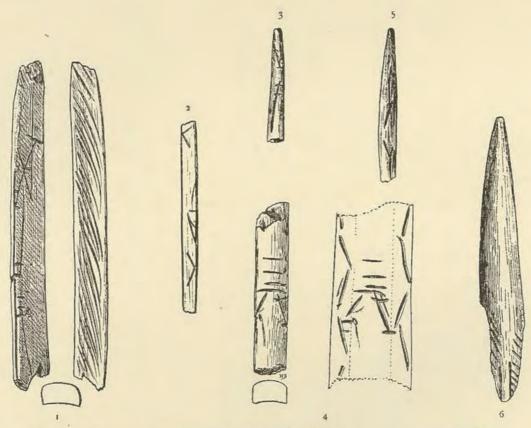


Fig. 132. Stagshorn objects from the cave. 2/3 actual size.—1, 3, 4, 5, at the Museum of St.-Germain-en-Laye.—2, Ex-Collection de la Pedraja.—6, Altamira Museum.

Then, even in Andalusia, line drawings on clay and later on rock, with a flint, produced silhouettes, first rough and awkward, in spite of their naturalistic living touch (like the earlier ones on clay of Ardales), then more elaborate and detailed, but with stiff legs, not necessarily, as has been wrongly said, with only one leg for each pair. The horns of bovine animals and Ibexes, as in Aurignacian paintings, are usually seen full face, except for Bisons which very soon have their horns drawn in profile. The cervoid animals have their horns in twisted perspective as in the paintings.

In Dordogne, the quality of the rock very soon led the artists to try bas-relief and to make use of accidental shapes of the rock, working principally on blocks, and rock walls in the open air. Bas-reliefs of animals and humans of both sexes (the sex alone was first The cave of Pech-Merle (Pech-David) ²² is quite different. There are hardly any Magdalenian engravings (op. cit., fig. 39 Bull and Hind; fig. 45, Bear's head), but, where the great extent of clay-covered walls allowed, the Aurignacians multiplied the "maccaroni" and finger trails which had no real meaning (op. cit. figs. 18, 37-40, 42, 44, 46, part of 49 and 51). Amongst them (fig. 106) there are rudimentary or more complete animal heads (op. cit., figs. 43 and 53, here a Bulls head), Bulls (part of fig. 53, op. cit.), Ibexes (op. cit.,

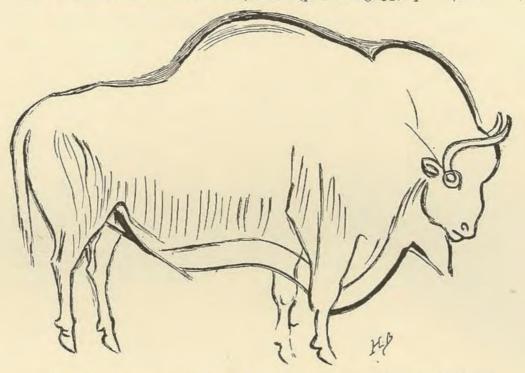


Fig. 126. Engraving, deeply cut in some parts, acompanying the polychrome Bison figure 103. After Breuil.

fig. 50), Bisons (op. cit., fig. 51), Cervus megaceros (op. cit., fig. 19), another Deer (op. cit., fig. 21), human figures rampant, etc. (figs. 15, 16, Pl. 19 and Pl. 49), and various Mammoths (op. cit., figs. 36, 43, 49, Pl. 53) 63.

62 A. Lemozi: La Grotte-Temple du Pech-Merle, un nouveau Sanctuaire préhistorique. A. Picard, 1929. H. Breuil: Nouvelles figurations humaines de la caverne David à Cabrerets (Lot). Rev. Anthr. 1924, pp. 232-238.

63 To be noted in the south-east of France: 1), drawings on clay of Aurignacian style in the cave of Aldène: M. Guerret: Découverte de dessins préhistoriques dans la grotte d'Aldène (commune de Cesseras, Hérault). Bull. Soc. Hist. Nat. Toulouse, 1927. 2nd trimestre.—2), Engravings of archaic Aurignacian style in the cave of Chabot à Aiguèze Gard): A. Lombard-Dumas: La Sculpture préhistorique dans le département du Gard. Nimes, 1899.—P. Raymond: Les gravures de la grotte magdalénienne (inexact) Chabot à Aiguèze (Gard). Rev. Préh. 1905.—3), the archaic bas-reliefs in the grotte du Figuier at St. Martin (Ardèche): P. Raymond: Une nouvelle grotte magdalénienne (?) à gravures dans l'Ardèche. Rev. Préhistorique, 1906, p. 250.

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FRENCH CAVES: EVOLUTION OF

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		GARGAS	TROIS FRÈRES	TUC D'AUDOUBERT	PORTEL	MAS D'AZIL	верытнис	NIAUX	USSAT	MARSOULAS	LA BASTIDE	MONTESPAN	ISTURITZ	PECH DAVID	MARCENAC (CABRERETS)	STE. EULALIE (LOT)	LASUDRIE, VILLAR (DORDOGNE) sandstone region of Brive.	PAIR-NON-PAIR	VALLÉE DU ROC	MOUTHIERS	FIGUIER	CHABOT	CROZE À GONTRAN (TAYAC)	LA GRÈZE	LA MOUTHE	COMBARELLES	CAP BLANG	COMARQUE
	Finger drawings on clay, no figures	×	×											×									×				11	
	Finger drawings on clay, with figures	×	×											×									×					
Z Y I	Engravings on clay, on walls	×	×											×									×					
Aurignacian	Archaic shallow rock-engravings	×	×											?								×	×	×	×	×?		
V	Deeply cut archaic engravings	×	×						*					?			_×_	×		`	×	×		×	×			
	Archaic bas-reliefs		1			d.												×			×							
NW SAN	Engravings (Aurignacian tradition)																				_						=	
Solutrean	Sculptures in high relief												×						×									Ĭ
3-4	Sculptures in high relief									×	×		×							×				×		×	×	×
3-4	Deeply cut engravings		×	×						×	×			×											×	×		×
3-4	Engravings, surface striated							×	×	×					×										×	×		
4 z	Engravings, cameo technique		×																									
MAGDALENIAN 4	Clay modelling		þ.	.×			os wall ×					floor ×																
MAGD/M	Clay statues			×								×				V				+	Je of							
4	Drawings on clay (walls						×	×	19			×																
	floor			×			×	×				×																
4-5-6	Single line engravings		×	×	×	×		×				×		×	1-													
6	Late shallow engravings				11.					×						×												

LUTION OF THE ENGRAVINGS

					-	-				- 1		* *		-				
CROZE À GONTRAN (TAYAC)	LA GRÈZE	LA MOUTHE	COMBARELLES	CAP BLANG	COMARQUE	CALÉVIE	GROTTE NANCY À VIEIL MOULY	BERNIFAL	LE ROC, PRÈS SARLAT	ÉGLISE DE TAYAC	GORGE D'ENFER	OREILLE D'ENFER	LAUGERIE HAUTE	ABRI REVERDIT (SERGEAC)	TEYJAT	FONT DE GAUME	ENGRAVINGS ON BLOCKS WHICH HAVE FALLEN OR ARE IN PLACE	FOUND IN
×				- 14														
×																		
×							×											
×	×	×	×?						×								Animals at Laussel, La Ferrassie, Roches de Sergeac, utilizing natural accidents of the rock.	Mid and Upper Aurignacian
	×	×										×					Animals at Laussel, La Ferrassie, Roches de Sergeac, and other sites at Sergeac, Gorge d'Enfer, etc.; vulvae.	n n n n
											×	×					Bas-reliefs of Women, Men & Animals: Laussel, La Ferrassie, Labattut (Sergeac)	Upper Aurignacian
																	Bourdeilles	Mid Solutrean.
													×				Bourdeilles, Laugerie Haute.	
	×		×	×	×	×	×			×			×	×			Jean Blancs, Cap Blanc, Laugeries Haute and Basse, Abri Reverdit, etc.	Magdalenian 2 and 3
		×	×		×	×		×	×				×			×	Laugeries Haute and Basse, La Madeleine, etc.	Magdalenian 3 and 4
		×	×															
-																		Ŧ
																		#
								×							×	×	Laugeries Haute and Basse, La Madeleine, etc.	Magdalenian 4, 5 and 6.
																×	Laugeries Haute and Basse, La Madeleine, Limeuil, etc.	Magdalenian 5 and 6.

CHAPTER VII

General view of the Evolution of Art on cave walls.

I. Evolution of the Paintings.

Let us now glance backwards and note the astonishing uniformity in general evolution of this art of Palaeolithic peoples, often separated by considerable distances and differing greatly in their bone and flint outfit *4.

The hands, stencilled first in red and later in black, or other colours and other designs, are found at the start just as much in Cantabria as in the Pyrenees, in Dordogne and in Lot. They seem to last longer in the Cantabrian Pyrenees. The red positives of hands also persist longer there, combined with archaic figures in flat red wash, stencilled violet hands, big red or sometimes violet signs like clubs, conventionalised hands and feet, all sometimes reduced to tridents. Portel is the only Pyrenean site at which such hands are found. There are red hand-prints at Collias (Gard), combined with animals in spotted or ragged-edged red lines, which seem to be a survival, as we have said before.

In Andalusia *5, there are no hands, but these are replaced by yellow finger drawings, meanders and snaky lines, from which animals emerge, comparable to the "maccaroni" in the northern clay.

These timid attempts at red line drawing combined with hands, quickly pass into figures drawn in thick and thin lines, red, or more often yellow (according to the place) and very rarely in black. These are found from Andalusia to Cantabria, from the Pyrenees to Lot and Dordogne.

Then comes the line which tries first to show the reliefs by shading, and very oc-

⁶⁴ The first attempts made to construct a chronology of Palaeolithic art were: H. Breuil: L'Evolution de la Peinture et de la Gravure sur murailles dans les cavernes ornées de l'âge du Renne. Premier Congrès Préhistorique de France, 1905—Abbé H. Breuil: L'Evolution de l'art pariétal des cavernes de l'âge du Renne. C. R. 13ême Congrès d'Anth. and Archéol. Préhist. Monaco, 1906, pp. 367-386. Sucessive corrections and additions to this previous attempt were made in the volumes of Font-de-Gaume, Cavernes Cantabriques, and La Pasiega.

⁶⁵ No archaeological layer containing bone and flint tools is known as yet in Andalusia.

casionally by slashes; it thickens, widens, has ragged edges or turns into wide bands made with a pad, a running together of spots (Cantabria and Collias): several times, the red paint covers considerable parts of the animal or else the whole body. Red is most popular in Cantabria and the Pyrenees; black soon predominates in Dordogne and Lot.

It is not long before certain figures are excellently drawn, but there are also very crude and exaggerated ones (Altamira). Sometimes the engraved line is combined with old washes of colour or with ragged-edged drawings. Here and there, at Abri Blanchard

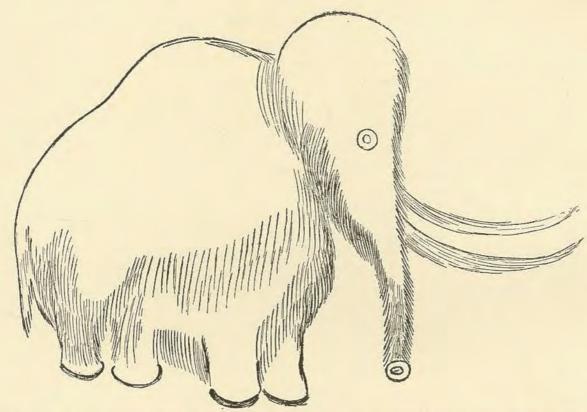


Fig. 127. Very lightly drawn Mammoth, 61 cms. long, later than the polychrome figures of the cave of Font-de-Gaume. After Breuil.

(Sergeac) and Portel, a black contour line is combined with a red background, and two-colour studies are produced, which certainly date from the mid-Aurignacian (Sergeac). At Sergeac (Labattut), the upper Aurignacian already boasts delicate drawings of Deer slightly shaded in black which might be Magdalenian, if it were not for their horns, which are in twisted perspective, similar to those of all the Aurignacian Deer in Dordogne, Lot, the Pyrenees and Cantabria, and also those in the paintings of the Spanish Levant. Except at Candamo, a cave just beyond the circle we are studying, no Stag in Magdalenian art is ever again drawn in this manner.

As well as the figures of animals, painted signs of the same technique are constantly as-

sociated in Cantabria and Andalusia with the paintings: first, simple thin line drawings of small designs, then in long thick lines. They are mostly tectiforms, but, in Andalusia, they are combined with others, also red and in the same technique, spirals or spotted ovals, etc.

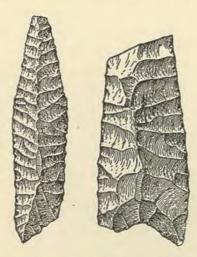


Fig. 128. The two first Solutrean flints picked up by Messrs. Taylor-Ballota and Harlé. Actual size.

These collections of signs are lacking in France, but found on flat stones at Parpalló (Valencia).

Such is the first Aurignacian cycle of Palaeolithic art.

The second cycle begins modestly with slightly traced black drawings, often simple

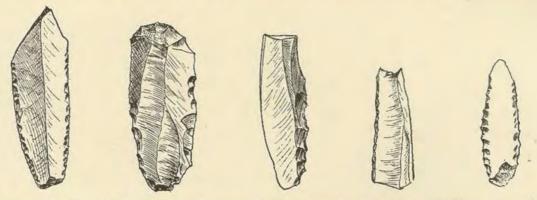


Fig. 129. Graver, scraper, etc. of Magdalenian type, arrow-head with non-Solutrean retouch. With the exception of the trimmed blade in the centre which belonged to the de la Pedraja collection, all the objects are in the Altamira Museum. 2/3 actual size.

sketches; then wide black smears more or less primitive; but soon the line steadies and a graceful silhouette is produced, more fluid in style than the Aurignacian; slashing cuts are ingeniously employed to shew the coat and to give the parts in relief. But only the first stage of this new cycle is practised in the Andalusian caves, where the latest stage seems never to have even begun. Here and there, the colour covers the body as in the first stage,

and black (blurred as if applied with a stomp) takes the place of the slashes. Then brown, or sometimes flat red wash, or a series of spots, or a mixture of both, is used to vary the filling in of the body. Black, which at first was limited to certain parts of the figures, now outlines them entirely. This is the age of the beautiful polychromes, in which the draw-

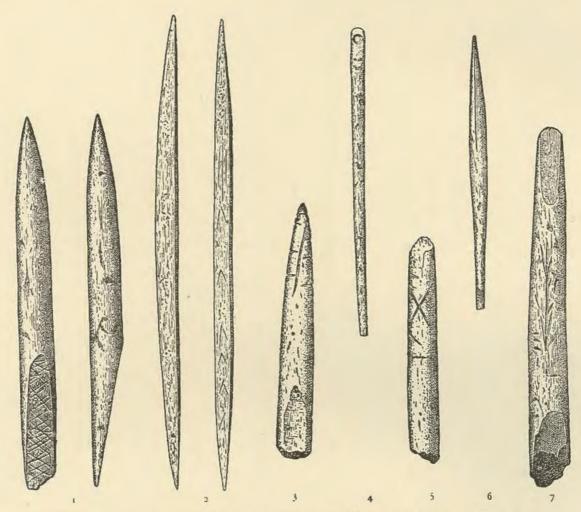


Fig. 130. Bone and stagshorn instruments collected by Messrs. Sautuola and Harlé. Actual size.

ing is perhaps not quite so pure as that of the slashed black figures and the later stomped ones, though their technical perfection is distinctly superior. Engraving, which, up till then, was rarely united with painting, now is usually associated with it.

In the Cantabrian region, tectiforms continue, combined with old Magdalenian black drawings and rectangles with radiations, which occur again in Andalusia. The signs accompanying the polychromes, simple comb-shaped red signs, rare in the Cantabrian region, are more numerous in the Pyrenees (Marsoulas), where the comb-shaped signs (conventionalised hands) and tectiforns occur; the latter are found with the polychromes at Font de Gaume and La Mouthe, though they are different in type to the Cantabrian ones.

Then comes the end of Magdalenian art; small red line drawings of animals at Niaux, Ussat and the little cave at Cabrerets (the latter not published), combined with spots of Azilian style, arrows and red club-shaped and other signs. Finally, the barbed bands of Marsoulas are definitely the last manifestations on rock walls of dying Upper Palaeolithic art.

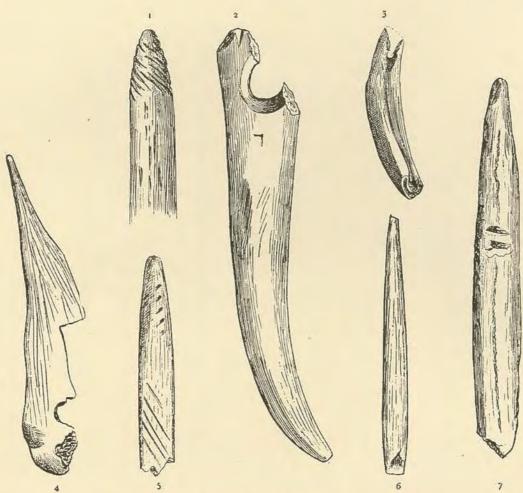


Fig. 131. Bone and stagshorn objects collected in the cave. Scale 2/3:—1, 4, 6). Ex collection de la Pedraja.—3) At the Museum of St.-Germain-en-Laye.—5) At the Institut de Paléontologie Humaine, Paris; the rest come from Mr. de Sautnola's excavations and are at the Altamira Museum.

II. Evolution of the engravings.

Parallel with this evolution of painting, there is the evolution of engraving and sculpture on walls. More than painting, it depends entirely on the quality of the rock, whether hard or easy to work.

Except perhaps in Andalusia, the art of engraving or drawing on rock surfaces al-

ways originates from mechanical lines, parallel furrows left by fingers on soft clay of the walls or roofs of caves; animal figures spring from the complicated meanders and "maccaroni". At first, these also are drawn in parallel sheaves and furrows made by fingers, soon to be replaced by toothed tools, then by ends of stick etc. in the case of those drawn with a single line. We have seen that the origin of painting in Andalusia was exactly complementary to this.

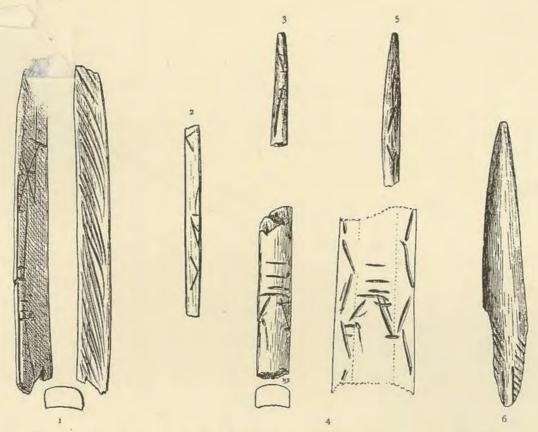


Fig. 132. Stagshorn objects from the cave. 2/3 actual size.—1, 3, 4, 5, at the Museum of St.-Germain-en-Laye.—2, Ex-Collection de la Pedraja.—6, Altamira Museum.

Then, even in Andalusia, line drawings on clay and later on rock, with a flint, produced silhouettes, first rough and awkward, in spite of their naturalistic living touch (like the earlier ones on clay of Ardales), then more elaborate and detailed, but with stiff legs, not necessarily, as has been wrongly said, with only one leg for each pair. The horns of bovine animals and Ibexes, as in Aurignacian paintings, are usually seen full face, except for Bisons which very soon have their horns drawn in profile. The cervoid animals have their horns in twisted perspective as in the paintings.

In Dordogne, the quality of the rock very soon led the artists to try bas-relief and to make use of accidental shapes of the rock, working principally on blocks, and rock walls in the open air. Bas-reliefs of animals and humans of both sexes (the sex alone was first drawn on rocks, the feminine being most frequent) are seen from earliest days, the ones of Upper Aurignacian date already displaying a great mastery of the process.

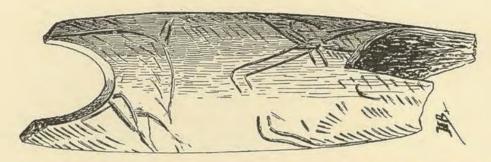
Very few engravings can be classed with certainty as early or mid-Solutrean. It is only at the end of the Upper Solutrean, already half Magdalenian in style, and contemporary with Magdalenian III of various other parts of the Dordogne and Charente, that high reliefs, such as the large sized sculptures in the round, have all the artistic character of Magdalenian art, as can be seen at Cap Blanc, etc. In spite of the difference in the industries, it is obviously the same art, and the same can be said of the sculpture on a big stalagmitic pyramid at Isturitz, where however the oldest Magdalenian (as in most of the Pyrenean caves) begins with old Magdalenian IV, directly superposed on the Solutrean (when it



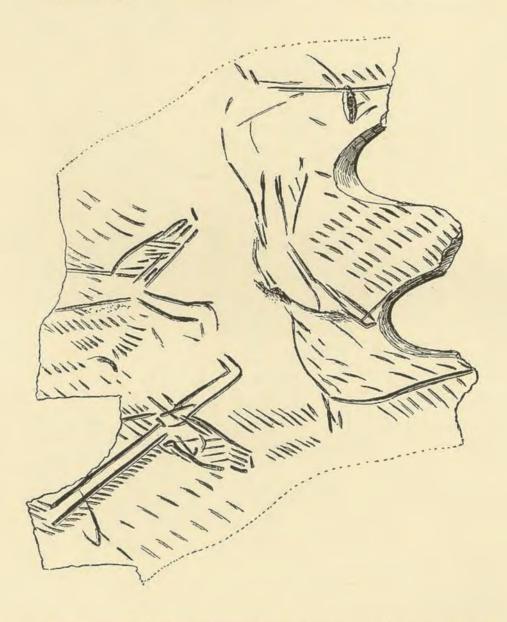
Fig. 133. Rib decorated with geometrical designs found at the cave entrance. Actual size. At the Museum of St.-Germain-en-Laye.

exists). The hardness of the rocky walls in the Pyrenees and the Cantabrian region does not allow of sculpture, so there are only engravings. At Trois Frères (the older Ievel of the sanctuary) and at La Mouthe (the panel of Bisons), the style is fairly archaic, with Bison horns in twisted perspective. There is a peculiar style in the Cantabrian region (starting perhaps at the extreme end of the Solutrean), figures with bodies often striated as in the engraving on bone of Magdalenian III, associated with, or later than the old black paintings of the same caves. They are also at Marsoulas (Magd. III).

But in the Pyrenees, the abundant masses of clay in the deep caves of Tuc d'Audoubert and Montespan encouraged the fine sculptors of Magdalenian IV times to model the superb clay Bisons of the first cave and the ugly figures of the latter. Yet, engraving, fine in the Pyrenees and at first deeply cut in the Dordogne, was the most usual art, and master-pieces were produced in the cameo-like style of the Trois Frères, the fine hair on the coats at Marsoulas, and the delicate figures in the depths of Combarelles. After Magdalenian IV, free engraving became rarer, and those examples which do exist are sometimes on the clayey earth or on sandy clay (Niaux, Bédeilhac) and on wide flat stones (Madeleine, Limeuil, etc.). It is generally found in conjunction with painting, either in pictures with much black shading (Marsoulas), or in plain brown wash (Font-de-Gaume), or with polychromes (Altamira, Font-de-Gaume, Marsoulas). At Font-de-Gaume, the depth and width of the incisions, in certain parts of the body, results in bas-relief.



Figs. 134-135. ABOVE: Stagshorn baton. Actual size. Altamira Museum.



Below: Design on the flat of the same engraved baton, actual size: to the left, two Izard's heads, one face downwards; to the right, two hind-quarters of indeterminate animals (probably the same species), the lower one upside down.

A charming group of delicate figures of Magdalenian V date was found at Teyjat, this was pure engraving full of life and truth. When we reach late Magdalenian VI times, there are only the fine engravings of Mammoths at Font-de-Gaume, some scarce drawings at Altamira and Marsoulas, or those delicate engravings on small blocks of stone from open rock shelters like Limeuil, La Madeleine and the Abri Murat (Rocamadour).

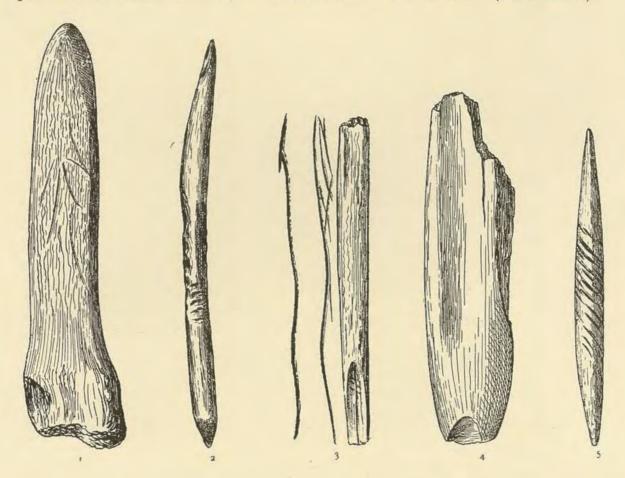


Fig. 136. Bone and stagshorn instruments discovered when digging at the cave entrance. 1), 1/4 actual size; 2, 3, 4), actual size; 5), enlarged, 1/4.—Museum of St.-Germain-en-Laye.

Such is a birds eye view of Palaeolithic painting and engraving, perhaps subject to slight variations, but fixed henceforward on these main lines, which more than thirty years research, in more than forty five caves and painted rock shelters, authorises us to present as a complete study.

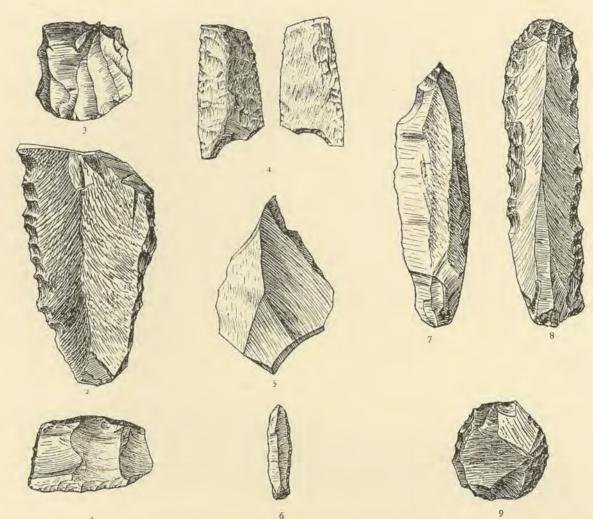


Fig. 137. Flint and quartzite objects.—2), found when digging at the entrance;—3), 2/3 actual size; —5), enlarged 1/4. The rest are actual size. Museum of St.-Germain-en-Laye.

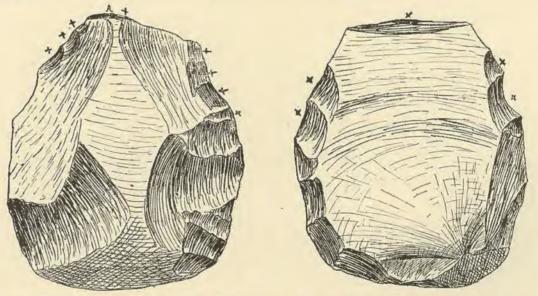


Fig. 138. Broad flake of ophite from the lowest base of the Altamira deposits; the trimming ($\times \times \times$) is more recent and has not the reddish patina of the rest. Found by Alcalde del Río. Actual size.

CHAPTER VIII

Altamira, the excavations and archaeological contents.

I. Older excavations.

Messrs. M. S. de Sautuola, E. de la Pedraja, J. Vilanova, Taylor-Ballota, and E. Harlé, from the very first, picked up much débris of fauna (mammals and molluscs), and an interesting industry of Solutrean and Magdalenian facies, between the entrance and the Hall of paintings, on the surface or in the very shallow excavations in ground strewn with blocks. Cartailhac and Breuil also collected a good deal without excavating, between the fallen blocks. M. de Sautuola, first explorer of this cave, devoted a great part of his brochure to a study of the deposits; he illustrated a certain number of objects: a piece of slate, pierced by a hole for suspension, a thick and eyed needle; some horn javelins with cylindrical or quadrangular shafts, several of them with single bevelled base and bearing ornamental lines; various bone stilettos, and a bone rod sharpened at both ends, the sides ornamented with rather irregular chevrons (fig. 130).

E. Harlé published some other objects in Les Matériaux 1881: more pieces of javelins with ornamental lines and several flints, two of them Solutrean; one (fig. 128) is a point with concave base, and the other, a not very regular willow-leaf. One of these he gave to the Toulouse Museum and the other to Taylor-Ballota.

E. de la Pedraja found a flint blade retouched on one side (fig. 129, No. 3), a cubitus sharpened into a stiletto (fig. 131, No. 4), a smooth cylindrical horn javelin (fig. 131, No. 6), a small squared horn rod with ornamental lines (fig. 132, No. 2), and the end of a horn implement with notches cut in spirals (fig. 131, No. 1). Mons. Botin gave to the Institute of Human Palaeontology another analogous object (fig. 131, No. 5), with some fragments of round and square little rods. But all the rest of M. de Sautuola's collection is intact, and now in the Museum near the Altamira cave. It includes the following objects not mentioned by him: the end of a javelin, decorated with longitudinal parallel lines and series of notches (fig. 132, No. 6), a coarse stagshorn point (fig. 130, No. 7), a pierced baton with no engravings, made from a tine with a round hole pierced at the base (fig. 131, No. 2).

The only flints of definite type in the collection are: (fig. 129, Nos. 1, 2) a classic graver, a very thick end-scraper, a blade with a terminal notch (fig. 129, No. 4), and a willow-leaf dart head (fig. 129, No. 5) on which the small retouches are on the flake face of a small blade, the mid-rib occupying the other face. There are no small flint blunt-backed blades.

Three months before the arrival of Cartailhac and Breuil, Eduardo Sáinz found a pierced baton (figs. 134-135), decorated with engravings, on the right side of the Painted Hall, before reaching the paintings. It was rolling on the floor with a lot of rubbish, between some fallen rocks. This was the first pierced baton and, indeed, the first engraved bone found in Spain. It is of stagshorn rather badly preserved, much worn by Quaternary Man, and partly split by the stones against which it had struck. Its oval hole and general shape greatly reminds one of another pierced baton found at Massat, on which is a Bear's head. On the Altamira baton, in the midst of various series of slanting lines, two hind-quarters of Ruminants are visible near the hole, for which the rest of the figures had to be sacrificed. On the reverse side, there are two horned heads and fore-quarters of Izards, highly conventionalized.

Cartailhac and Breuil forbade any more excavations while they were present, anxious not to destroy the deposits by hasty researches; however they found on the surface of the shifted soil and in the dug-out hearths, several objects which were given to the Museums of St.-Germain-en-Laye and Toulouse. These are: a small round end-scraper (fig. 137), similar to those at Mas d'Azil and Sordes; various small thick end-scrapers of capricious shape; a great many flakes of quartzite often pretty regular, never retouched; a number of used pebbles of compact flinty rock, some in the shape of discs, others like grinders, hammer-stones or small mills, others like pestels, the pebble being broken and the sides of the section shewing signs of wear and retouch, etc. They also found some worked bones, a rib ornamented on one face with chevrons (fig. 133), the incisor of a Horse pierced with a hole at the root (fig. 131, No. 3), a stagshorn rod with rather flattened section and decorated on one side with lineal ornaments, on the other side covered with striations (fig. 132, No. 1), and various fragments with the same sort of ornament (figs. 132, Nos. 3, 4; 136).

II. Excavations of H. Alcalde del Río.

It was Don Hermilio Alcalde del Río who, later on, after the other two had left, explored as best he could the deposit strewn over the blocks in an older fall of rock and covered by others more recent. The results of these excavations were afterwards set out in the volume on Altamira, as also in a book called "Pinturas y grabados de las cavernas prehistóricas de la provincia de Santander" (Santander, 1906).

In these, he made interesting observations on the successive collapses of the roof, three

in all, with a depth of four metres between each; the first is on the ground, not far from the earliest paintings on the roof. Only the last rests on palaeolithic kitchen-middens, or on a stalagmitic floor covering them. It was when this last collapse began that the evacuation of the cave took place. The two older falls are immediately beneath the visible hearths, which fill up the spaces between the rocks. Soundings near the entrance revealed thick black deposits, full of shells and bones and with a very few interesting objects, partially burnt, showing that it was chiefly a place for cooking.

Farther in, the archaeological finds became more and more numerous, and there Don Hermilio made most of his investigations. He noted two levels which were indeed difficult to separate; the most recent, 35-45 cms. in depth, consisted of a light slate coloured earth mixed with charcoal, ash, rolled stones and angular pieces of limestone; the bones here were smaller than those in the lower level and very broken; sea shells were very abundant, chiefly Patellas and Littorinas and, more seldom, Pecten shells. The lower level has very little charcoal and consists chiefly of clay and broken limestone. Important archaeological differences distinguish the two: in the upper level, Magdalenian, there are mostly bone implements, and the ones in stone are less well cut, less varied, and fewer in number than they are lower down; while in the lower level (upper Solutrean), the stone tools are numerous and varied, consisting of single-shouldered points and other objects with characteristic single or bi-face trimming. It was to the upper part of this lower level that H. Alcalde del Río attributed the works of art decorated with animal figures, which he found chiefly on flat bones, shoulder-blades and ribs, engraved with Hind's heads, the design filled in with fine striations 66. A fragment of a pierced baton with a small part of a deeply incised Stag's head, and two other objects of stagshorn, decorated with a deeply cut animal's head and conventionalised fish, he dates as from the upper layer.

The oldest tool (fig. 138), picked up quite at the base of deposits, is a large flake struck off a quartzite pebble, and very roughly trimmed along the edges at two different epochs; indeed the most recent retouches retain the natural colour of the rock, blackish-green, all the other worked surfaces have undergone a fairly deep reddish weathering; it is therefore certain that the tool is noticeably earlier than the deposit containing it, and that, when left there, it was converted to a new use.

Throughout the deposit, rough flakes struck off flint nodules from the neighbour-

⁶⁶ At Castillo, where the upper Solutrean of Altamira is lacking, various engravings, similar to those published by Alcalde del Río as Solutrean at Altamira, were found in the old Magdalenian layer (Magd. III style of Cantabria), identical with that of the upper Solutrean layer of Altamira, but it is difficult not to think that the same art can have existed both at the extreme end of the Solutrean and in the early Magdalenian, when we see that the new excavations have confirmed a complete continuity of human occupation from one period to the other, and that the same type of sculptures in relief are found in the south of France at the end of the Solutrean and the dawn of the Magdalenian eras.

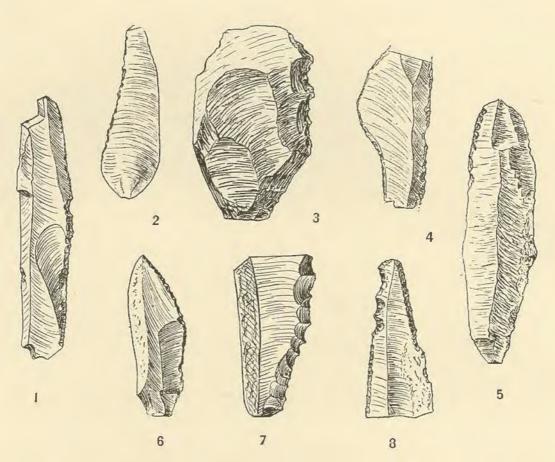


Fig. 139. Blades and flakes variously trimmed. Scale 2/3.—1, 2, 6), Solutrean level.—5), Magdaleuian level; 3, 4, 7, 8), undetermined.—Material: 1, 7, ophite; 2, black flint; 3, blackish flint; 5, reddish flint; 6, light grey flint. Collected by Alcalde del Río.

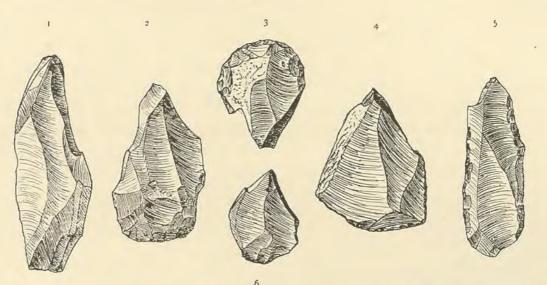


Fig. 140. Ordinary gravers and double ended implements, scraper-gravers. Scale 2/3.—3, Solutrean level.—1, 5, Magdalenian level.—2, 4, 6, undetermined.—Material: 1, black flint; 2, reddish jasper; 3, 5, grey flint; 4, brown flint; 1, double graver; 6, graver somewhat related to the beaked gravers. Collected by Alcalde del Río.

ing valley are predominant; there are also a good many pebbles more or less trimmed, with flat faces often shewing signs of crushing in the middle. Pieces of flint are far less numerous than flakes of quartzite or sandstone. Very well made and retouched tools are found in both materials, but, naturally, they are best made when of flint, or one of the close-grained rocks.

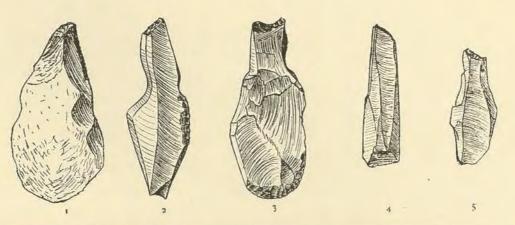


Fig. 141. Right and left angled gravers, with terminal, oblique or transverse trimming. Scale 2/3.—3, 4, Solutrean level.—1, 2, 5, undetermined. Collected by Alcalde del Río.

There are blades with no retouch on the edges, but shewing more or less signs of wear; others had been trimmed all along one edge, or along both (fig. 139).

A certain number of blades or flakes had undergone the special trimming typical of gravers; several, more Magdalenian in type, come from the upper layer. There are also

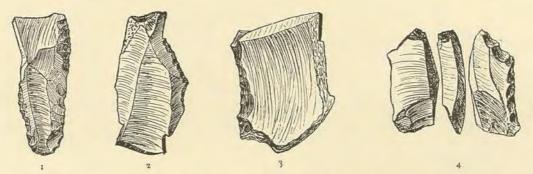


Fig. 142. Gravers on an angle of a broken blade or a flake. Scale 2/3.—1, black flint; 2, grey flint (three angles adapted as gravers); 3, brown flint with lateral notch; 4, scored implement of whitish flint; it seems to have come originally from a lateral graver with an oblique terminal trimming. Collected by Alcalde del Río.

several very massive end-scraper-gravers, one at least of which comes from the Solutrean deposit (fig. 140).

Alongside these typical gravers, should be classed a series of lateral gravers with oblique or concave terminal retouch; certainly two come from the Solutrean layer (fig. 141). There are other lateral gravers on angles of broken blades, which are often hard to distin-

guish from certain examples scaled off by percussion (fig. 142); these last seem to abound in the cave of Altamira, where they do not appear to be confined to a set level.

Other narrow blades end in single or double end-scrapers; the lower level yielded two

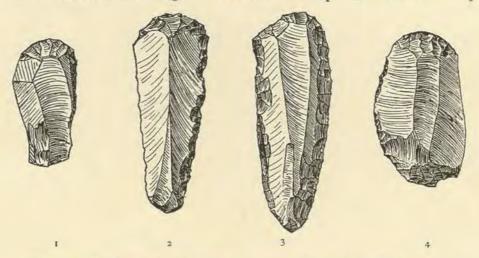


Fig. 143. Single and double scrapers, on the end of a blade. Scale 2/3.—2, 3, Solutrean level.—4, Magdalenian.—1, undetermined.—Material: 1, 2, 3, violet chalcedoneous flint; 4, black flint, one end worn. Collected by Alcalde del Río.

fine end-scrapers made in this way; their edges were carefully retouched (fig. 143, Nos. 2 and 3); a double end-scraper comes from the upper level. Other end-scrapers, more squat, are made on a wide flake; they nearly all come from the lower level; they are carefully made and much retouched (fig. 144).

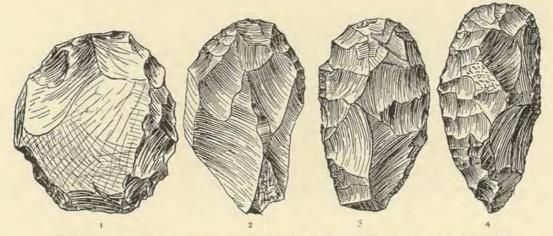


Fig. 144. Broad thick scrapers. Scale 2/3.—2, 3, 4, Solutrean level.—1, undetermined.—Material: 1, flake of quartzite; 2, 3, blackish flint; 4, grey flint, very thick. Collected by Alcalde del Río.

There are often less defined types, which are less easy to classify: core-scrapers, side-end-scrapers, small round scrapers of Azilian type, declining into minute discoidal flints which seem confined to the upper layer (figs. 145, 146).

Some shew a tendency to project in a sort of nozzle, recalling vaguely a point or awl, and several blades or flakes end in a more or less straight or incurved beak (fig. 147). Blades with more marked retouch also exist: little blades with blunted backs (fig. 148, Nos. 1 and 5) and sharp ends, pointed blades (No. 6), blades with a laurel-leaf profile finely

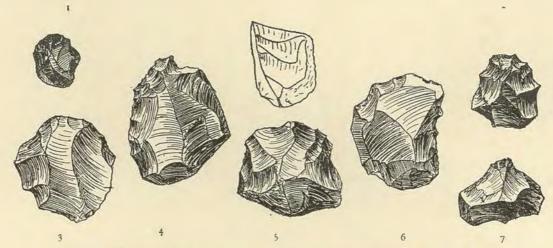


Fig. 145. Scrapers more or less thick, or core-scrapers. Scale 2/3.—4, Solutrean level.—6, intermediate;—the rest are undetermined.—Material: 1, yellow flint, very thick; 2, black flint, very thick; 3, 5, grey flint, thick; 4, reddish flint; 7, black flint, thick. Collected by Alcalde del Río.

retouched (No. 7), incurved blades with a sometimes very remarkable dorsal retouch (Nos. 8, 9, 10).

Several of the preceding flakes, which all come from lower levels, shew a definitely Solutrean retouch, a great many pieces from the older level are frankly Solutrean, some by their trimming, others by their shape. There is first a series of fairly short points, some

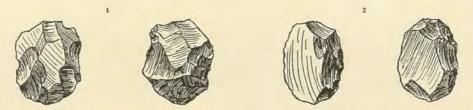


Fig. 146. Small discs, actual size. Magdalenian level. Collected by Alcalde del Río.

of almost Mousterian proportions (fig. 149, No. 1), and others are more oblong (Nos. 2, 3, 5): the retouch is very characteristic, in spite of the coarseness of the materials used.

An imperceptible transition can be established between the points retouched on a single face with the butts unworked, and the important and, at the same time, most distinctive series of Solutrean Altamira points with a concave base (fig. 150). This type is exceptional in France except at Brassempouy (Landes), and in one of the Lespugues caves (Haute Garonne), which have produced a few. Sometimes the flake face has no other retouches

than those of the concave base; at other times, the two faces are trimmed completely by pressure: these tools are generally of quartzite, and more rarely of chalcedoneous flint. At Cueto de la Mina, the Conde de la Vega found all the transitions between the concave base

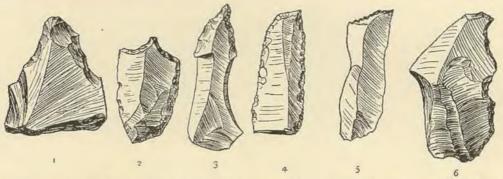


Fig. 147. Flakes or blades with ends trimmed into varied types of awls, or beaked. Scale 2/3. Level undetermined.—Material: 1, violet chalcedony; 2, black flint, thick; 3, greyish flint; 4, black flint; 5, grey flint. Collected by Alcalde del Río.

points and the shouldered points of the upper levels, a transition which Alcalde del Río did not find at Altamira. The Solutrean retouch variously applied on long blades (fig. 151), ended in willow-leaf points (fig. 151, No. 5), with retouches extending more or less to the

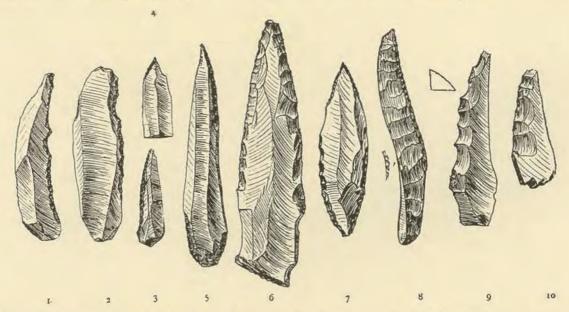


Fig. 148. Small and pigmy trimmed blades. Actual size.—3, 4, 5, 6, Solutrean level.—1, 2, 7, 8, 9, probably Magdalenian level.—Material: 2, 3, 4, 5, 6, 9, black flint; 8, chalcedoneous flint; 4, hematite; 7, 8, 9, flakes struck off when making gravers. Collected by Alcalde del Río.

flake face, or not reaching it (No. 4). Lastly, of these retouched blades, none are more typical of Périgord than the single shouldered points, though Spanish points have often a less careful retouch than their counterparts of Laugerie Haute, Badegoule and le Placard (fig. 152).

Bone and Horn Industry.

Worked bones and engravings are to be met with from the lower level upwards; amongst the first are big daggers of sharpened stagshorn: No. 1, fig. 153 comes from the extreme base of the deposit; there are some far more complete specimens about 20 cms. long. From the lower level come other objects: a javelin with pointed base, two parts

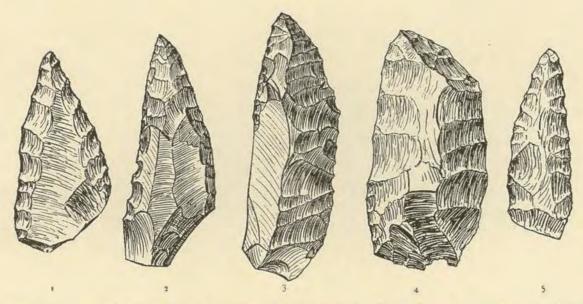


Fig. 149. Points trimmed only on one face. Solutrean level.—Material: 1, 4, 5, ophite; 2, chalcedoneous flint; 3, black flint. No. 2 was found with the engravings of Hind's heads in the upper part of the Solutrean level.—No. 5 has been trimmed on the opposite face towards the point for a third of its length.—Nos. 3 and 4 reduced 3 milimetres in reproduction. Collected by Alcalde del Río.

of a long stiletto with a series of many notches. From the upper level of the lower layer come a whole series of shoulder-blades, engraved with animal figures which were in direct contact with typical Solutrean points.

The greater number of worked bones come nevertheless from the upper layer, and a good many cannot be assigned to any definite level. There are long stilettos, stagshorn rods with either a circular, half-rounded or square section; several have a pointed base, others a single bevel base (fig. 154); they are very numerous and varied in the Magdalenian level. The upper layer produced pierced teeth of Horse and Ox, used as pendants, a bead in sectioned bird bone, and a whole series of needles, generally thicker and more massive than in the French sites (figs. 155, 156); these needles are rounded or flattened.

One of the most remarkable objects discovered was a spatula in stagshorn, slightly arched when viewed from one side, fashioned like a big stiletto with a flat head spreading

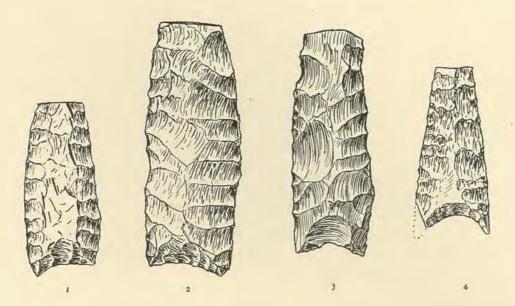


Fig. 150. Solutrean points with concave base, similar to those found at Brassempouy and Lespugues. Solutrean level.—Material: 1, 2, 4, ophite; 3, chalcedoneous flint. 1 and 4, both faces alike; 2, and 3, trimmed on lower face only, 2 round the base and in the concavity.—I and 4 found on the surface of the Solutrean level with the engravings of Hind's heads. Collected by Alcalde del Río.

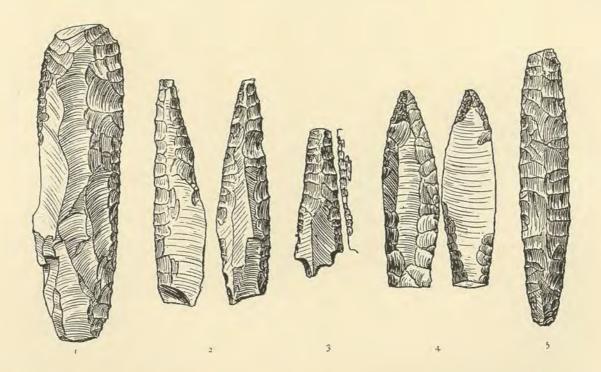


Fig. 151. Blades with Solutrean trimming. Actual size, except for No. 5 which has been slightly reduced. Solutrean level.—Material: 1, red marbled flint; 2, tertiary flint; 3, chalcedoneous flint; 3, brown veined flint.—No. 4 was found with the engravings of Hind's heads. Collected by Alcalde del Río.

out suddenly into a polisher, and divided from the rest of the implement by shoulders (fig. 157, No. 3).

Artistic objects.

"Hunting marks" have been already noted on a stiletto (fig. 153, No. 4); several other fragments have the same sort of decoration. Another class of ornament wide apart notches spaced along the stem of rod with a more or less square section, is distinctive of the upper layer (fig. 153, No. 8); a good many of those are figured (fig. 130 and 158). They are combined with other decorative elements, dog's teeth and diagonal or transversal cuts, so that they produce relatively complicated patterns, up till now peculiar to the Altamira and

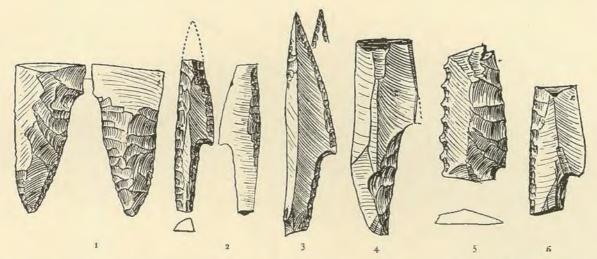


Fig. 152. Typical single-shouldered points and others less typical. Actual size. Solutrean level.—Material: 1, 5, black flint; 2, yellowish jasper; 3, dark brown flint; 6, yellowish flint. Collected by Alcalde del Río.

Castillo caves, and to one archaeological level there. A few objects of the same style have however been found in the Magdalenian 3 level at le Placard (Charente) and at Arlay in the Jura. We need not search in these decorations for the remains of degenerate figures as in many of the decorative designs of the French Magdalenian. This decoration has a technical origin, as have also the lines of oblique or transversal cuts on pieces of rib, and the series of chevrons of figs. 133 and 157.

A few arrow patterns should be mentioned: on a pierced Bull's tooth (fig. 155, No. 2); on a fragment of small javelin (fig. 158, No. 7), recalling the engraved "arrows" on the Bear's teeth of the necklace of Sordes (Landes); they seem to be rather scarce amongst the samples of French troglodyte art. A certain number of the decorative designs, placed on the sides of rather massive rods, are less geometric and inclined to be curvilinear (fig. 157,

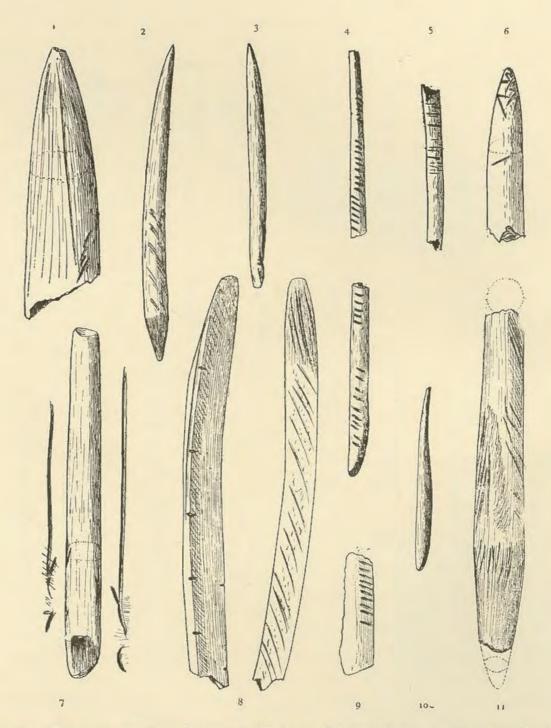


Fig. 153. Bone and stagshorn instruments. Scale 3/4. Solutrean level.—1 and 4, from the extreme base of the layer No. 2.—6, 7, 8, certainly Magdalenian level, most of the others probably from the same.
—Material: 1, 2, 3, 6, 7, 8, 10, 11, stagshorn; 4, bone; 5, 9, bird bone. Collected by Alcalde del Río.

Nos. 4 and 5; fig. 153, No. 7); it can be asked if here there is not the remains of a figurative art. This becomes a certainty when we reach a stagshorn tine, deeply incised (fig. 158, No. 2), with ellipses filled in by small cross-bars; there is no doubt that these ellipses recall certain conventionalised Fish of the French upper Magdalenian.

It is wise to await the discovery of more material before tracing the genealogy of decorative patterns to their figurative origin: but we can anyhow note an advanced stage of geometrical degenerescence of animal silhouettes on the pierced baton of the Botin collection.

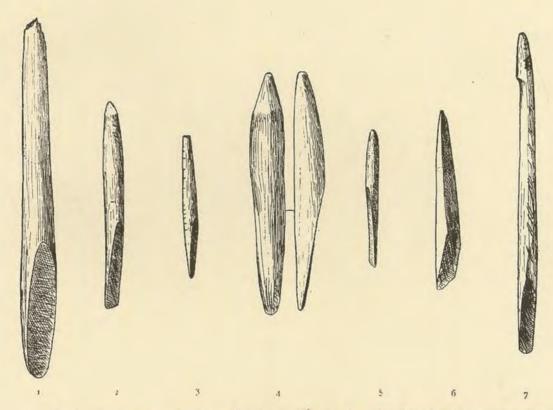


Fig. 154. Javelin heads with single-bevelled base. Mostly from the Magdalenian level, some uncertain.—Material: stagshorn, except 7 which seems to be bone. Scale 2/3. Collected by Alcalde del Río.

There is also a very degenerate figure of a Deer looking backwards (fig. 159, No. 3), engraved on a rib made into a polisher; this object comes from the upper layer. The two other remains of animal figures of this layer are deeply incised on the end of a thick chisel (fig. 159, No. 2), on a fragment of a pierced baton (fig. 159, No. 4), and are also of very mediocre execution.

In fact, the Magdalenian layer contains various objects with geometrical decoration, generally in straight lines, some degenerated figures, and some bad figures deeply incised. This characteristic of a deeply cut line, fairly frequent in the upper level, is missing on the engraved objects in the Solutrean level; here the designs are exclusively naturalistic, as

far as we know, and consist entirely of shoulder-blades, on which the primitive artists have cut with light but sure touch in a succession of incisions, well-studied Hind's heads. Many have been already published, but a more careful drawing of one is given here. An example of this art has been found, bearing not only a Hind's head, but the four legs of a Bison (fig. 160). There is complete similarity of style between the drawings of Hinds on shoulder-blades and those of Hinds in the galleries and on the big painted roof, and their contemporaneity cannot be doubted. This leads us to a series of conclusions. These drawings are therefore in part contemporary with the upper part of the Solutrean level, and, in part, as we know from Castillo, with the lower Magdalenian III of that cave 67; the red frescoes and part of the black paintings are older than these Hinds (this has been

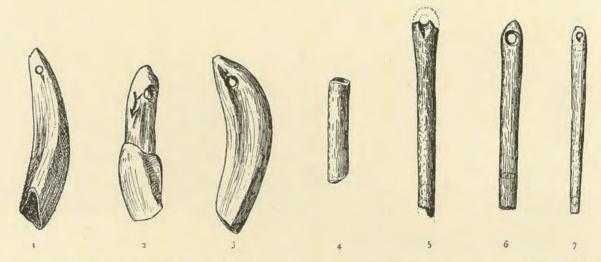


Fig. 155. Horse and Bull teeth, bird bone bead (1, 2, 3, 4). Scale 3/4. Magdalenian level. Collected by Alcalde del Río.

Fig. 156. Bone needles (5, 6, 7). Actual size. Magdalenian level. Collected by Alcalde del Río.

said already), and date therefore from before the end of the Solutrean. Lastly, the polychrome frescoes, more recent than the Hinds, since they often cover them and are never cut through by them, are certainly later than the upper Solutrean.

But the Magdalenian of Altamira is certainly older than the layers containing harpoons at Castillo, which are lacking at Altamira, as are all traces of recent occupation. The polychrome frescoes are therefore very considerably later in date, and although belonging to the Cantabrian upper Magdalenian, when the cave was no longer lived in, they shew, as does Marsoulas in France, a prevalent use of the deserted cave as a place of sanctuary.

⁶⁷ During Dr. H. Obermaier's systematic excavations many fragments of engraved shoulder-blades were found, but only in the Magdalenian level, none in the purely Solutrean deposits (page 193). See also note 66 (page 159).

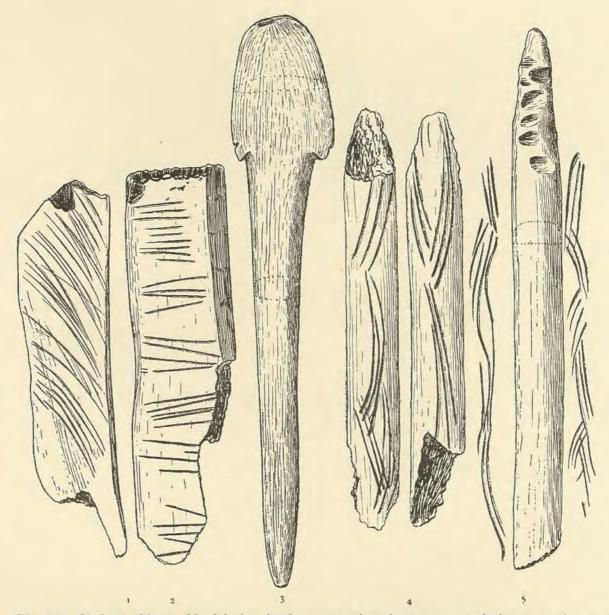


Fig. 157. Various objects. Magdalenian level.—2, 4, enlarged 1/4.—3, actual size; 1, 5, 3/4.—1, 2, ornamented with cuts on the sides.—Material: 3, 4, 5, stagshorn; 3, a sort of awl polisher, slightly curved; 5, section rather flat. Collected by Alcalde del Río.

Other parts of the cave.

Beyond the vestibule and the entrance to the big frescoes, there is no archaeological deposit properly speaking; however in the frescoed hall, on the ground, particularly at the foot of the walls, there is much débris of bones and Patellas.

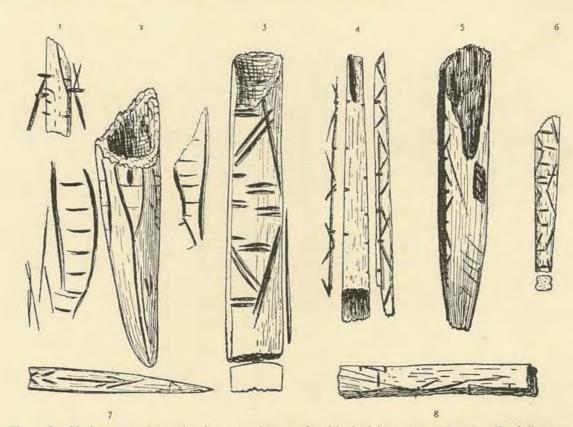


Fig. 158. Various stagshorn implements decorated with incisions or conventionalized figures.—1, 7, 8, [scale 3/4; others actual size. Magdalenian level.—5, given to Toulouse Museum by M. de Sautuola. Others collected by Alcalde del Río.

In November 1906, in the right hand gallery IV, a certain number of objects were picked up on the rocks fallen from the roof (No. 23 on the plan), rocks on which are engravings. There were several pieces of red ochre, the teeth of wild Boar and small bovine animals, fragments of a Pecten shell, quantities of tools, flint blades without trimming, stilettos and sectioned bird bones (fig. 161).

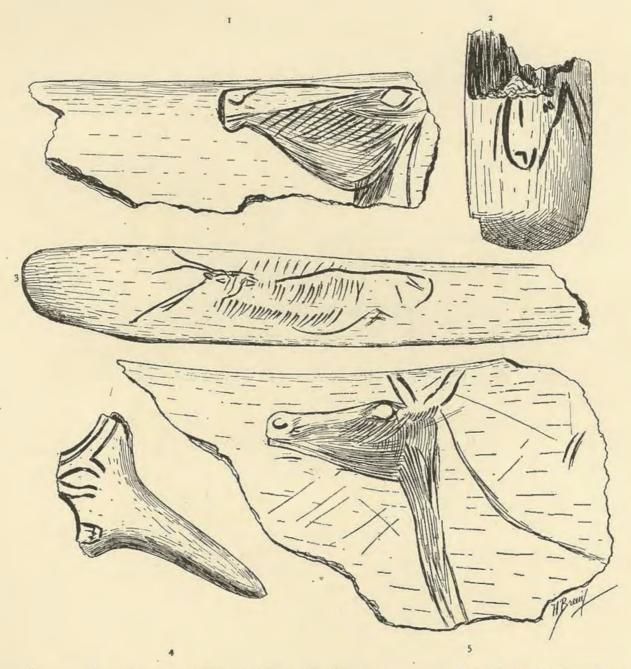


Fig. 159. Engravings on bone and stagshorn. Actual size. 1, 5, upper part of the Solutrean level with Solutrean flints; 2, 3, 4, Magdalenian level. The two Hind's heads are engraved on shoulder-blades. 3, on a polisher made of an animal's rib; 2, on a stagshorn chisel; 4, on a piece of perforated stagshorn.

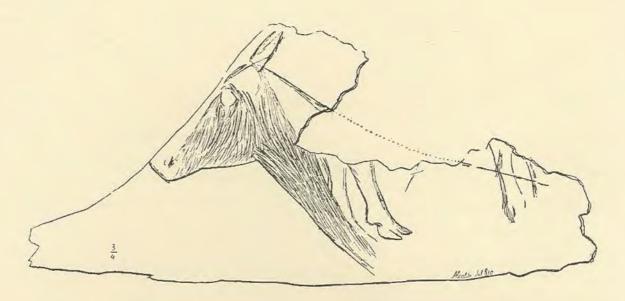


Fig. 160. Shoulder-blade with the head of a Hind and an incomplete Bison. Solutrean level. Collected by Alcalde del Río.

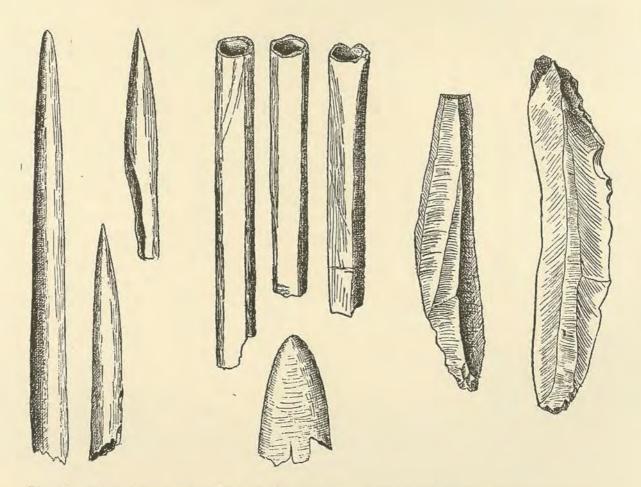


Fig. 161. Bone piercers and polisher, bird bone tubes, flint blades, collected in the big corridor by H. Alcalde del Río.

III. The Obermaier excavations of 1924-1925.

There were two stages of these excavations in the left zone of the vestibule, marked on the detailed plan (fig. 162). The first excavations in 1924, from August 20 to September 10, were undertaken to clear the surface of this vestibule, mostly covered by enormous blocks fallen in a chaotic mass from the roof, and cemented together by stalag-

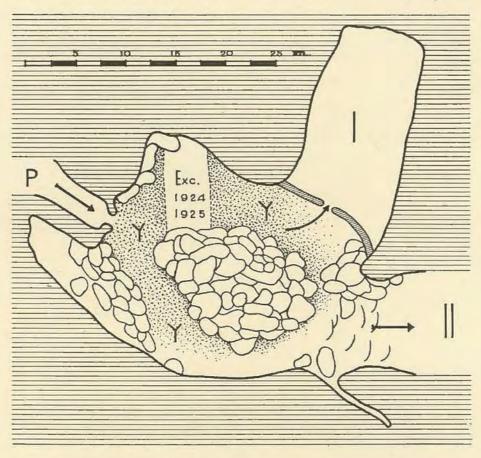


Fig. 162. Detailed plan of Altamira vestibule at the time of the excavations of 1924-25. P, the entrance. Y, palaeolithic deposits visible. Exc, Excavations 1924-25.

mitic concretions. The second period lasted from July 15 to September 15 1925, the cost being generously borne by the Duke of Berwick and Alba, to whom is due not only the modern exploration of Altamira, but its general salvation.

The director of excavations was Professor Obermaier, assisted by Don Jaime Oliver Asín, of Madrid. Various experts visited the work, giving more or less of their help. Amongst these were: Professor H. Breuil, of Paris; the Conde de la Vega del Sella, Madrid; P. E. Jalhay, Lisbon; G. G. McCurdy, Newhaven, U. S. A.; Count Begouën, Tou-

louse; Professor T. de Aranzadi, Barcelona; J. de Larrea, Basque Museum, Bilbao; and K. H. Panhorst, Berlin.

In the month of August 1925, the danger of an immediate collapse of the vestibule roof increased; a falling block just missed killing Mr. Obermaier and a workman. This danger was arrested, thanks to the immediate precautions taken by the Duke of Alba, Professor Obermaier and Engineer Alberto Corral, of Santander. The part of the roof which was most threatening was first supported by massive wooden beams; and then a great wall was built in "cyclopean" style, made of about four hundred cubic metres of

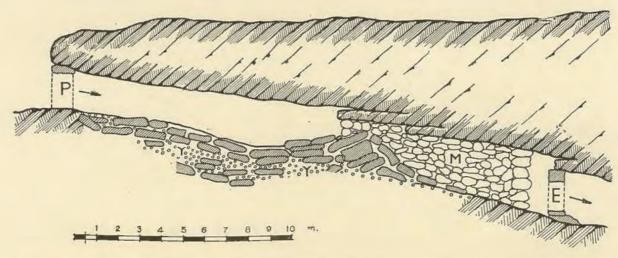


Fig. 163. Section of the cave vestibule, present state. P, entrance. E, door into painted hall (I on the general plan). Y, Palaeolithic deposit covered by rocks fallen in Quaternary times from the old roof. M, big supporting dry stone wall erected in 1925.

solid blocks and including the big mass of fallen rock accumulated in the middle of the vestibule, lasting witness to the final great collapse, at the end of Quaternary times (fig. 163). Nowadays the whole back part of the roof rests on this wall; had it fallen, it would probably have dragged with it the celebrated painted ceiling of the Hall of Paintings. This construction, forced on us by necessity, cuts across the old direct descent into the Hall of Paintings, and the present entrance is placed to one side (see plan, fig. 1).

1. Excavations.

On the surface, there were usually two successive layers of limestone blocks (1, 2, of the section, fig. 164), the whole being about a metre thick. This was the result of two successive collapses, and, between them, there were no archaeological remains.

A. Magdalenian.

The Magdalenian layer began between the fallen layers 2, 3, reaching also the level between the blocks of the fall 3-4, with a maximum depth of about 50 cms. These levels were partly clayey, partly full of small stones (burnt limestone, etc.) and cooking stones; they are very black, that is to say, full of remains of ash and charcoal, which proved that the excavations had reached what was chiefly a wide expanse of hearths and kitchens. The workshops are either in the surrounding space or far-

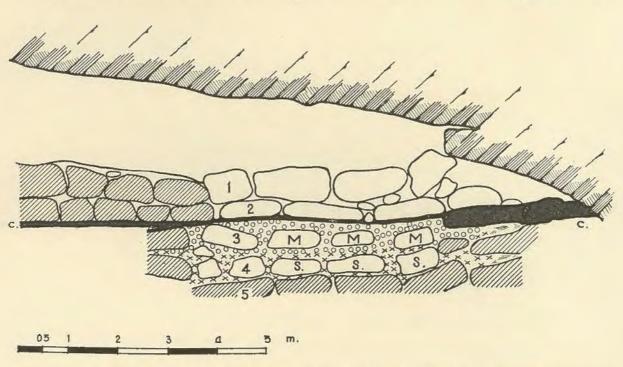


Fig. 164. Section of the archaeological levels of the vestibule, drawn during the 1924-25 excavations and shewing five successive collapses of the old roof; the most recent, I and 2, rest on a thick stalagmitic layer C, under which are the Magdalenian hearths M, and the third collapse of the Magdalenian epoch, 3. The Solutrean hearths S, and the contemporary fall of rock 4, are lower and rest on a still older collapse 5; any thought of piercing this layer had to be given up.

ther in or outside. The archaeological remains lay mixed pell-mell amongst the blackened stones, sea shells and animal bones partly burnt and broken. Amongst these, were a good many phalanges of Stags, etc. systematically split, probably to extract the oil. Near the surface, the Magdalenian layer was transformed into brecchia firmly attached to the fallen blocks; lower down, it was partly washed, fairly easily shifted and partly conglomerate. At the bottom, it was a clayey black mud extremely damp.

B. Solutrean.

No clear-cut definite separation existed in the part excavated, but the Solutrean level was more reddish. Towards the centre of the vestibule, it was fairly dry and often partially conglomerated; near the cave wall, it was pure brecchia, very damp and black towards the base, for it rested on an impermeable stalagmitic layer covering the blocks fallen during collapse 5. The stalagmitic layer has an average thickness of 30-35 cms. As a rule, the excavations of 1924-25 reached a depth of about 2 ms. 50 cms. They extended as far as the fallen rocks 5. Unfortunately, the dangerous state of the actual roof did not permit us to dig at a greater depth, for the breaking up of the big blocks, even

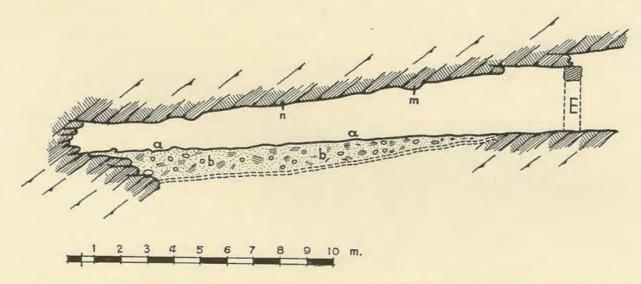


Fig. 165. Section of the big painted hall (No. I on the plan): E, Entrance and door to the hall,—a, old surface level before the improvements.—b, archaeological deposit encroached on by the improvements, when the circular path was dug out.—m, position of painted curled round Bison, Pl. XXVII.—n, position of Bison Pl. XLII.

though simply by hammer-strokes, had already caused several falls of small pieces of rock from the actual roof.

It is very probable that, lower down, there are other palaeolithic deposits, especially Aurignacian ones, for there are engravings and paintings of that age in the cave. We might also hope to find remains of the lower Palaeolithic, for such traces are not infrequent in the immediate neighbourhood.

Thanks to the successive falls of limestone strata from the roof, separated one from the other by archaeological levels, the principal phases of human occupation here can be reconstructed (fig. 164). After the collapse marked 5 on the plan, the Solutreans established them-

selves in the vestibule (Men of the final Solutrean period); they were however seriously disturbed from time to time by rocks falling from the roof. The same happened to the Magdalenians (of lower Magdalenian times). So that we can say for certain that, during these two occupations (Solutrean, Magdalenian), there were no sudden instantaneous collapses, but slowly two layers of the roof fell, those marked 4 and 3 on the section fig. 164. The rock fall 2, the one before the last, seems to have been swift and catastrophic. It evidently drove Man out of the vestibule, which remained in a chaotic and dangerous state. At this time, the vestibule was deserted, because uninhabitable, but it was still possible to slip through all this chaos and reach the interior, for the polychrome paintings are undoubtedly of later date than the Magdalenian archaeological deposits (fig. 165). It was then that the Hall of Paintings became a secret polychrome sanctuary, hidden, dangerous and difficult of access. A last swift collapse I blocked the narrow entrance and the way through, and the cave of Altamira was definitely sealed by Nature.

This last catastrophe took place no doubt before the end of the Quaternary age, for the surface cracks in the vestibule contained not the least archaeological trace attributable to the upper Magdalenian (with harpoons), nor the final Magdalenian, nor any sign of the Neolithic.

2. Fauna in the Cave of Altamira.

Below the Solutrean.

Red Deer, Cervus elaphus. Horse, Equus caballus. Limpet, Patella vulgata.

Solutrean.

Red Deer, Cervus elaphus (very abundant).

Horse, Equus caballus

Bovine animal, Bos sp., cf. Bison (very abundant).

Ibex, Capra ibex (fairly abundant).

Izard, Capella rupicapra

Wild Boar, Sus scrofa ferus (rare).

Roe Deer, Cervus capreolus (rare).

Bear, Ursus sp. (rare).

Fox, Canis vulpes (rare).

Wolf, Canis lupus (rare).

Lynx, Felis lynx (rare).

Reindeer, Rangifer tarandus (very rare: a fragment of horn).

Seal, Phoca sp. (one canine tooth).

Mammoth, Elephas primigenius (proved by the objects in worked ivory: necklace). Fallow Deer, Cervus dama (?).

Magdalenian.

Red Deer, Cervus elaphus (very abundant).

Horse, Equus caballus (abundant).

Bovine animal, Bos cf. Bison (abundant and very big).

The two last animals are less abundant than they were in Solutrean times.

Izard, Capella rupicapra (numerous).

Ibex, Capra ibex (fairly numerous).

Roe Deer, Cervus capreolus (rare).

Wolf, Canis lupus (very rare).

Hare, Lepus sp. (very rare).

Mammoth, Elephas primigenius (shewn by the objects in worked ivory).

Aves: great bird bones, probably those of Crane.

Remains of Fish; back and side bones.

There are shell-fish in very considerable quantities, far more than in the Solutrean level; they are almost exclusively limpets, *Patella vulgata*, a very big kind, the variety *Sautuolae*, and *Littorina littorea* also very big).

Whelk, Buccinum (rare) 67.

The distance between the cave of Altamira and the coast where living shell-fish could be collected, is about 6 kilometres as the crow flies. On the return journey, the troglodytes laden with shell-fish (which they perhaps carried in skin bags) had a fairly steep slope to tackle, so that a double journey to the coast must have taken at least three hours and a half.

3. Fauna and Climatology.

The Reindeer, Rangifer tarandus, is not shewn in the art on rocks of the Cantabrian region, but its skeletal remains have been found in the following caves:

Serinyá (Gerona) (Magdalenian).

Aitzbitarte (Guipúzcoa) (Magdalenian).

67 H. Breuil has found some remains of Crab.

Armiña (Vizcaya) (Magdalenian). Valle (Santander) (Magdalenian).

On the Cave of Castillo, near Puente Viesgo (Santander), the Reindeer appears:

- I.) In the (upper) Aurignacian a and b, the Solutrean, the lower Magdalenian and in the clay between Magdalenian a and b.
- 2.) In the lowest layer with no typical tools, under the Micoquian (lower Palaeolithic).

Finally, in the Cave of Ojebar (Santander), where there are no traces of Palaeolithic Man. [See H. Obermaier: El Hombre Fósil, 2nd. ed. Madrid, 1925, p. 165.]

The number of sites in which Reindeer bones have been found, and the great distance separating the caves of Santander from those in the south of France, excludes the probability that it is an importation of Reindeer bones with which we have to deal. Such an importation by Man, reaching districts so remote from those where hunters could have brought the hides, is most improbable. We must also remember that in the Cave of Ojebar, there are no traces of human occupation during Palaeolithic times, which proves that the animals found there were killed and devoured in the cave by wild beasts.

Other cold species contemporary with the occupation of Altamira by Quaternary Man are:

Mammoth, *Elephas primigenius*, which was also found in the upper Palaeolithic of Castillo, near Puente Viesgo, and various bones of which have been discovered in other sites such as:

- I. Cueto de la Mina, near Posada (Asturias), in the Solutrean level.
- 2. In the Quaternary clay, which contains no human industry, at Udías and Pámanes, near Santander.

Woolly Rhinoceros, *Rhinoceros tichorinus*, found in the Quaternary clay of Unquera (Santander).

Marmot, Arctomys marmotta. Under the Micoquian at Castillo; and under the Solutrean at the Cueva de la Peña, near San Román de Candamo (Asturias).

This cold fauna, due to infiltrations from the south-west of France, is amply confirmed by glacial geology: centres of ancient glaciers were noted everywhere in the Cantabrian Cordillera by Professor H. Obermaier.

- To the east of the Picos de Europa, in the Sierra of Isar and, perhaps, in the Peña Labra.
- 2. To the south of the Picos de Europa, in the Peña de Curavacas, the Peña Prieta, Peña Espigüete and Picos de Mampodre.
- 3. To the west of the Picos de Europa, in the Braña Caballo, Peña Ubiña, in the Picos de Ancares.

The chief centre of Quaternary glaciation in the whole of this zone lies in the Picos de Europa, studied in detail by Professor Obermaier in 1914, 1919, 1920. There were glaciers of considerable size in the eastern massif (zone of Andara), in the cen-

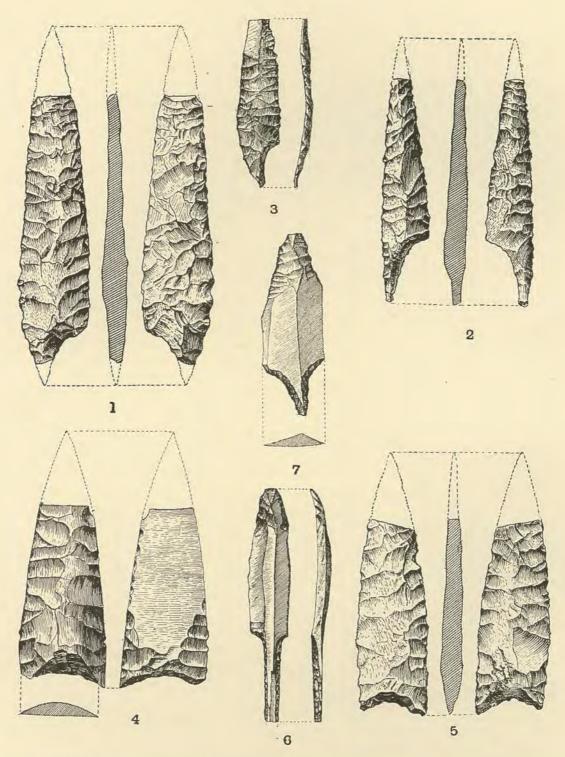


Fig. 166. Solutrean single-shouldered points, tanged points or those with concave base. Actual size.
 Material: 1, 2, 3, 5, 6, various kinds of cretaceous flint; 4, quartzite; 7, chalcedony.

tre (reaching an altitude of 2672 metres), and in the western massif (Picos de Cornión). The result of this study permits the conclusion that, during the last glaciation, the limit of perpetual snow descended to within 1400-1500 metres O. D. On the Cantabrian coast, there was therefore a "south-Scandinavian" climate with cool, relatively short summers, and with fairly long and very snowy winters, but it is exaggerated to talk of it as either polar or arctic.

Suh-arctic molluscan fauna (marine) 88:

Cyprina islandica (Castillo; Cueto de la Mina; Balmori; Peña de San Román de Candamo).

Pecten islandicus (Cueto de la Mina).

4. Industries in the deposits of Altamira from the 1924-25 excavations.

The objects collected during H. Obermaier's excavations belong, as we have said, to two groups; they harmonize pretty well as far as one can see with the results obtained by Alcalde del Río, who considered his own work as a mere beginning of exploration.

We describe them in succession:

A. Solutrean level. a. Stone tools.

The stone tools with Solutrean retouch in flint or fine quartzite are (fig. 167): a laurel-leaf point retouched on both faces: a willow-leaf point with the same trimming on both faces; various long blades with the Solutrean retouch on one face only; various dart heads with Solutrean trimming on both or one face, and with concave base.

Various imperfect single-shouldered points derived from the above tools, but cut asymmetrically and obliquely, one angle forming the shoulder, the other, a rudimentary tang (fig. 166).

Some few typical single-shouldered points like those found in France (fig. 166). It is just the same upper Solutrean as that found at the Cueto de la Mina (Oviedo), by Count de la Vega del Sella; but it is not the same upper Solutrean, no doubt more modern, found by Alcalde del Río farther in the hall; in the latter, there are points with concave base alongside numerous shouldered points, like the French ones, but less carefully made. No intermediate types and no laurel-leaf points were found by him. The flint blades of this level were fine, well proportioned, Magdalenian in type, and very little retouched; the ones made of quartzite were naturally coarser.

⁶⁸ For a study of the distribution of the molluscs in the different levels, which is very instructive for the Cantabrian climatology, see "El Hombre Fosil" by H. Obermaier. 2nd ed. 1925: p. 53, Pecten islandicus; pp. 166 and 176, Cyprina islandica.

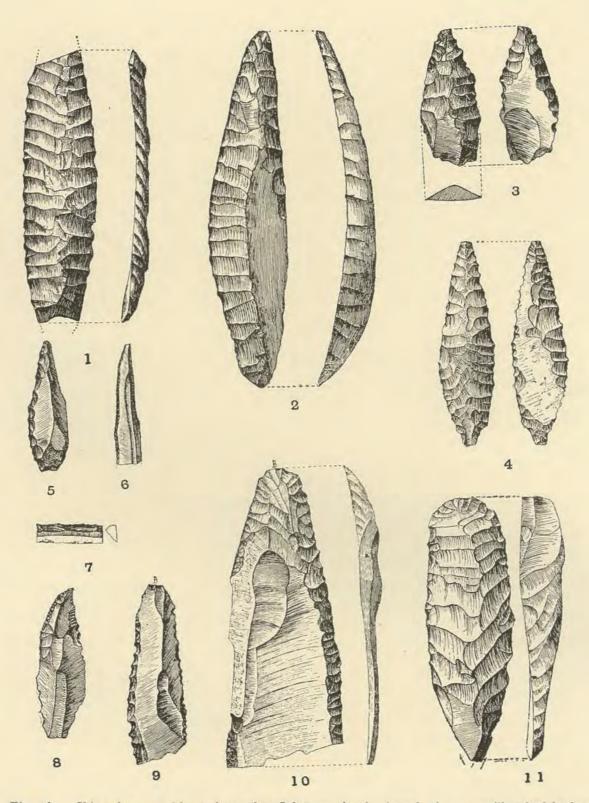


Fig. 167. Chipped stone objects from the Solutrean level. Actual size.—1, willow-leaf broken at both points, of fine quartzite; the broken base is trimmed on the reverse.—2, very curved willow-leaf with a limited trimming on the reverse at both ends.—3, small jasper laurel-leaf, very weathered, with incomplete trimming on the reverse.—4, another of translucent brown cretaceons flint.—5, knife blade with saw-edge and blunted back, whitish chalcedoneous flint.—6, small incomplete blade with finely trimmed back, of ferrugineous jasper.—7, middle part of a blunted back blade of the same flint as 4.—8, small yellowish jasper blade with slender incurved point and saw-edges.—9, blade with saw-edges, one edge more or less blunted, blackish flint.—10, thin wide blade, slightly broken, with very flat trimming, greyish yellow jasper.—11, thick scraper-graver, Solutrean trimming on one face.

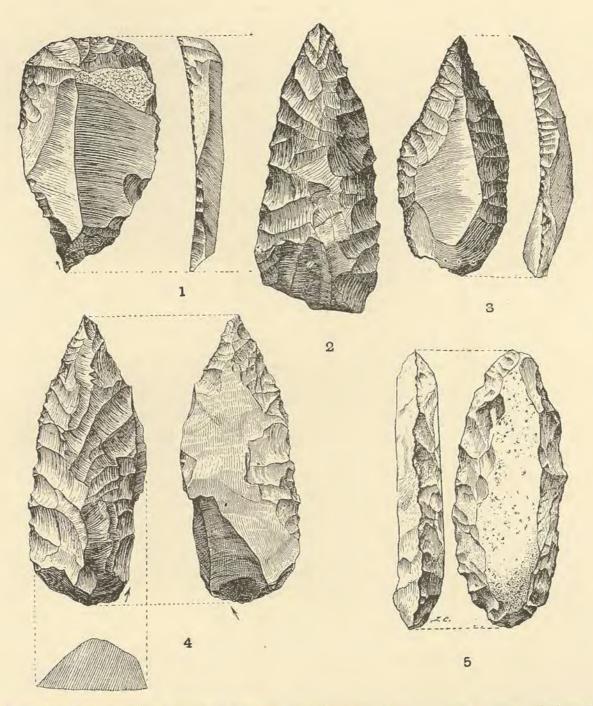


Fig. 168. Various chipped stone tools from the Solutrean level.—I, scraper-graver of flint with greyish-yellow patina.—2, quartzite laurel-leaf, the reverse trimmed on almost all edges with facets which are shorter than those on the other face; the left of the base on the reverse is scored.—3, point with Solutrean trimming on one face, the same flint as No. 1.—4, very thick flint with Solutrean trimming; on the reverse the facets are shorter than on the face and extend along the left edge and the two sides of the point, transformed into a heavy flat-faced graver by the striking off of two small wide blades from the base all along the right hand edge; greyish blue flint.—5, elongated oval implement, trimmed on both faces; a pebble of indurated shale.—I, 2, 3, 4, actual size; 5 reduced to 1/2.

The tools (fig. 168) found here were: end-scrapers on blades, on short wide flakes; round fairly wide scrapers with some slight working on the flat face; ordinary core-scrapers (called *pata de cabra* by the Spaniards); fairly frequent ordinary gravers (fig. 169), with slightly slanting terminal retouch; awls or borers, both strong; all these flints are often burnt and so decomposed that they have turned white and have the fragility of chalk.

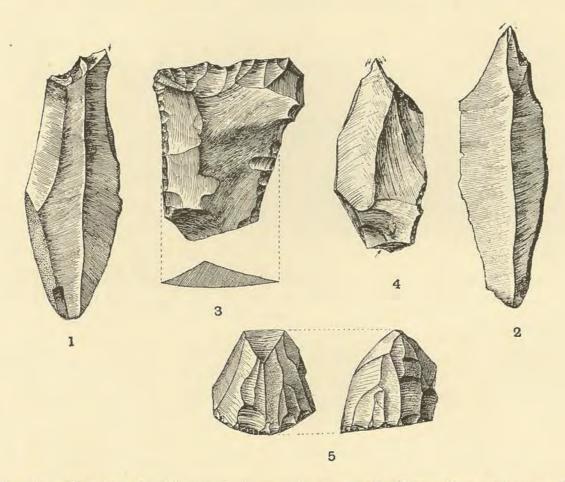


Fig. 169. Flints from the Solutrean level.—I, angle-graver, with oblique and concave transversal trimming, greyish-yellow and bluish flint.—2, ordinary graver of cretaceous black flint.—3, trapeze-shaped flint, with flat trimming on three sides, greyish-white jasper.—4, double graver; the top an ordinary graver, the base a one-sided plane, coarse yellow jasper.—5, carefully made core-scraper of black flint. All actual size.

We must also note the long pebbles of compact schist which have served as hammerstones, flakes and fragments of rock crystal, and tools very roughly made in quartzite. Fragments of peroxyde of iron and limonite, balls of ochreous clay, red or yellow ochre pencils in different shades, wood-charcoal and greyish-white marl giving all the materials used for manufacturing the paints. In the cups of some of the limpet shells, there were traces of red and yellow, or greyish-white paste, shewing that they were used as saucers for paint. No doubt these pigments were mixed with fat, and colours of this sort must

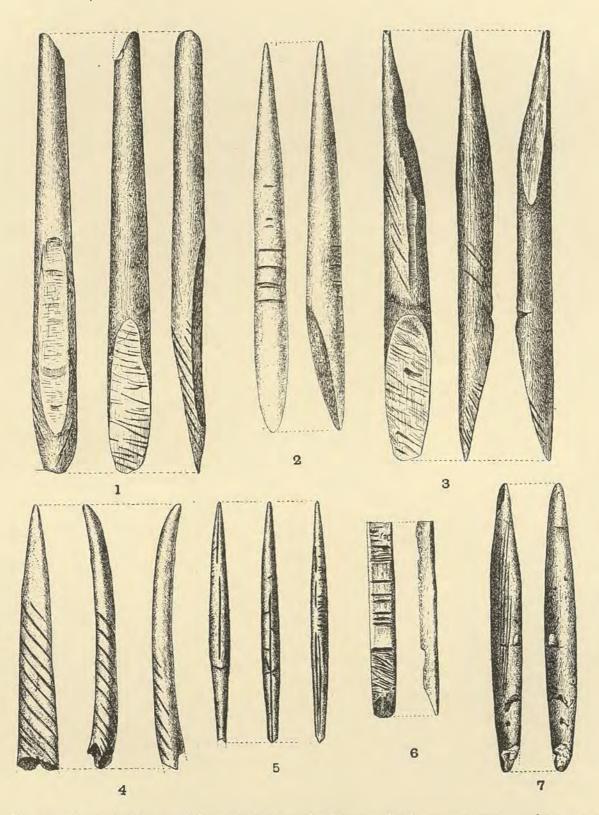


Fig. 170. Bone, deerhorn and ivory tools from the Solutrean level.—1, 2, 7, ivory.—3, bone.—4, 5, 6, stagshorn.—1 and 3, javelins with single bevel.—5, 7, spindle-shaped.—6, fragment with rectangular section. Actual size.

certainly have been hot when used, like the encaustics of the Middle Ages. Other cups were contrived in the hollows of bones; these we mention later. In spite of their animal or vegetable origin, we class here, below the minerals, some other objects, either employed in or brought to the cave, small rods of fossil *Cidaris*, a sort of sea hedgehog from the local limestone, three fossil teeth of a Shark and a good many fairly big pieces of succinite, a kind of amber, coming very probably from the Tertiary lignites of Estrada, near San Vicente de la Barquera, 35-40 kilometres west of Altamira.

Solutrean level. b. Bone tools.

The different types of Solutrean stagshorn javelins are the following (fig. 170):

- 1), with a single bevel.
- 2), with a pointed or a blunt base.

We must also mention a small short chisel made of a Stag's tine with a sharpened end; other utilized bones, little cups arranged in the articulation hollows of the scapula of Horses, iliac bones of Stags, or in the distal end of the medullary canal of a Horse's tibia.



Fig. 171. Ivory perforated pendants, ornamented with cuts; slightly reduced. Solutrean level.

There were pierced teeth, Horse, Bison and Bear incisors, Stag, Lynx or Fox canines. Some small non-edible shells were brought there as ornaments, but they were not pierced.

The most remarkable ornaments were four pieces of a necklace found together (fig. 171), small almost rectangular plaques of ivory, pierced for suspension, of which we give the exact measurements.

First piece: 44 millimetres long,

15 » wide

2 » thick

Upper face, all the edge is decorated with small marginal cuts.

Lower face, decorative cuts only along the right side.

2nd piece: 40 millimetres long.

15 » wide

2 » thick.

Upper face, as in the first piece. Lower face smooth, and without cuts. 3rd piece: 43 millimetres long.

16 » wide.

2 » thick.

Upper face, like first piece.

Lower face, irregular cuts, only on the surface.

4th piece: 45 millimetres long.

16 » wide.

2 » thick.

Upper face, as the first piece.

Lower face, smooth and without cuts.

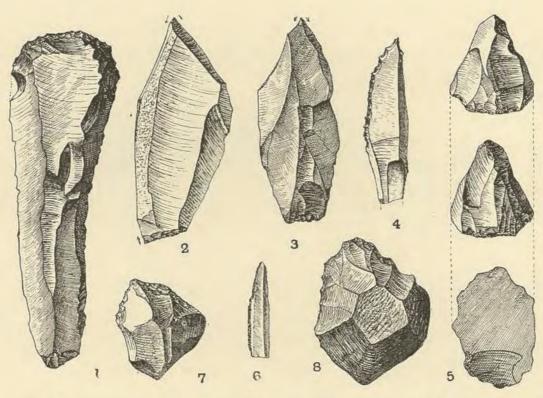


Fig. 172. Magdalenian flint implements (Only some types illustrated).—1, end-scraper.—2, 3, ordinary gravers.—4, blunted back knife blade.—6, blunted back pigmy blade.—5, 7, 8, core-scrapers. Actual size.

B. Magdalenian layer. a. Stone tools.

Besides the cores and untrimmed blades, we must mention the following types (fig. 172): 1), discoidal cores; 2), sharpened blades, retouched at the end to a symmetrical point, or curved right or left; 3), very small fine blades, one with a blunt back and sharpened end; 4), very few angle gravers, the slanting end retouched; 5), a good many ordinary gravers, generally incurved to right or left; 6), little blades struck off in the

course of the manufacture of gravers; 7), a few end-scrapers on blades; 8), various corescrapers almost round, often multiple, that is to say with various scrapers arranged at different places and on varied faces of the object.

Different kinds of quartzite were the raw material of less typical coarse tools (fig. 173). The more interesting are: 1), thick round scrapers on flakes or pebbles; 2), a big wide

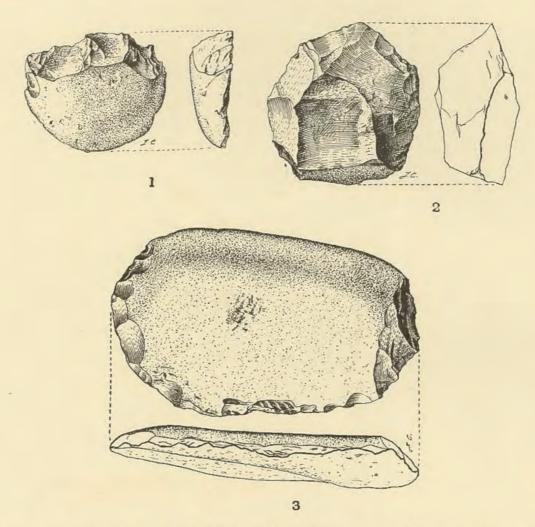


Fig. 173. Quartzite tools from the Magdalenian level. Scale 1/2.—1, side-scraper.—2, polygonal disc chipped on both faces.—3, flat pebble with crushed edges and pitting in the centre of the face.

quartzite flake, the two ends retouched into semi-circular scrapers; 3), flakes of more or less Mousterian type with retouches along the edges; 4), a polyhedric sandstone ball.

There are also: a) flakes and fragments of rock crystal, and a pretty very pure quartz crystal; b), pieces of galena, one fairly big; c) oblong or flat pebbles of hard schist, having been used as hammer-stones and shewing various transversal scratches; d), pebbles with flat or pecked out surface; e) one oval pebble with traces of red paint on the two ends;

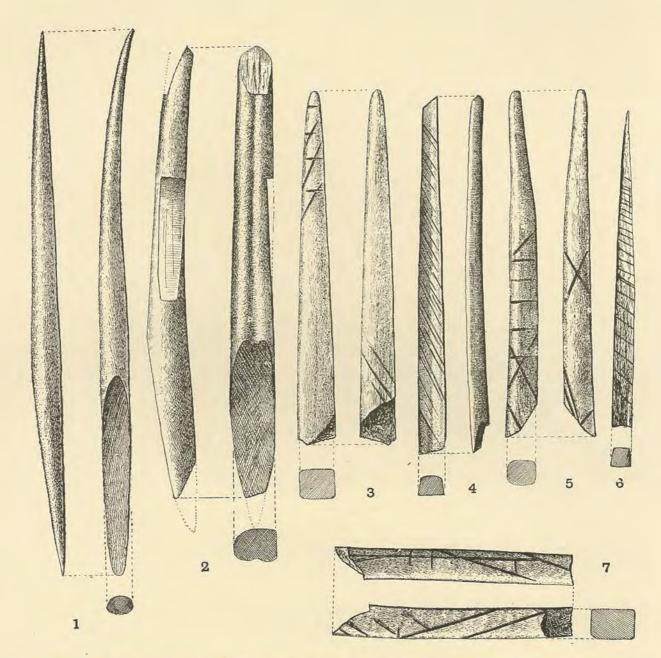


Fig. 174. Magdalenian bone, horn and ivory implements. Actual size.—1, bone.—2, ivory; both single-bevel javelins.—3, 4, 5, 6, fragments of javelins with rectangular section.—7, another kind of section.—3, is bone and the others, stagshorn.

f) a big painted pebble with many traces of red, certainly the remains of a figure painted on it, now undecipherable; there are remains of real lines.

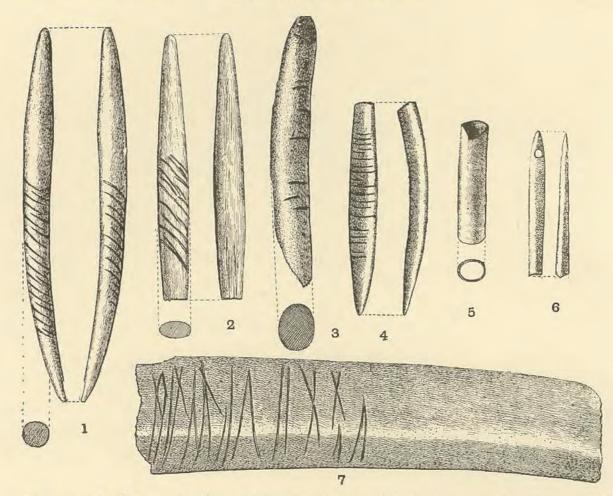


Fig. 175. Magdalenian stagshorn and bone implements. Actual size.—1, 4, javelins incurved or straight with round or elliptical section.—5, bird bone bead.—6, eyed needle.—7, rib decorated with engraved transversal lines.

Magdalenian layer. b. Bone tools.

- I. Stagshorn. Besides the ordinary splinters caused by the paring down of antlers with a graver, there are:
- 1. Stagshorn times, cut through and the end either sharpened to a point or bevelled, with numerous bruises shewing intense use; a pointed one is very big; another has a rather vague engraving of a foreshortened head (fig. 176).
 - 2. A Stag's tine transformed into a very incomplete pierced baton.
 - 3. Various rods, javelins or chisels, round or square in section, viz:
 - a) straight cylindrical javelins with a pointed base.

- b) a cylindrical javelin with a pointed base, decorated with very simple geometrical patterns and slanting cuts, turning round the shaft.
- c) numerous straight or curved javelins with cylindrical shafts (there are only fragments) with pointed base and, towards the middle, cuts to hold it in place; this pointed base formed a barb as in the paintings at Alpera.
- d) thin cylindrical javelins with pointed base, sometimes with the underside covered with slanting cuts.
- e) thick long conical javelins with a plain bevel, flat at the base, covered with fine cuts (one is of ivory).

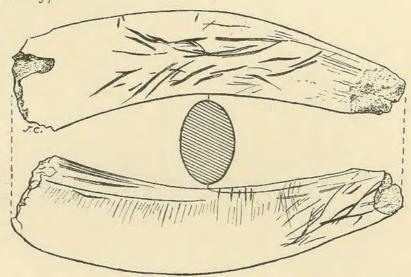


Fig. 176. Very weathered stag's tine shewing traces of hardly decipherable engravings; in the centre and above, perhaps a fore-shortened horned head; below, to the right, a very doubtful animal head in profile. Scale 2/3.

- f) thin javelins with square shafts, the flat spongy face covered with slashes. On the sides, geometrical ornaments are deeply cut and regularly spaced as in a yard measure. Between these cuts are slanting lines (fig. 174).
- II. Other objects in bone: a) a piece of a Horse's rib (?) decorated with cross-cuts in clusters (fig. 175).
 - b) various fragments of needles, only one complete with its eye.
 - c) a tubular bead of sectioned bird bone.
- d) pierced teeth, several canine teeth of Stag, a Bison incisor pierced from front to back (started from the front).

Amongst other things which may have been used as ornaments, we note small non-edible pierced shells. In the Solutrean, there were the same small rods of *Cidaris* and coloured others.

The Magdalenian of Altamira corresponds exactly with the lower Magdalenian of Castillo, of Cueto de la Mina (level D), and of the cave of Balmori.

It is therefore earlier than the Magdalenian levels C and B of Cueto de la Mina, which is of more advanced style, namely the last stage of harpoons with a single row of barbs. We know that this last level, advanced Magdalenian V, is also found at Valle, Pendo, Castillo, etc., and that it even exists in rather later levels, Magdalenian VI, at Pendo and Valle, with harpoons having two rows of barbs 69.

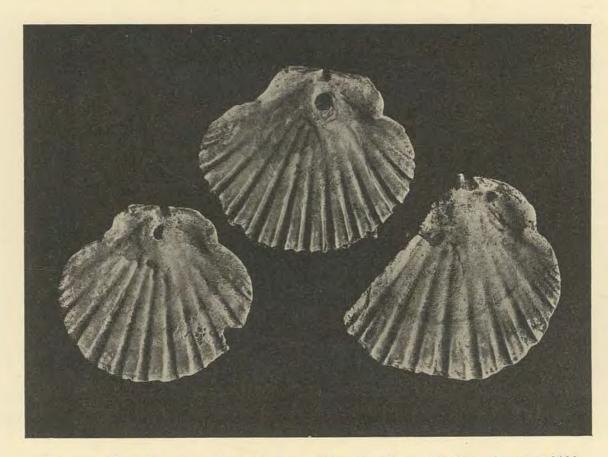


Fig. 177. Three flat valves of the big Pecten shell, pierced near the hinge; they were hidden under limestone blocks covered with stalagmite in a transversal subterranean fissure in the gallery between Halls IV and V, facing No. 26 on the plan. Scale 1/2.

These later Magdalenian levels with harpoons do not exist at Altamira, although the polychrome paintings force us to admit that the Men of these times slipped into the cave for secret ceremonies, using it as a real Sanctuary.

69 Count de la Vega del Sella: Paleolítico de Cueto de la Mina (Asturias). Las Cuevas de la Riera y Balmori (Asturias). "Comisión de Investigaciones Paleontológicas y Prehistóricas", Mem. 13 and 38. Madrid, 1916, 1930. H. Obermaier: Oeuvres d'art du Magdalénien final de la Grotte du "Pendo", près Santander (Espagne). Préhistoire. Paris, 1932 (pp. 9-18).

5. Gallery V. Subterranean cleft in the rock.

In 1926, when Dr. H. Obermaier was arranging a path in Gallery IV-V (see fig. 1 on plan, across No. 27), he had to remove a high and fairly projecting stalagmitic mass, obstructing the passage. Under this stalagmitic formation, he came upon big limestone blocks, fallen in earlier times from the roof and between which was an extremely low very narrow passage which he was able to follow for a length of ten metres. It was filled with

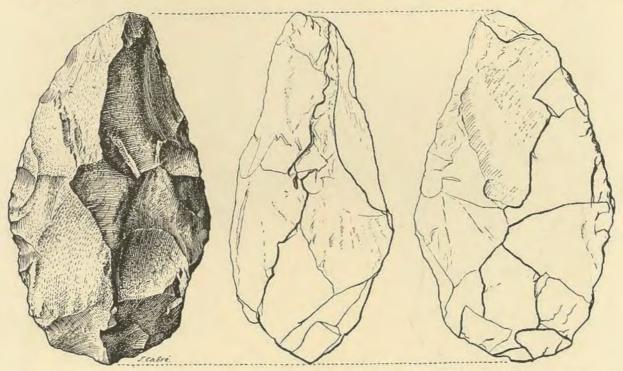


Fig. 178. Heavy quartzite hand-axe worked on both faces, archaic Abbevillian (ex-Chellean) style, from the loam of the slopes near the cave. Scale 1/2.

yellow clay in which he found the following objects, collected together and at a depth of 20 cms.:

Three poor flint blades.

One quartz flake.

One rock crystal flake.

Several Patellas (limpets), the big Quaternary type.

A flat pebble with remains of black and red colouring matter and engraved lines.

Three flat valves of *Pecten Jacobaeus*, perforated at the top hinge for suspension, perhaps part of a necklace or amulets (?) (fig. 177).

A lower jaw-bone of Canis vulpes.

Remains of rodents.

It was impossible for a Man to live in this hole, the objects must therefore have been hidden or placed there intentionally in Quaternary times.

6. Lower Palaeolithic remains in the vicinity of the cave.

Primitive Man had already visited the neighbourhood in Palaeolithic times, as is seen by a considerable quantity of stone tools found during recent years in the Quaternary clay which covers a great part of the surface of the rock round the cave. The tools were made

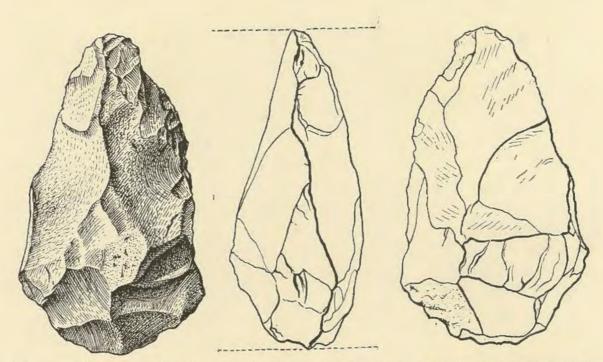


Fig. 179. Massive pear-shaped quartzite hand-axe, worked on both faces; the same technique as the preceding tool. Scale 2/3.

principally of hard quartzite, and include hand-axes of various types, some big and worked only on the upper face, with rounded base and a cutting transverse edge, corresponding to the stone artefacts of the *Mousterian* and *older levels*. Similar tools were found in great quantity in the not very distant cave of Castillo, near Puente Viesgo, in the valley of the Pas, associated with remains of *Elephas antiquus* and *Rhinoceros Merckii*, shewing that, in those times, the north of Spain had a warm "African" climate, typical of the last interglacial phase.

A rapid examination of the material available reveals the fact that it does not all belong to the same age. Both the morphology and the patina of the tools belong to different

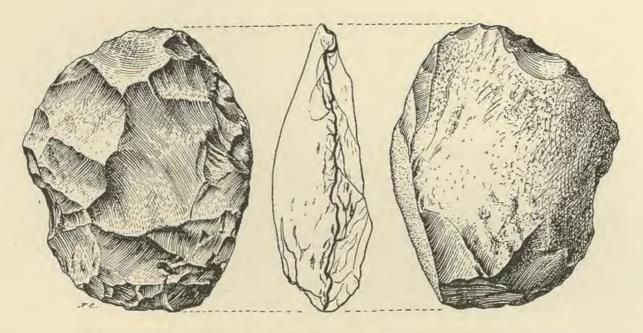


Fig. 180. Massive quartzite flake of Levallois type; long flat trimming along the upper face. On the reverse, the bulb has been struck off by chipping; the opposite cutting edge has been scored. Such tools abound in the upper Mousterian levels of Castillo. Scale 2/3.

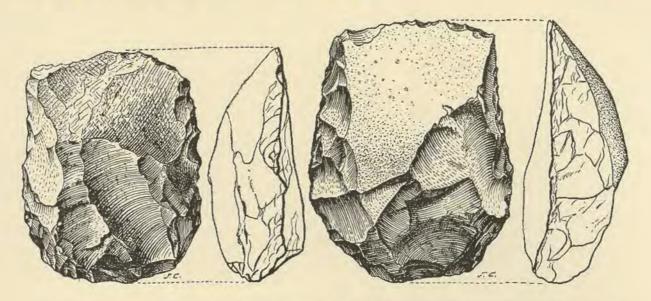


Fig. 181. Two massive quartzite Levallois flakes, transformed into small cleavers by secondary blunting of the side edges, leaving the cutting edge untouched; similar to those in the upper Mousterian levels of Castillo and Cueva Morín (Santander). Scale 3/5.

stages. The oldest tools are very dark brown and, by their coarseness (chopped on an anvil), are like the old Chellean or, rather, Abbevillian bi-faced ones (figs. 178, 179); others, lighter in colour, and flaked with hard wood, seem to be Acheulean; yet others, considerably less weathered (figs. 180, 181, 182), seem in every way to resemble those in the Mousterian level of Castillo, Cueva Morín and the Cueva de Gudón. This is not the most typical Mousterian of this region, for, as we know, it includes with the typical small

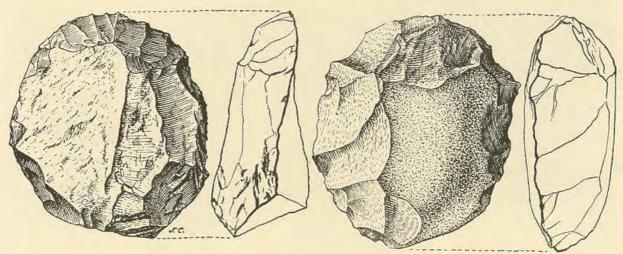


Fig. 182. Two massive quartzite flakes re-cut into thick disc-shaped scrapers. Scale 2/3. At Castillo such tools accompany types such as figs. 180, 181.

size Mousterian set of tools, a great many bigger quartzite ones, the most remarkable of which are the axes with wide cutting edge, made on Levallois flakes. It is very probable that sites of these different ages exist, either at Altamira itself, under the fallen rocks which could not be moved, or in one or other of the sealed caves, whose existence it is easy to divine beneath the covering of clay and grass near Altamira, especially near the little track leading to the small village of San Esteban.

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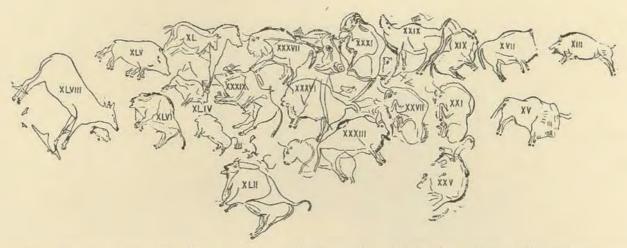


Fig. 183. Ensemble of the big polychrome animals on the painted ceiling of the "Hall of Frescoes" (Gallery I). Numbers correspond to the Plates.

Plate I. 1) Hill of Altamira. The entrance to the cave is near the Museum building.

2) General view of the cave entrance, the Museum, the monument to Sautuola and the sunk alley before the entry, the site of part of the original vestibule which collapsed. (Photographs by Miss C. Mowbray.)

Plate II. 1) Entrance of the cave of Altamira, dominated by the obelisk to Sautuola.

2) Altamira Museum, serving also to house the guardian-guide.

Plate III. View of the hall containing the large paintings and the painted roof with the big polychromes, looking towards the back of the hall.

Plate IV. View of the painted ceiling with the big polychromes, looking towards the entrance, with the supporting wall.

Plate Va. Galloping Horse drawn in wide red lines (C. C. pl. XCIX).

b. Panel on the ceiling at the back of the hall, with numerous club-shaped signs.

Plate VI. Panel painted with many club-shaped signs, etc., in the middle and towards the end of the big ceiling.

70 The numbers of the old plates previously published are noted in the new index following their modern enumerations. C. A. = Caverne d'Altamira. C. C. = Cavernes Cantabriques.

Plate VII. Panel painted with club-shaped signs and other old red pictures covered by black drawings, on the right of the ceiling in the hall of the big paintings.

Plate VIII. Red Elk (C. A. fig. 56).

Plate IX. Red Horses in flat wash, surcharged by stencilled and positive hands, engravings and black drawings (C. C. pl. XCVIII).

Plate X a. Horse in plain red, surcharged with engravings and unfinished polychrome (C. A. pl. IX).

b. Red animal surcharged with a black shaded Bison and an unfinished polychrome (C. A. pl. VIII).

Plate XI. Galloping Bison surcharging a Horse in plain red (C. A. pl. X).

Plate XII a. Polychrome Bison. b. Polychrome Bison.

Plate XIII. Galloping wild Boar (C. A. pl. XV).

Plate XIV. Photograph of the above.

Plate XV. Stationary Bison. (C. A. pl. XXII).

Plate XVI. Photograph of the above.

Plate XVII. Headless polychrome Bison (C. A. pl XXIV).

Plate XVIII. Photograph of the above.

Plate XIX. Stationary polychrome Bison. (C. A. pl. XXIII).

Plate XX. Photograph of the above.

Plate XXI. Curled round Bison (C. A. pl. XXVII).

Plate XXII. Photograph of the above.

Plates XXIII, XXIV. Group of three bosses of Bisons curled round (pls. XXI, XXV, XXVII).

Plate XXV. Curled round Bison (C. A. pl. XXVIII).

Plate XXVI. Photograph of the above.

Plate XXVII. Female Bison curled round (C. A. pl. XXVI).

Plate XXVIII. Photograph of the above.

Plate XXIX. Galloping and bellowing Bisons (C. A. pl. XVI).

Plate XXX. Photograph of the above.

Plate XXXI. Bison couchant, turning its head (C. A. pl. XXV).

Plate XXXII. Photograph of the above.

Plate XXXIII. Female Bison and head of black Bull (C. A. pl. XIX).

Plate XXXIV. Photograph of the above female Bison.

Plate XXXV. Photograph of the hind-quarters of the female Bison, head of the black Bull and various parts of neighbouring figures.

Plate XXXVI. Polychrome Bison and Wolf hidden in the centre of it (C. A. pl. XXI).

Plate XXXVII. Bison and wild Boar (C. A. pl. XVII).

Plate XXXVIII. Photograph of the above and parts of adjoining figures.

Plate XXXIX. Bison and other animals interlaced (C. A. pl. XII).

Plate XL. Horse and Hind (C. A. pl. XI).

Plate XLI. Photograph of the above.

Plate XLII. Big polychrome Bison, walking (C. A. pl. XVIII).

Plate XLIII. Photograph of the above.

Plate XLIV. Small black shaded Bisons (C. A. pl. VII).

Plate XLIV bis a. Photograph of the black Bison on the right of Plate XLIV.

b. Fore-quarters of the big Hind of Plate XLVIII.

c. Fore-quarters of the female Bison of Plate XXXIII.

Plate XLV. Walking Wild Boar (C. A. pl. XIV).

Plate XLVI. Stationary Bison bellowing (C. A. pl. XX).

Plate XLVII. Photograph of the above.

Plate XLVIII. Big Hind. (C. A. pl. XIII).

Plate XLIX. Photograph of the above.

Plate L. 1) Bison's head full face, in the end corridor. 2) Hind's head painted in black. 3) Bison drawn in black.

Plate LI. Black tectiform signs in the end corridor.

Plate LII. Second cave, stalactites and skeleton.

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Fig. 153. Bone and stagshorn instruments. Scale 1/4. Solutrean level.—I and 4 from the extreme base of the layer No. 2.—6, 7, 8, certainly Magdalenian level, most of the others probably from the same.—Material: 1, 2, 3, 6, 7, 8, 10, 11, stagshorn; 4, bone; 5, 9, bird bone. Collected by Alcalde del Río.

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Fig. 156. Bone needles (5, 6, 7). Actual size. Magdalenian level. Collected by Alcalde del Río.

Fig. 157. Various objects. Magdalenian level.—2, 4, enlarged 1/4.—3, actual size; 1, 5, 3/4.—1, 2, ornamented with cuts on the sides.—Material: 3, 4, 5, stagshorn.—3, a sort of awl polisher, slightly curved;—5, section rather flat. Collected by Alcalde del Río.

Fig. 158. Various stagshorn implements decorated with incisions or conventionalized figures.—1, 7, 8, scale 3/4, others actual size. Magdalenian level.—5, given to Toulouse Museum by M. de Sautuola. Others collected by Alcalde del Río.

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Fig. 160. Shoulder-blade with the head of a Hind and an incomplete Bison. Solutrean level. Collected by Alcalde del Río.

Fig. 161. Bone piercers and polisher, bird bone tubes, flint blades, collected in the big corridor by H. Alcalde del Río.

Fig. 162. Detailed plan of Altamira vestibule at the time of the excavations of 1924-25.—P, the entrance; Y, palaeolithic deposits visible. Exc. = Excavations of 1924-25.

Fig. 163. Section of the cave vestibule, present state.—P, entrance.—E, door into painted hall (I on the general plan).—Y, palaeolithic deposit covered by rocks fallen in Quaternary times from the old roof.—M, big supporting dry stone wall erected in 1925.

Fig. 164. Section of the archaeological levels of the vestibule, drawn during the 1924-25 excavations and shewing five successive collapses of the old roof; the most recent, I and 2, rest on a thick stalagmitic layer C, under which are the Magdalenian hearths M, and the third collapse of the Magdalenian epoch 3. The Solutrean hearths S, and the contemporary fall of rock 4, are lower and rest on a still older collapse 5; any thought of piercing this layer had to be given up.

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Fig. 166. Solutrean single-shouldered points, tanged points or those with concave base. Actual size.—Material: 1, 2, 3, 5, 6, various kinds of cretaceous flint; 4, quartzite; 7, chalcedony.

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Fig. 168. Various chipped stone tools from the Solutrean level.—I, scraper-graver of flint with greyish-yellow patina.—2, quartzite laurel-leaf, the reverse trimmed on almost all edges with facets which are shorter than those on the other face; the left of the base on the reverse is scored.—3, point with Solutrean trimming on one face, the same

flint as No. 1.—4, very thick flint with Solutrean trimming; on the reverse the facets are shorter than on the face and extend along the left edge and the two sides of the point, transformed into a heavy flat-faced graver by the striking off of two small wide blades from the base all along the right hand edge, greyish blue flint.—5, elongated oval implement, trimmed on both faces; a pebble of indurated shale.—1, 2, 3, 4, actual size; 5 reduced to 1/2.

Fig. 169. Flints from the Solutrean level.—I, angle-graver, with oblique and concave transversal trimming, greyish-yellow and bluish flint.—2, ordinary graver of cretaceous black flint.—3, trapeze-shaped flint, with flat trimming on three sides, greyish-white jasper.—4, double graver, the top an ordinary graver, the base a one-sided plane; coarse yellow jasper.—5, carefully made core-scraper of black flint. All actual size.

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General view of evolution of art on cave walls.—Hands.—Figures.—Engravings.—Two colour studies.—Twisted perspective.—Tectiforms and signs.—Black drawings.—Polychromes.—Small red line drawings.—Spots and clubs-barbed bands.—Evolution of engraving.—"Maccaroni".—On clay and rock.—Bas-reliefs.—Sculpture in the round.—On stalagmite.—On walls.—Clay statues.—Cameo engravings.—On stone blocks in rock shelters.

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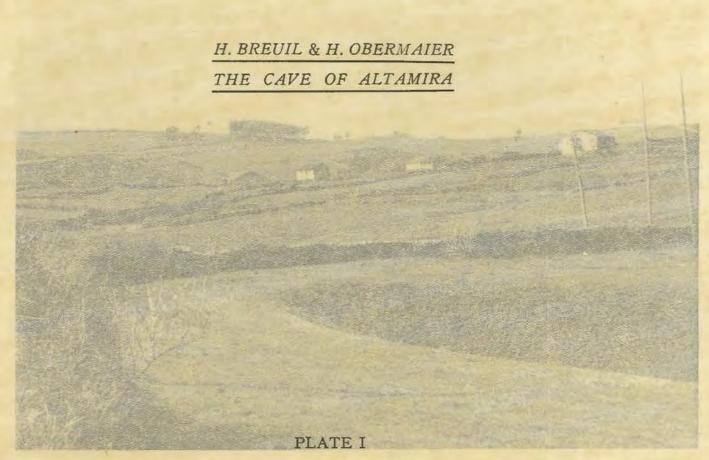
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1) Hill of Altamira. The entrance to the cave is near the Museum building.

2) General view of the cave entrance, the Museum, the monument to Sautuola and the sunken avenue leading to the entrance and occupying the site of part of the original vestibule which collapsed.

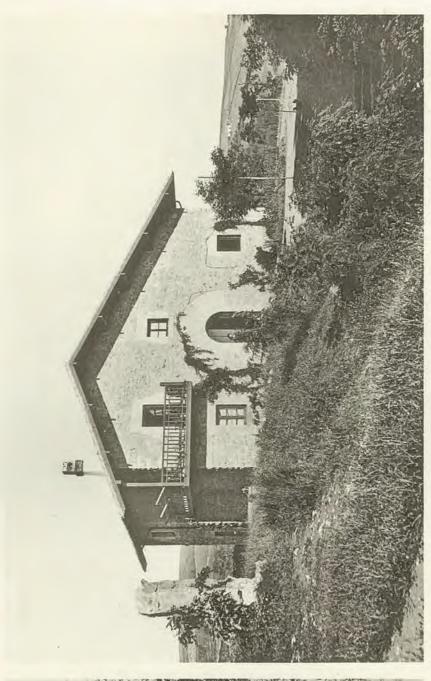
(Photographs by Miss C. Mowbray.)



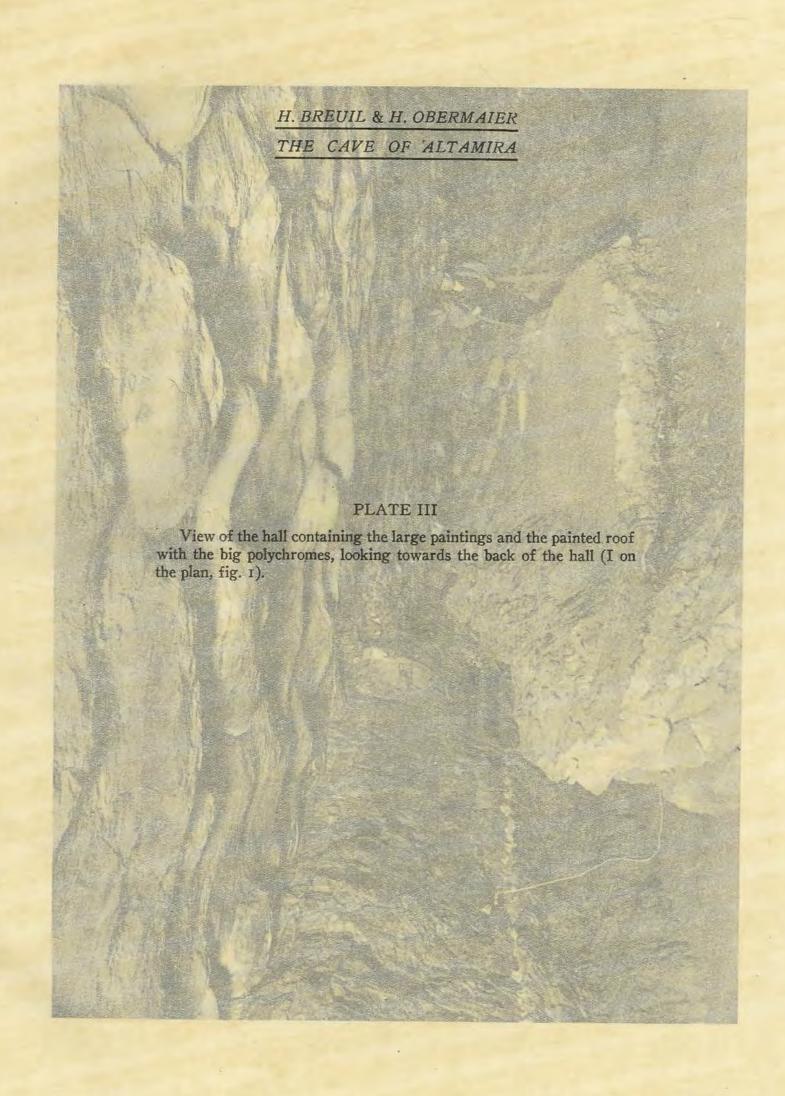


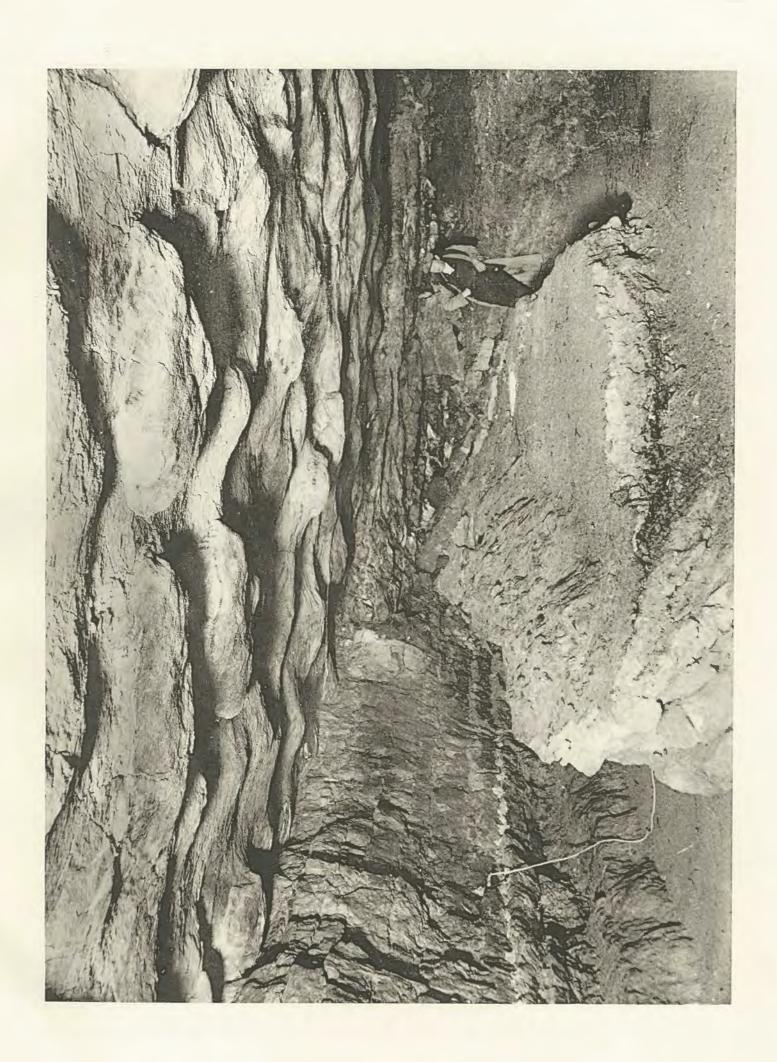


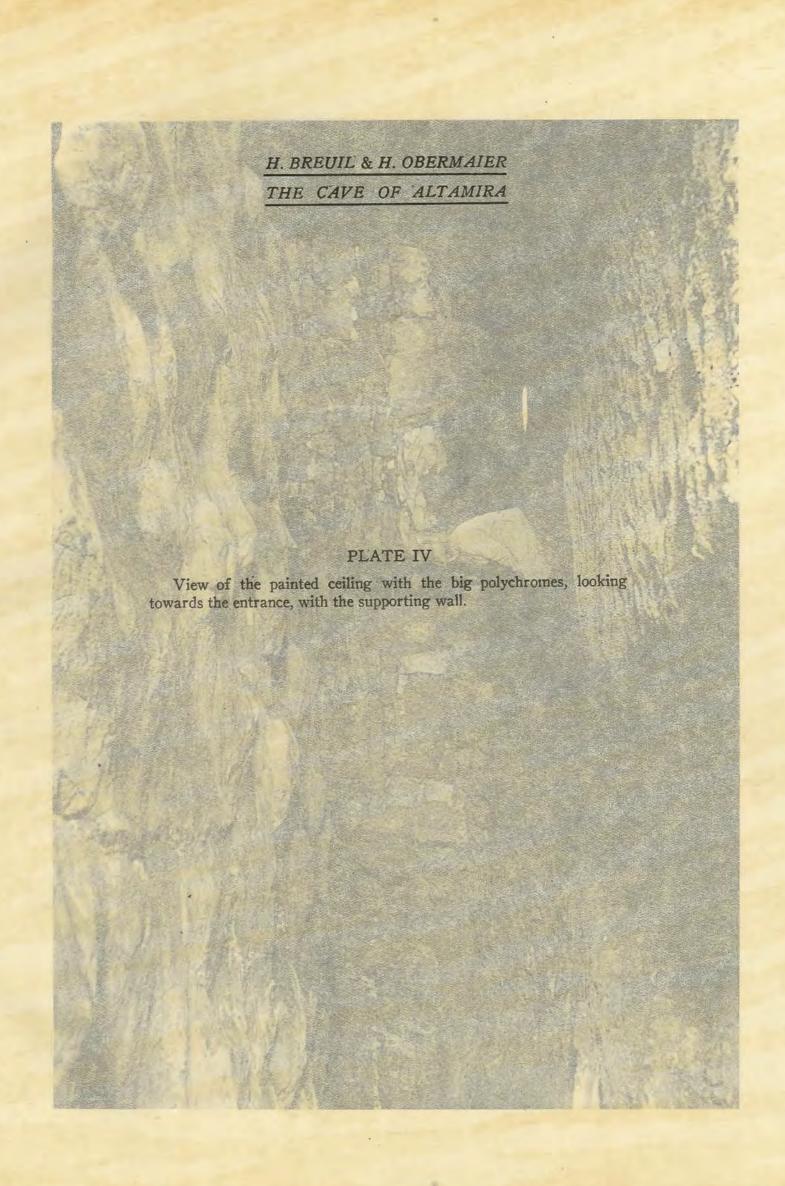
- 1) Entrance of the cave of Altamira, dominated by the obelisk to Sautuola.
 - 2) Altamira Museum, serving also to house the guardian-guide. (Photographs by H. Obermaier.)

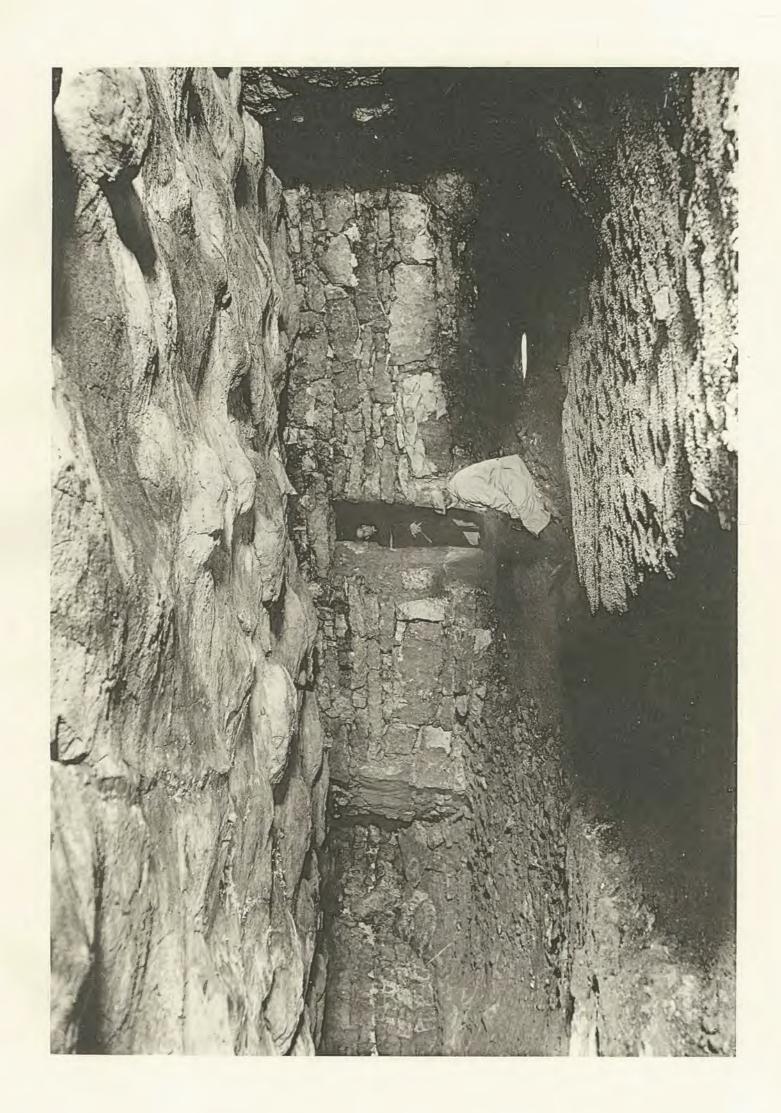












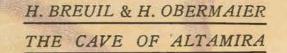


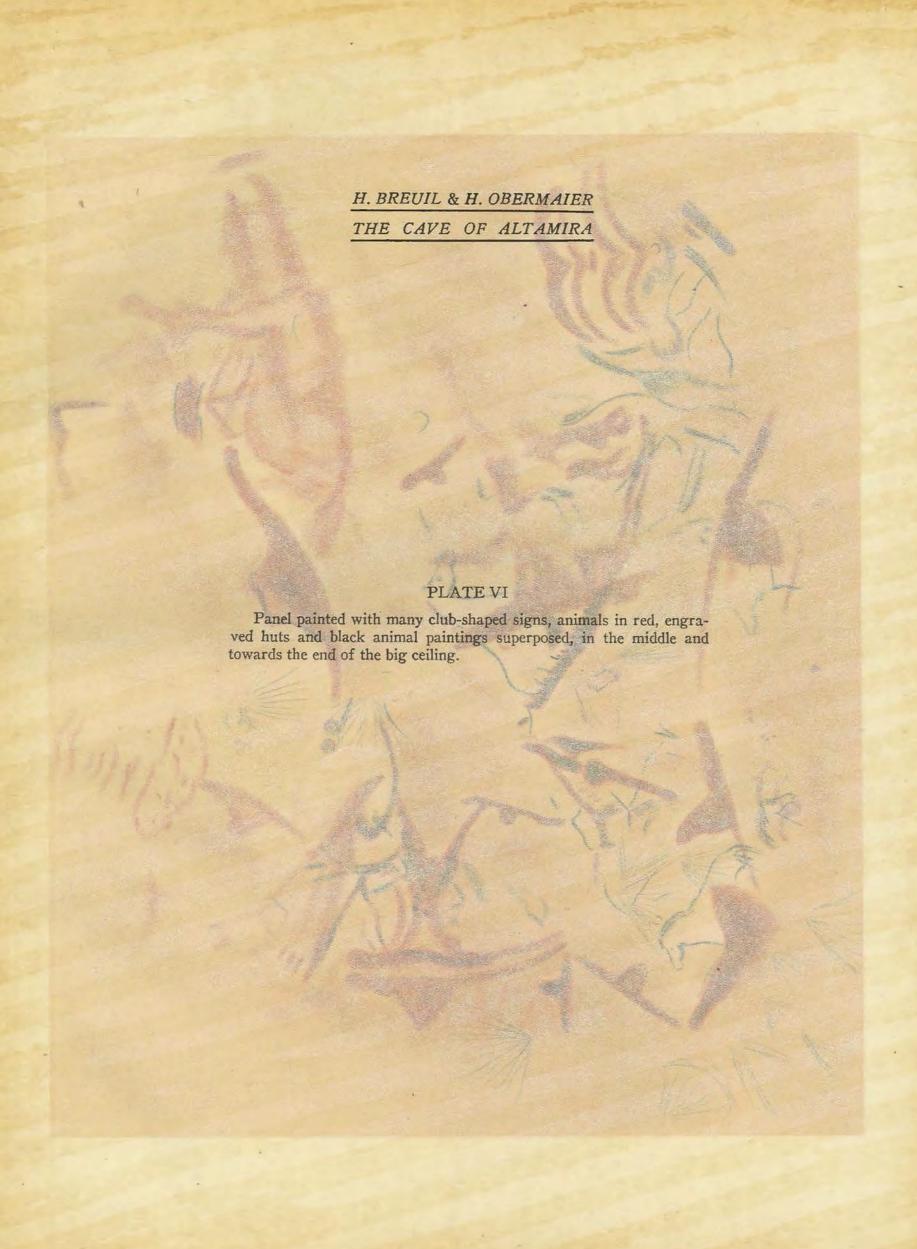
PLATE V

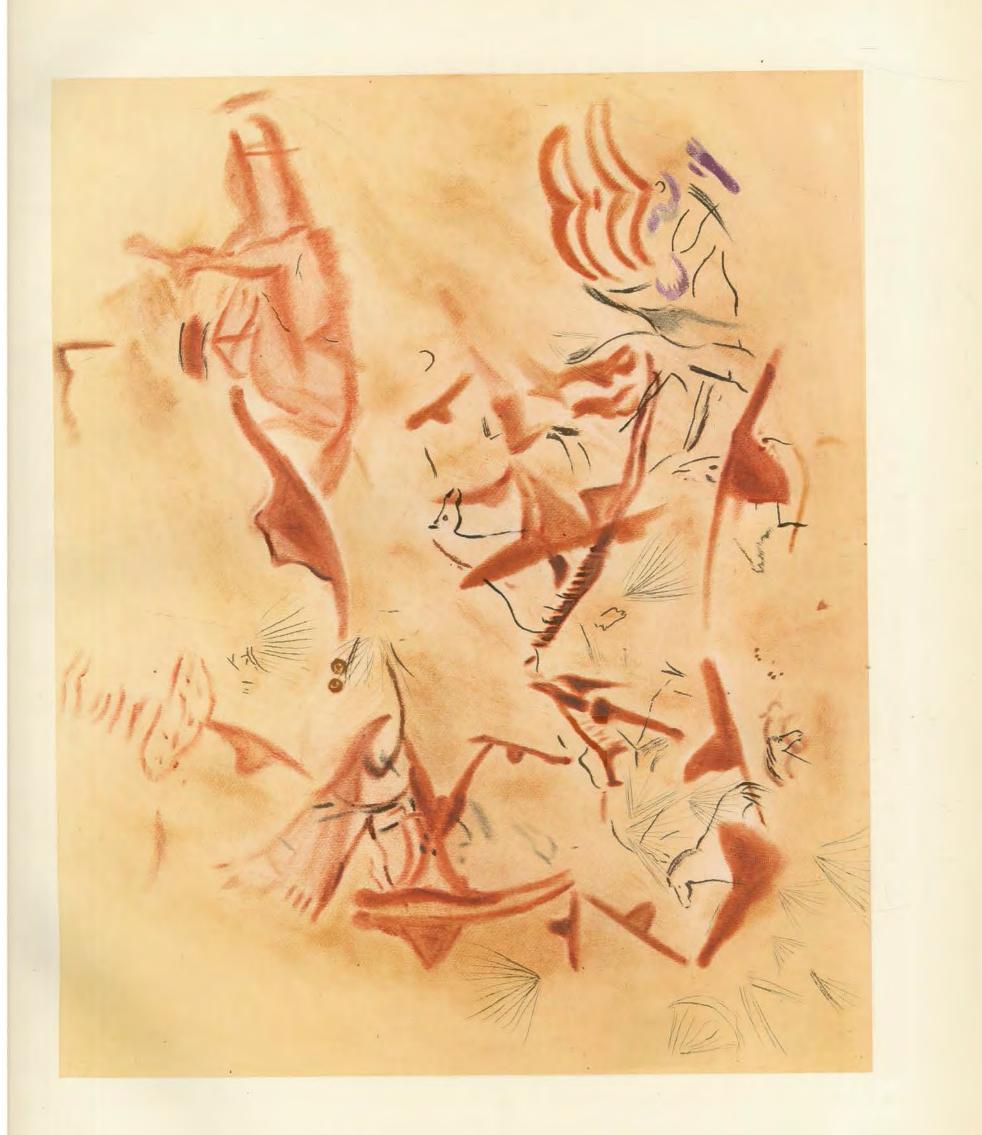
a. Galloping Horse drawn in wide red lines.
b. Panel on the ceiling at the back of the hall, with numerous clubshaped signs, primitive paintings of animals in red and engravings of huts.

(Text, pages 21 and 23.)









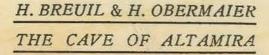
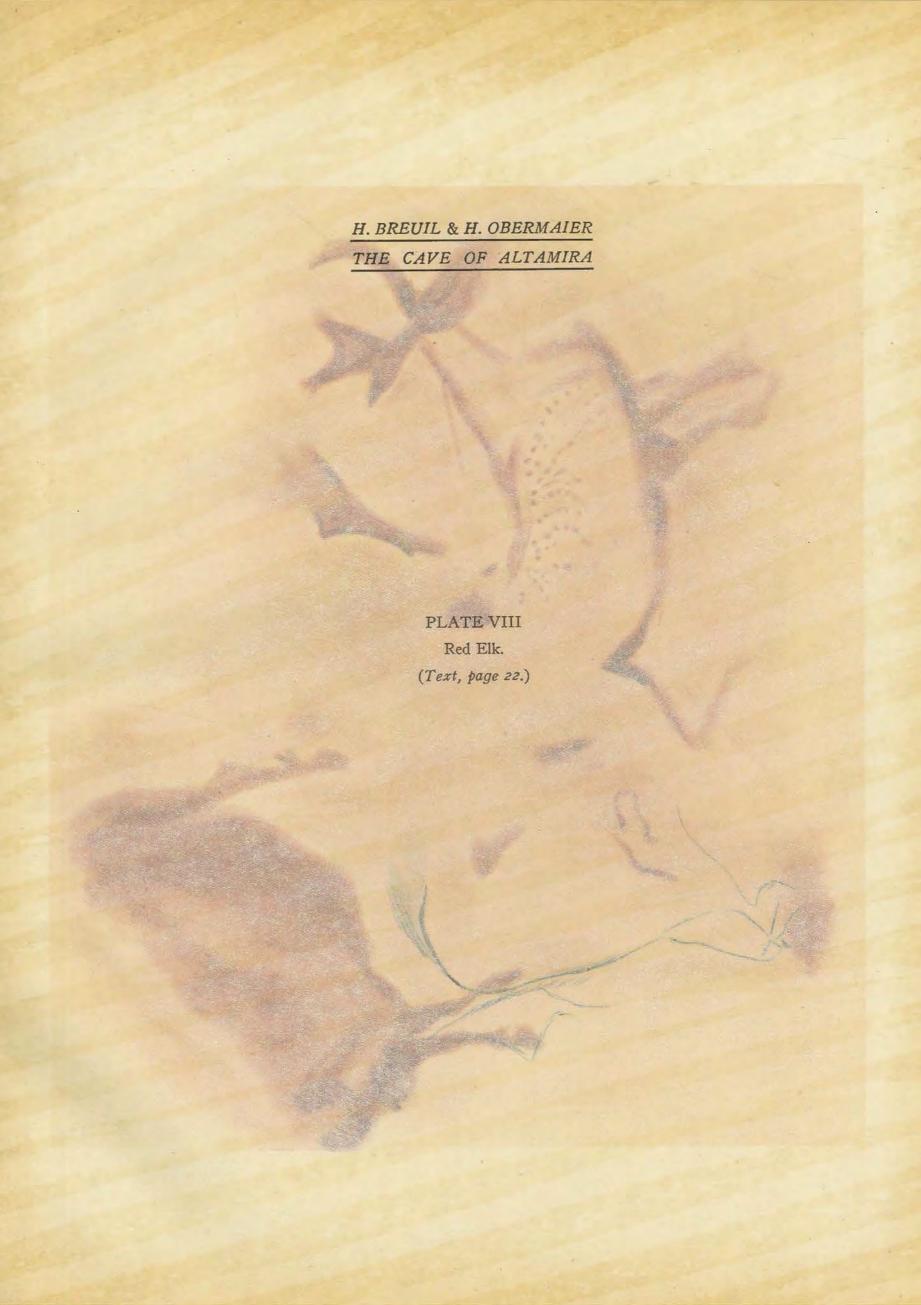


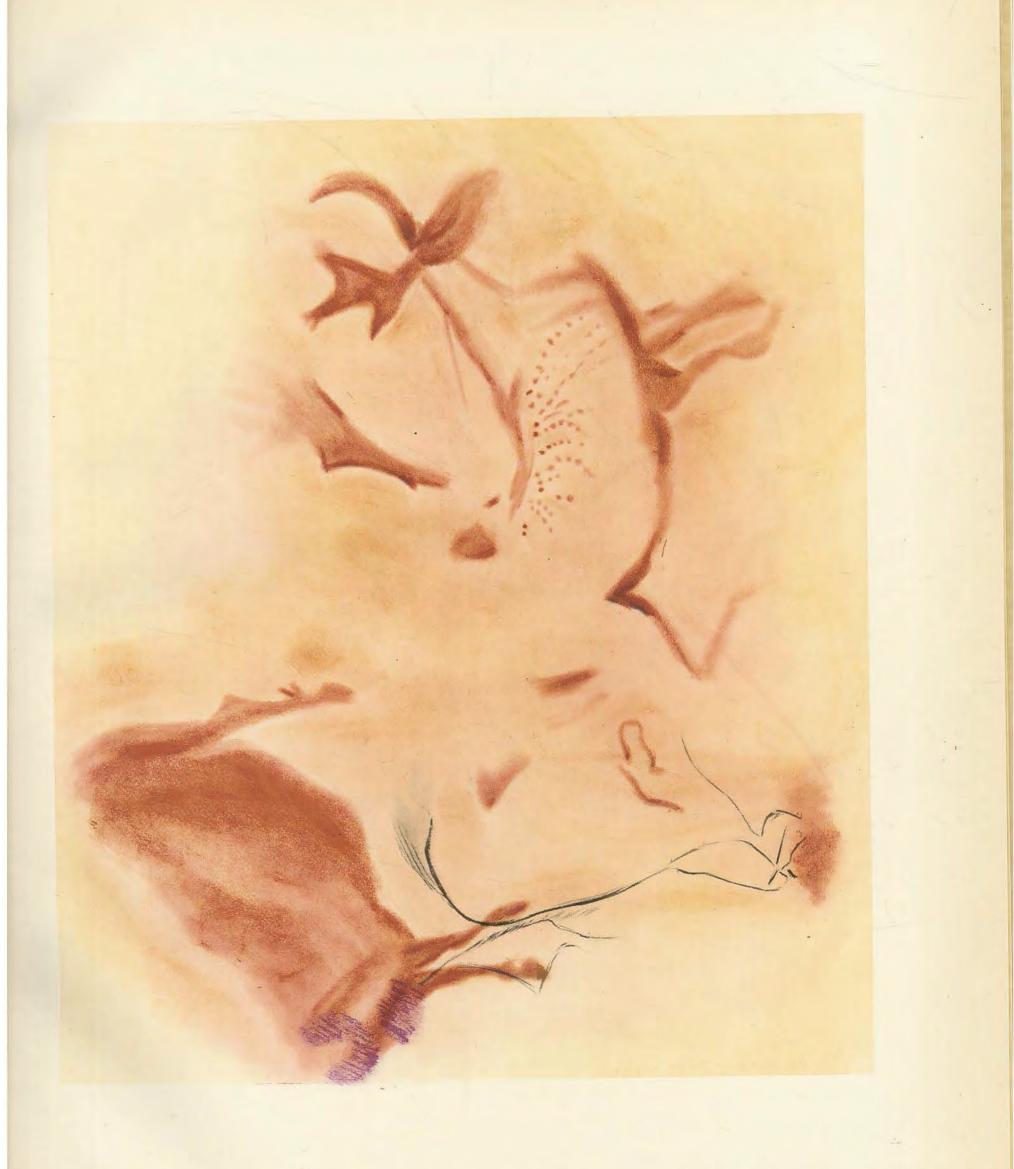
PLATE VII

Panel painted with club-shaped signs and other old red pictures covered by black drawings, on the right of the ceiling in the hall of the big paintings.

(Text, page 22.)







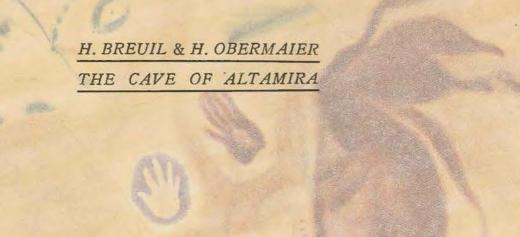
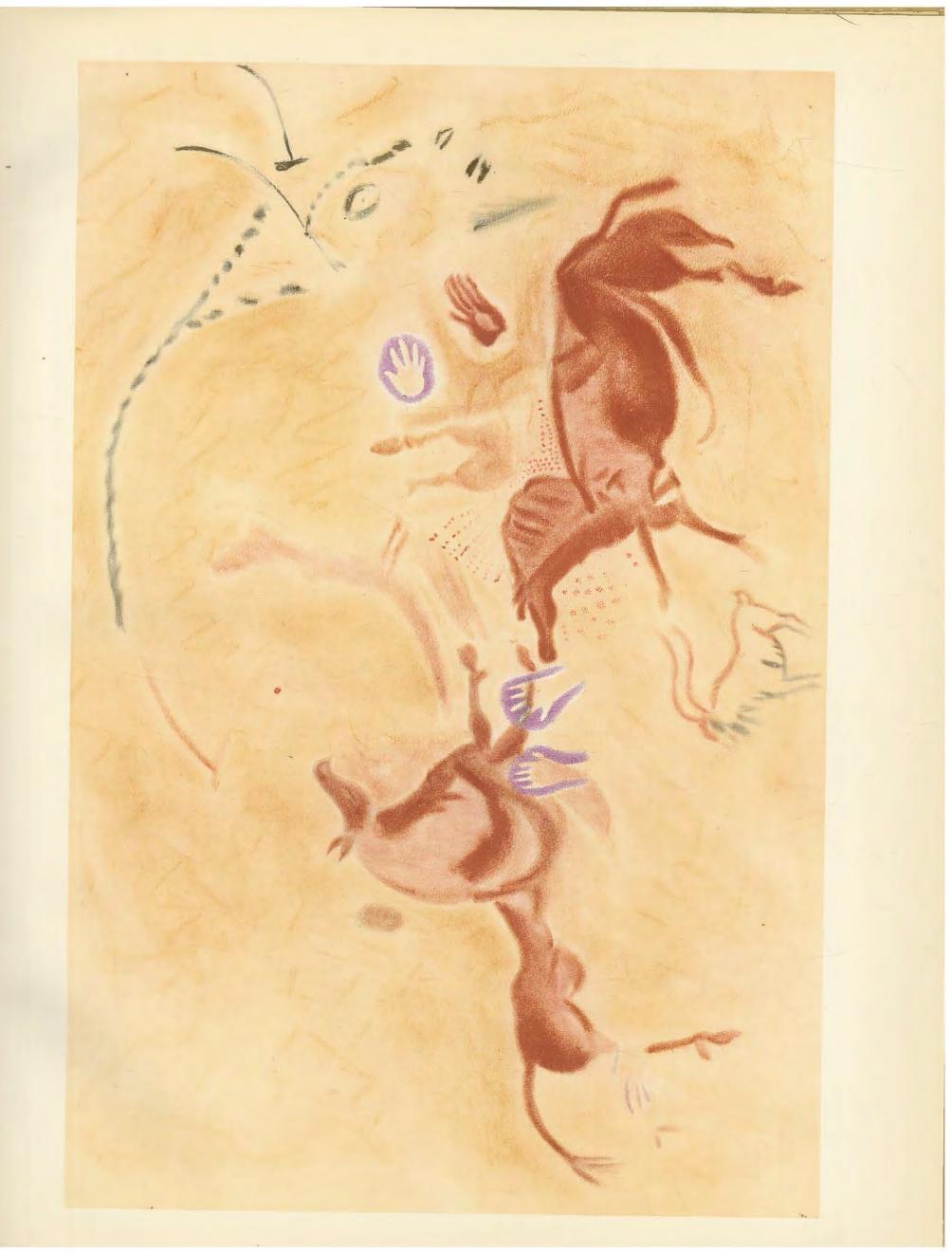
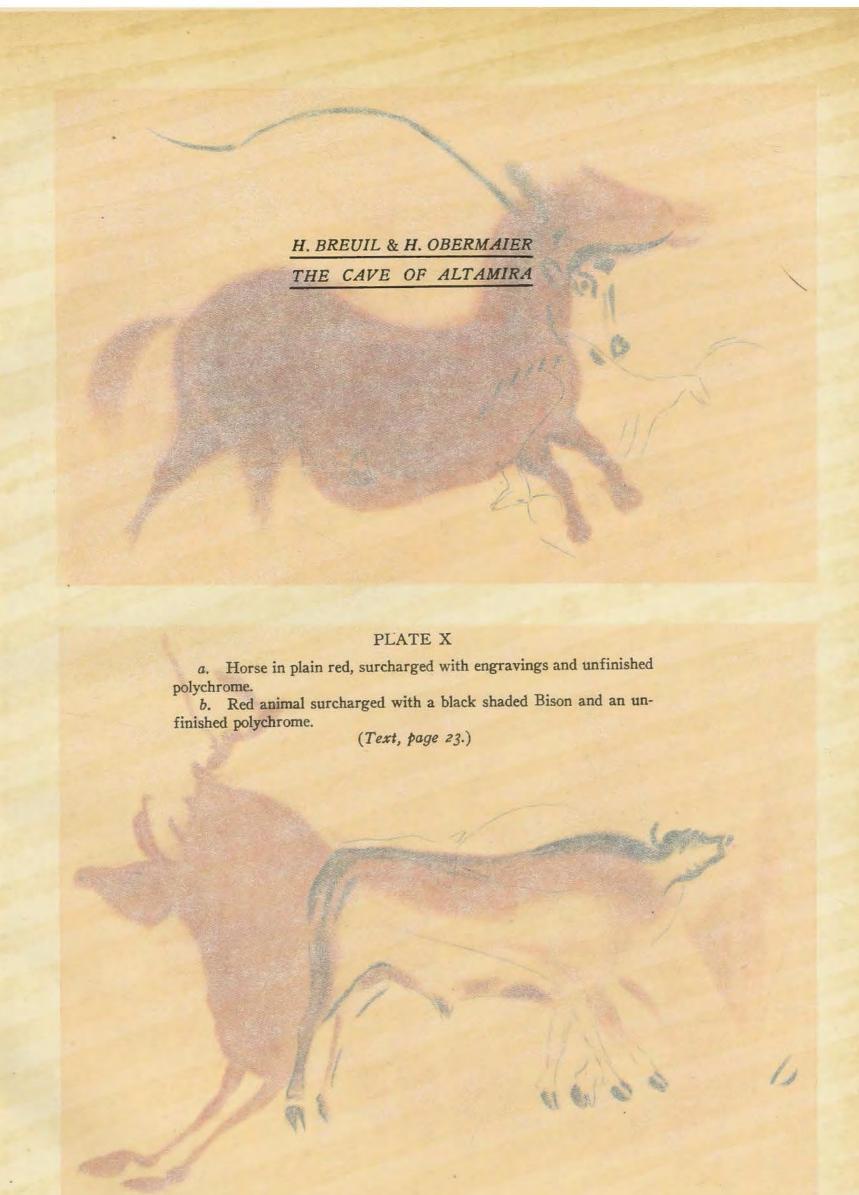


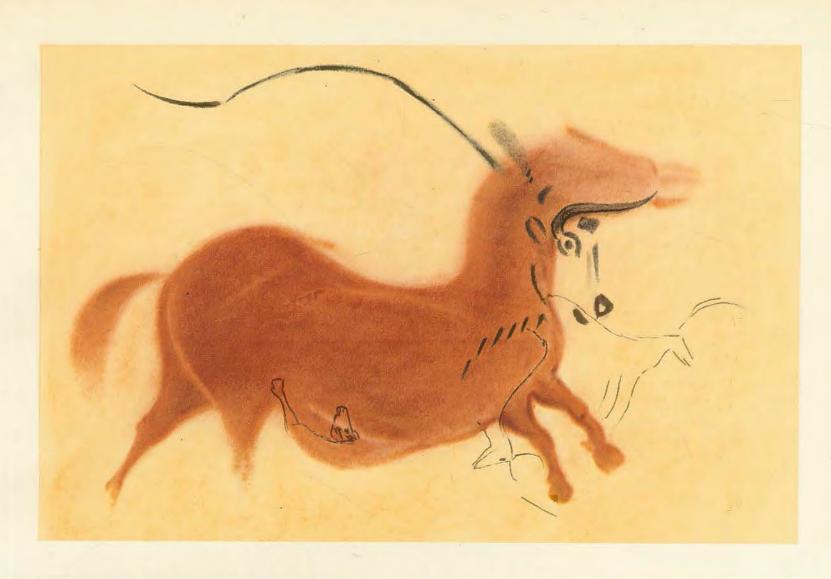
PLATE IX

Red Horses in flat wash, surcharged by stencilled and positive hands and black drawings.

(Text, page 22.)









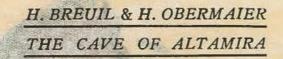
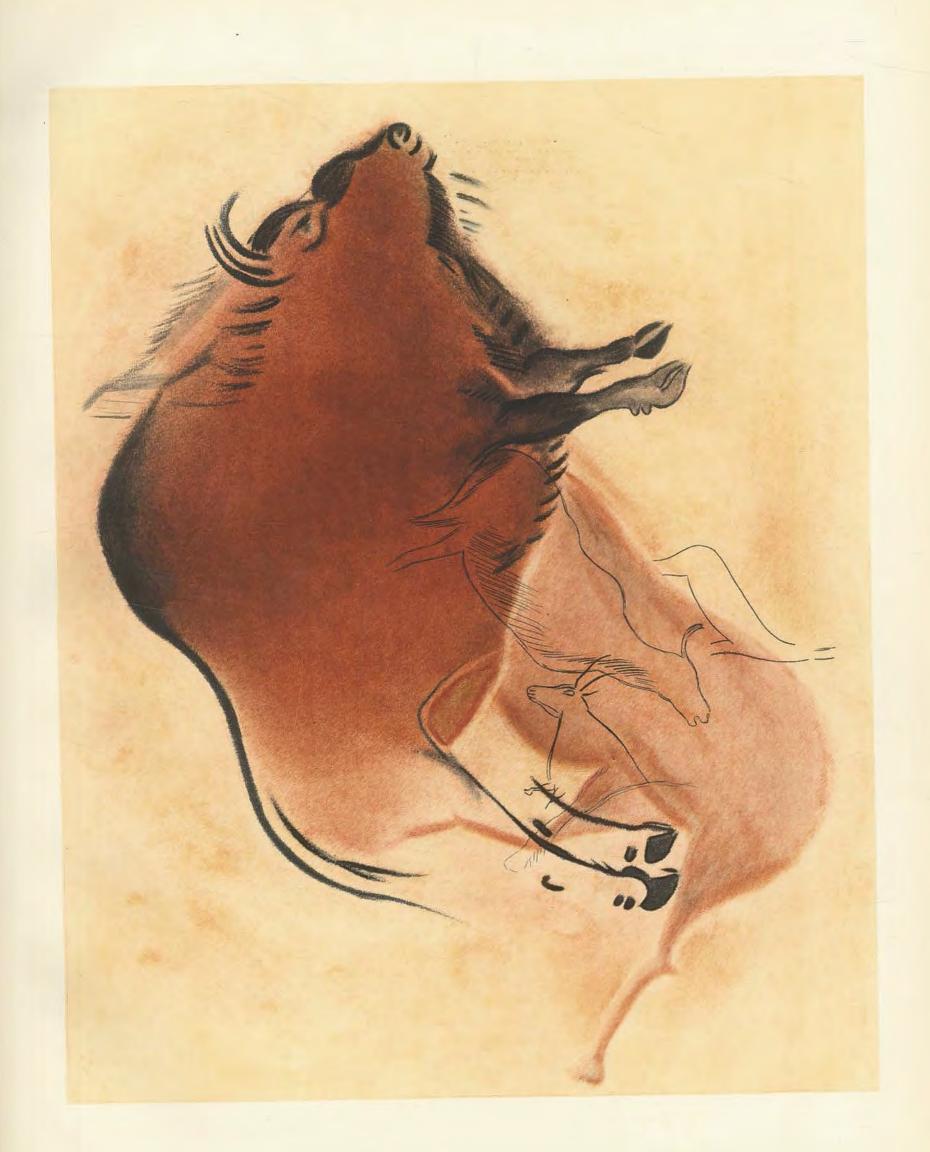
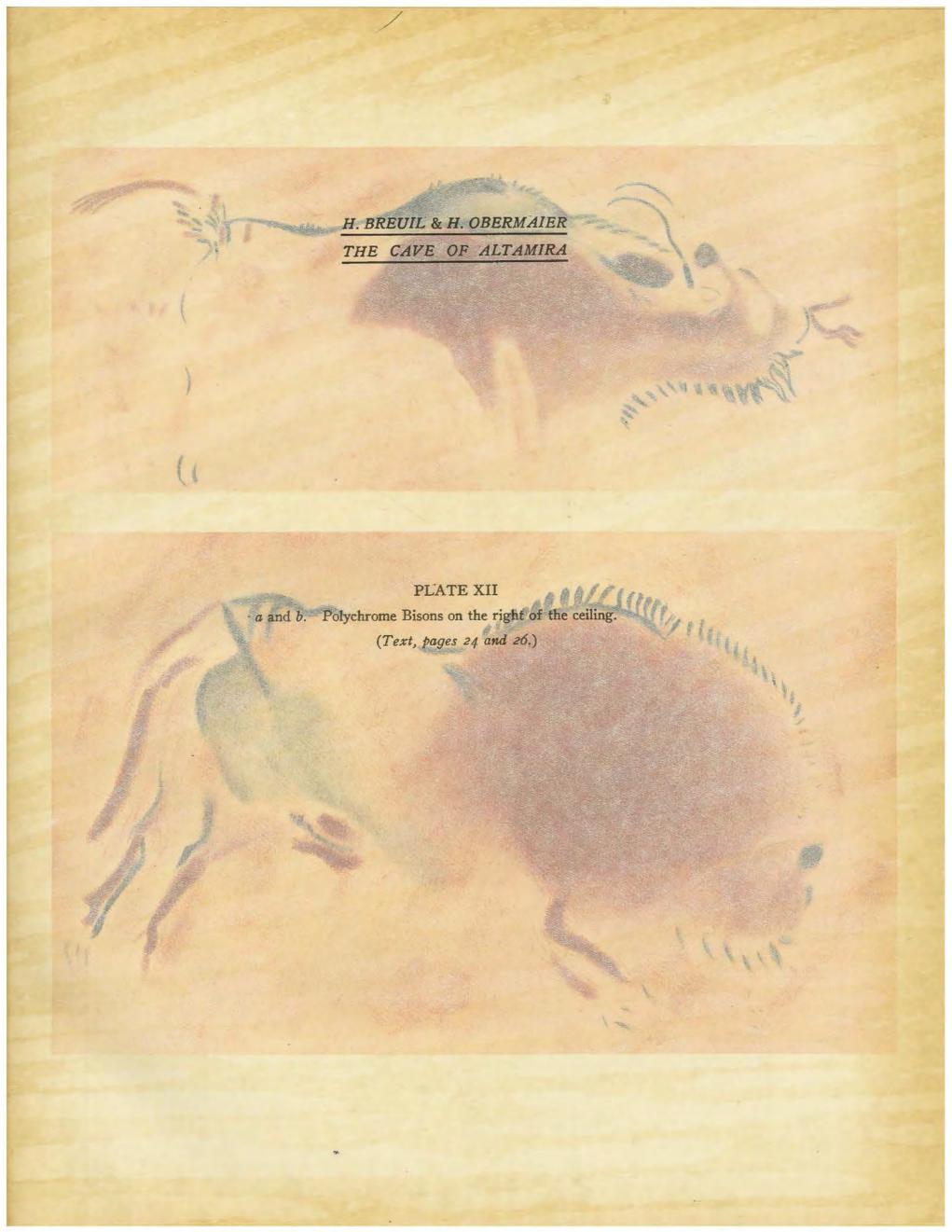


PLATE XI

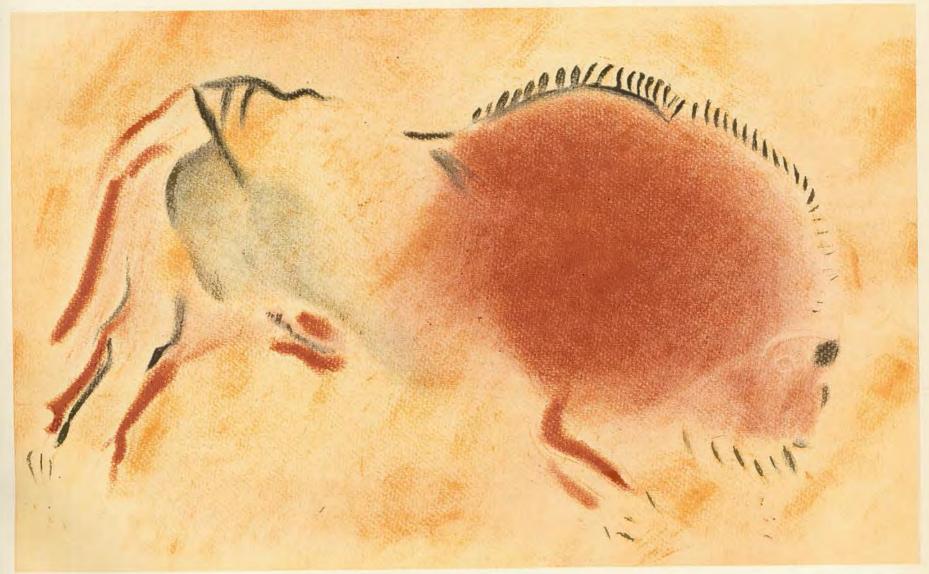
Galloping polychrome Bison surcharging a Horse in plain red and surcharged by engravings.

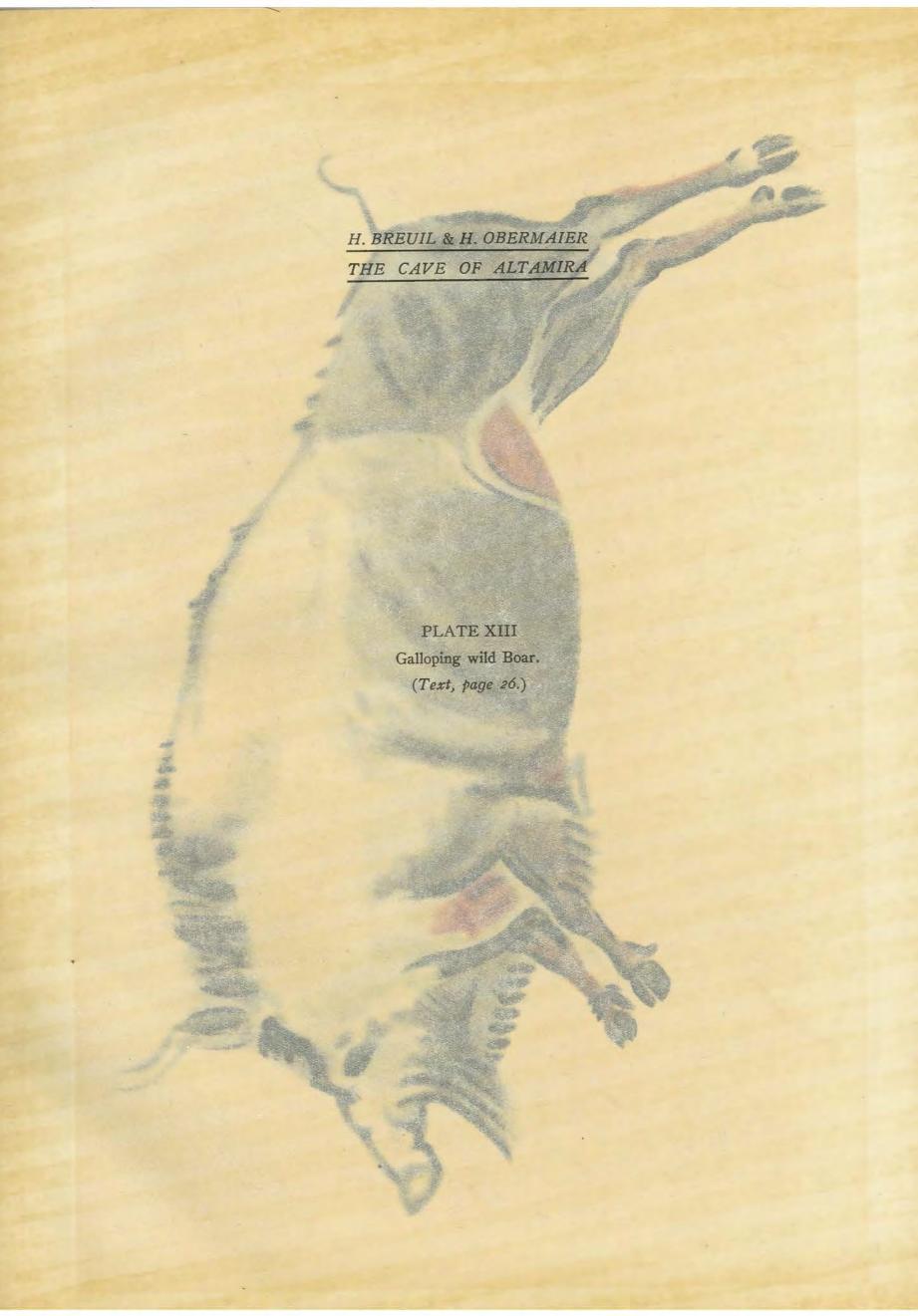
(Text, page 24.)







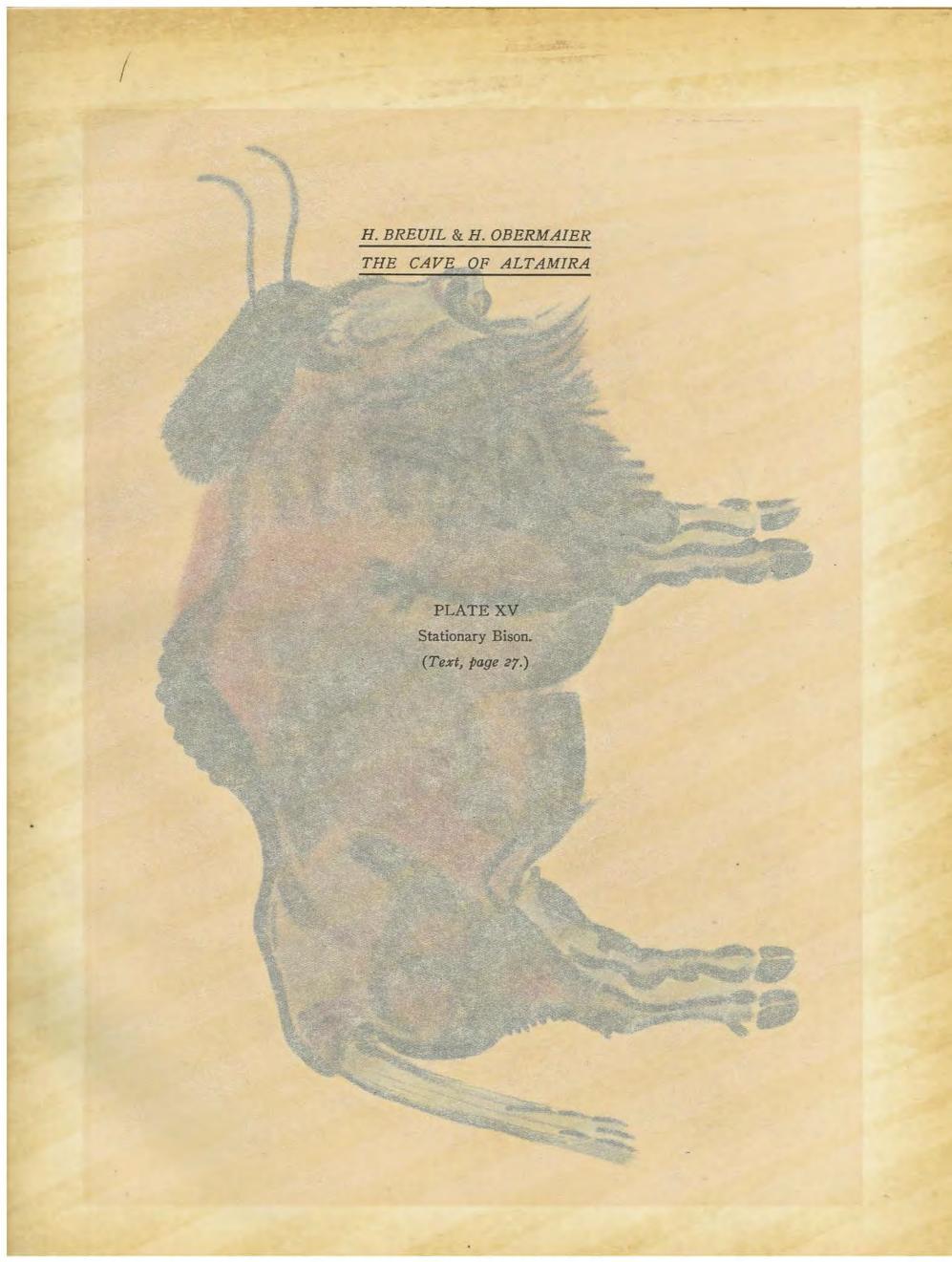




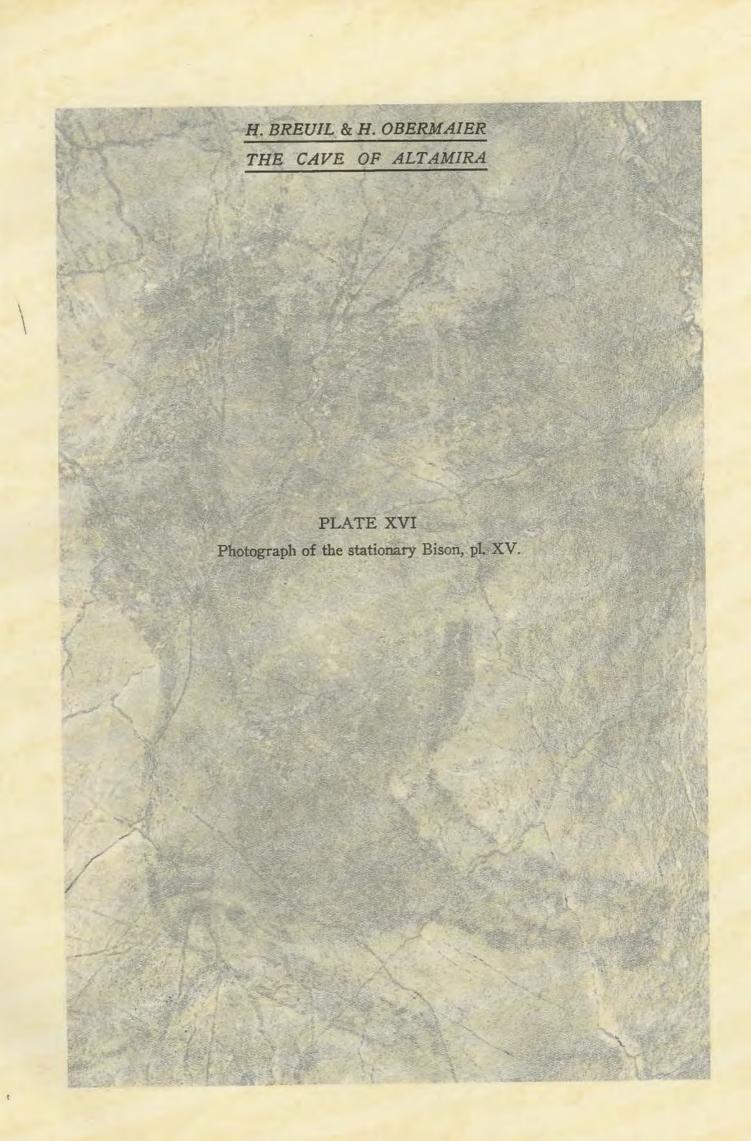


H. BREUIL & H. OBERMAIER THE CAVE OF ALTAMIRA PLATE XIV Photograph of the galloping wild Boar, pl. XIII.

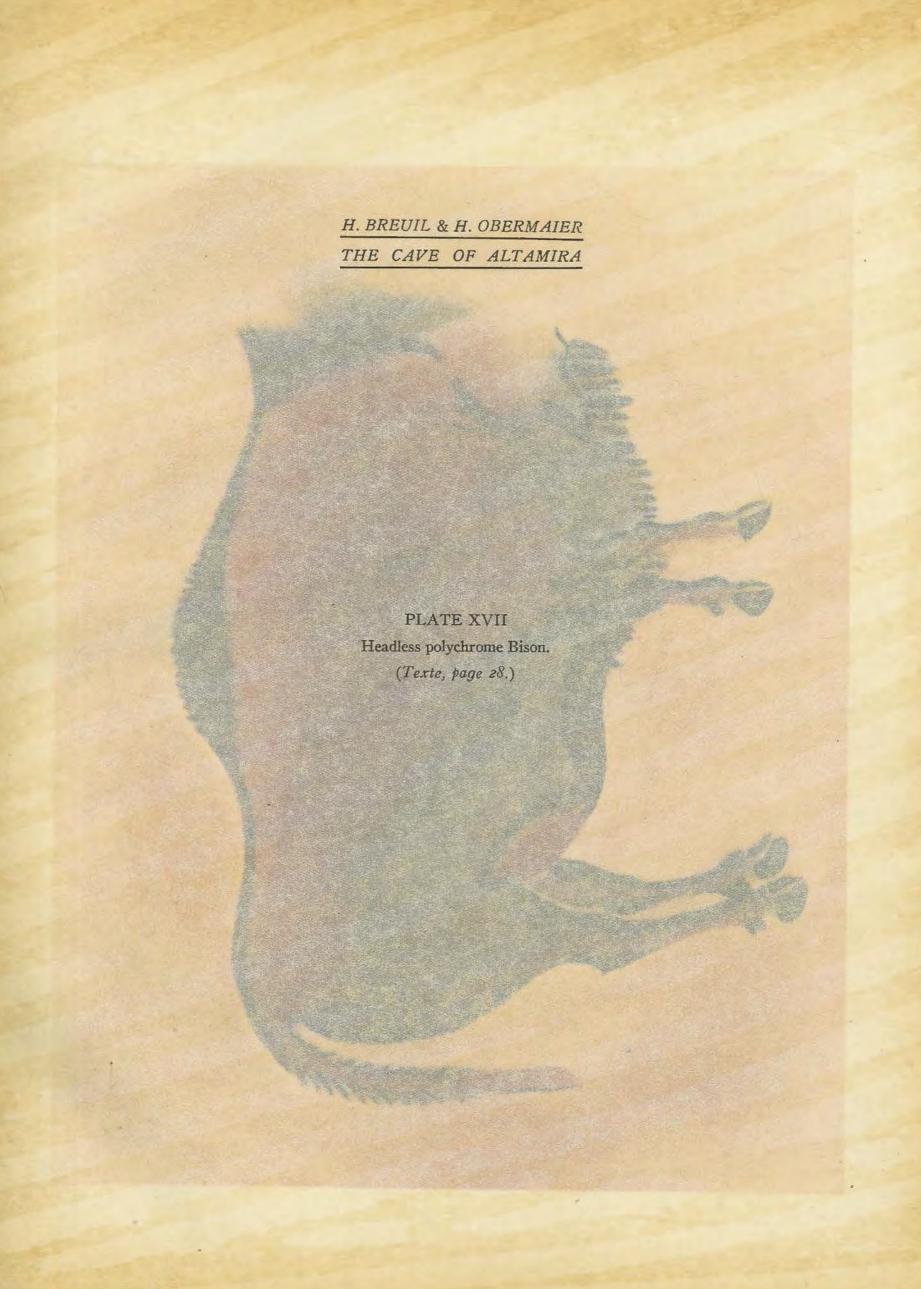


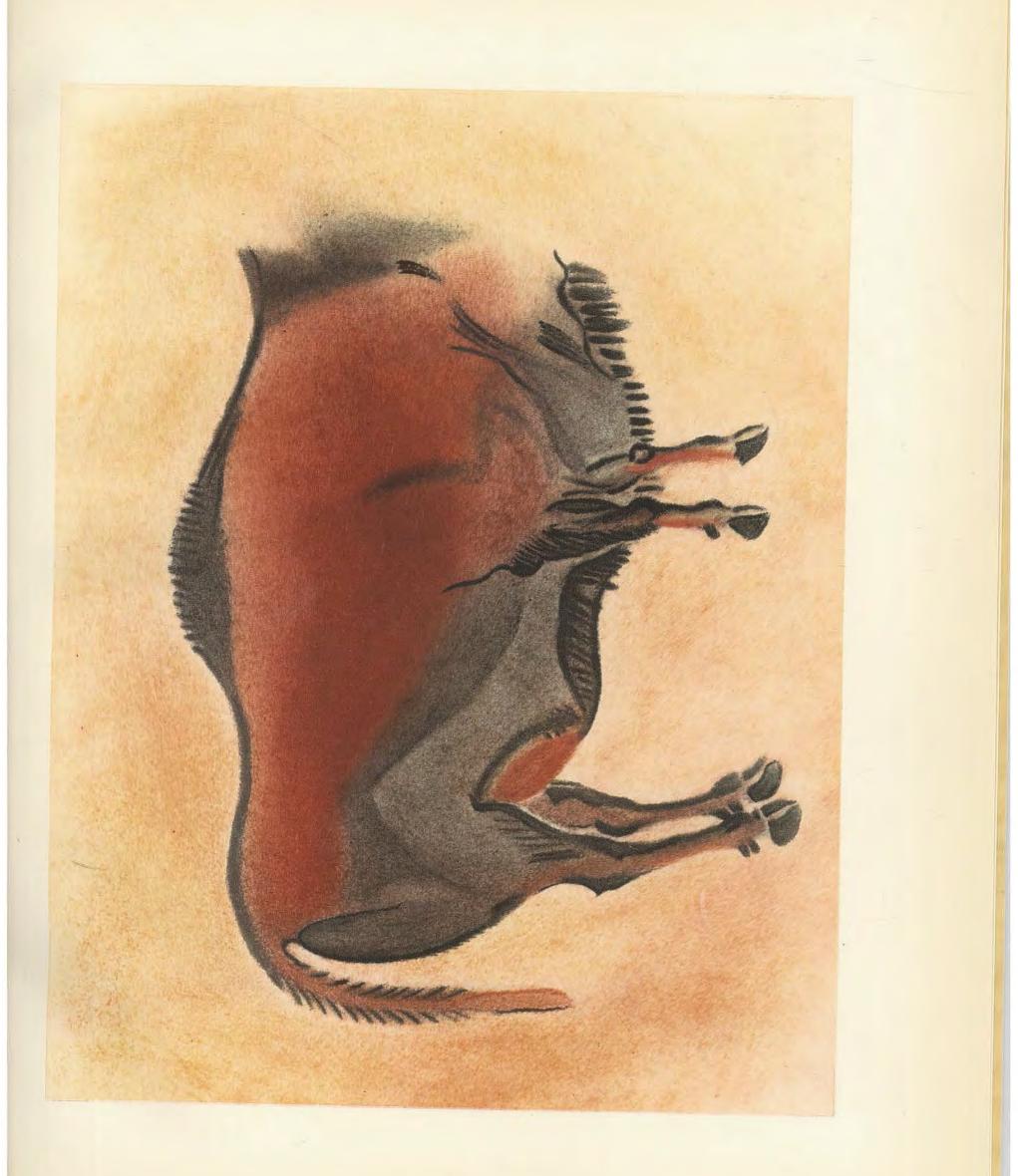


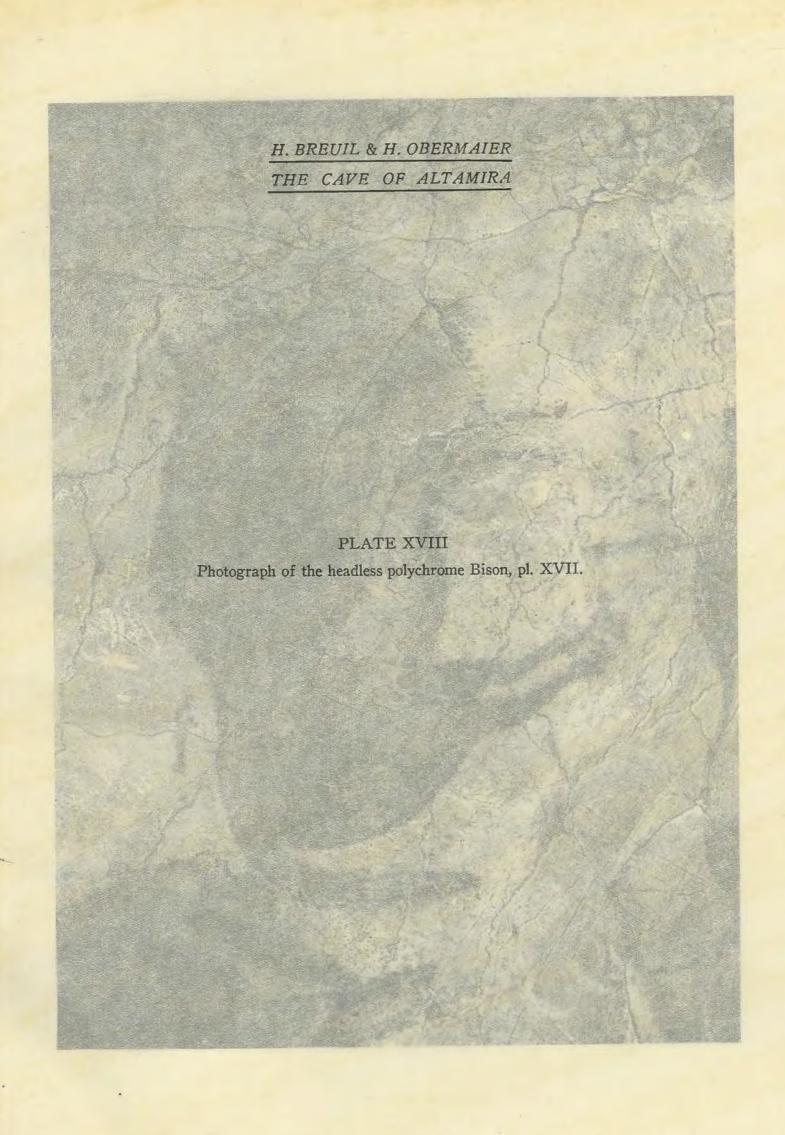


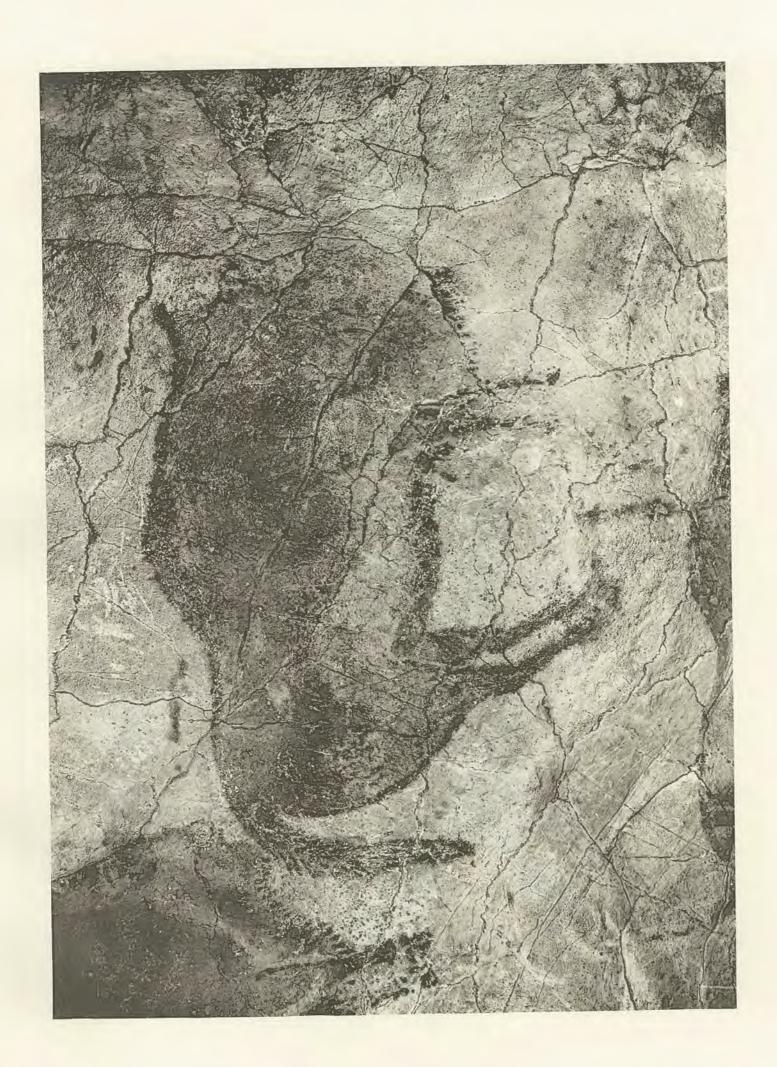


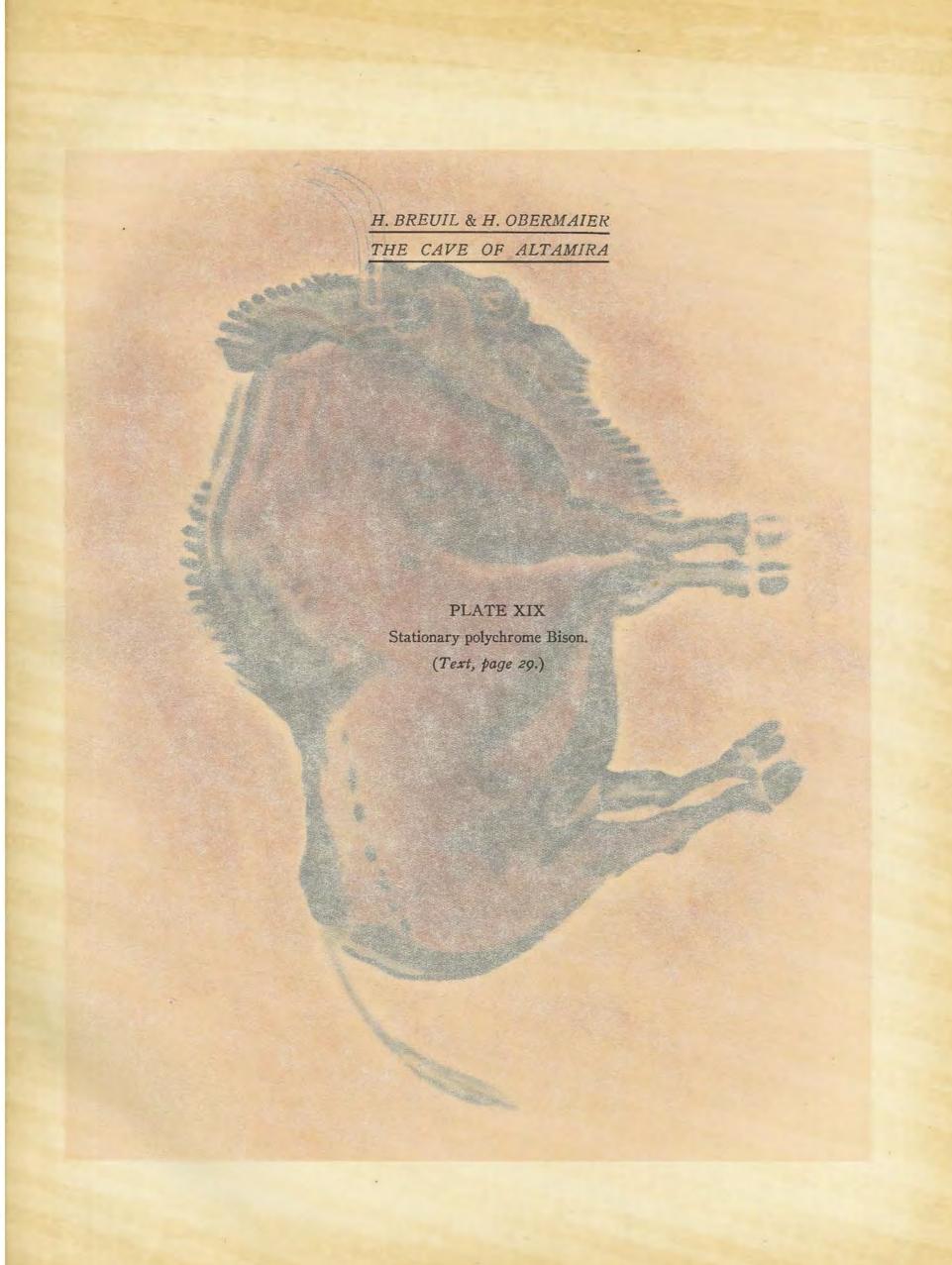




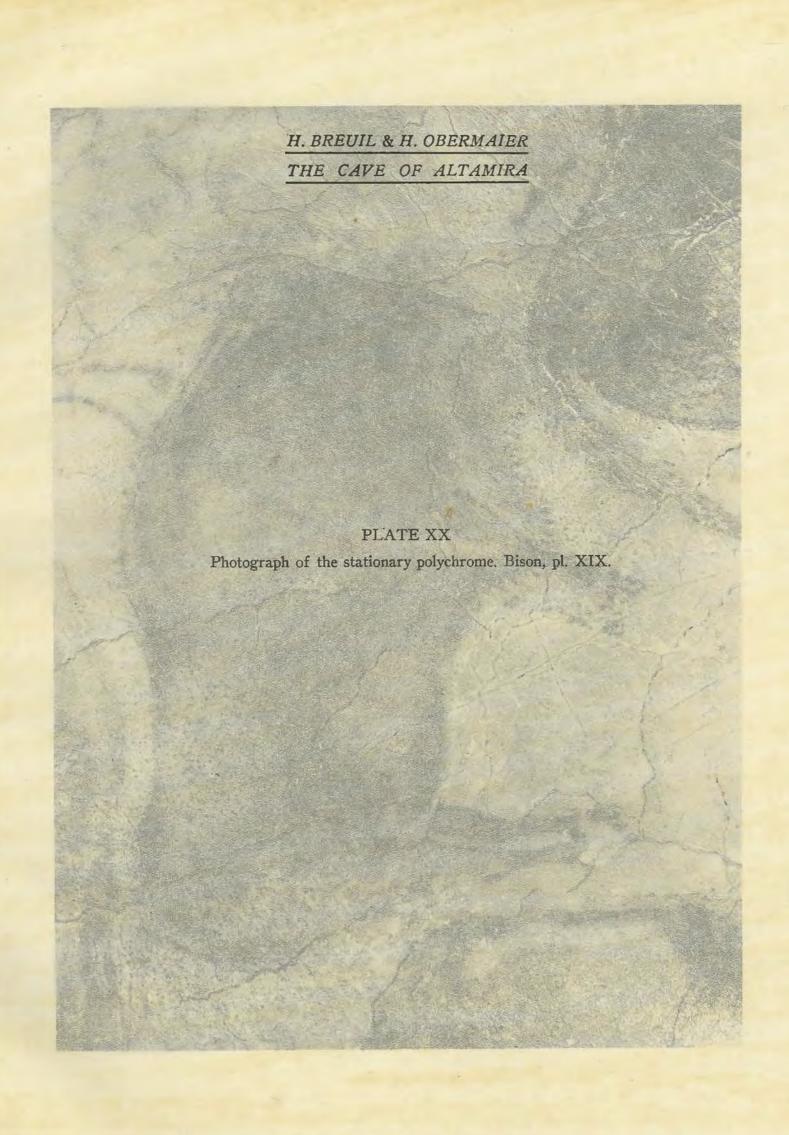




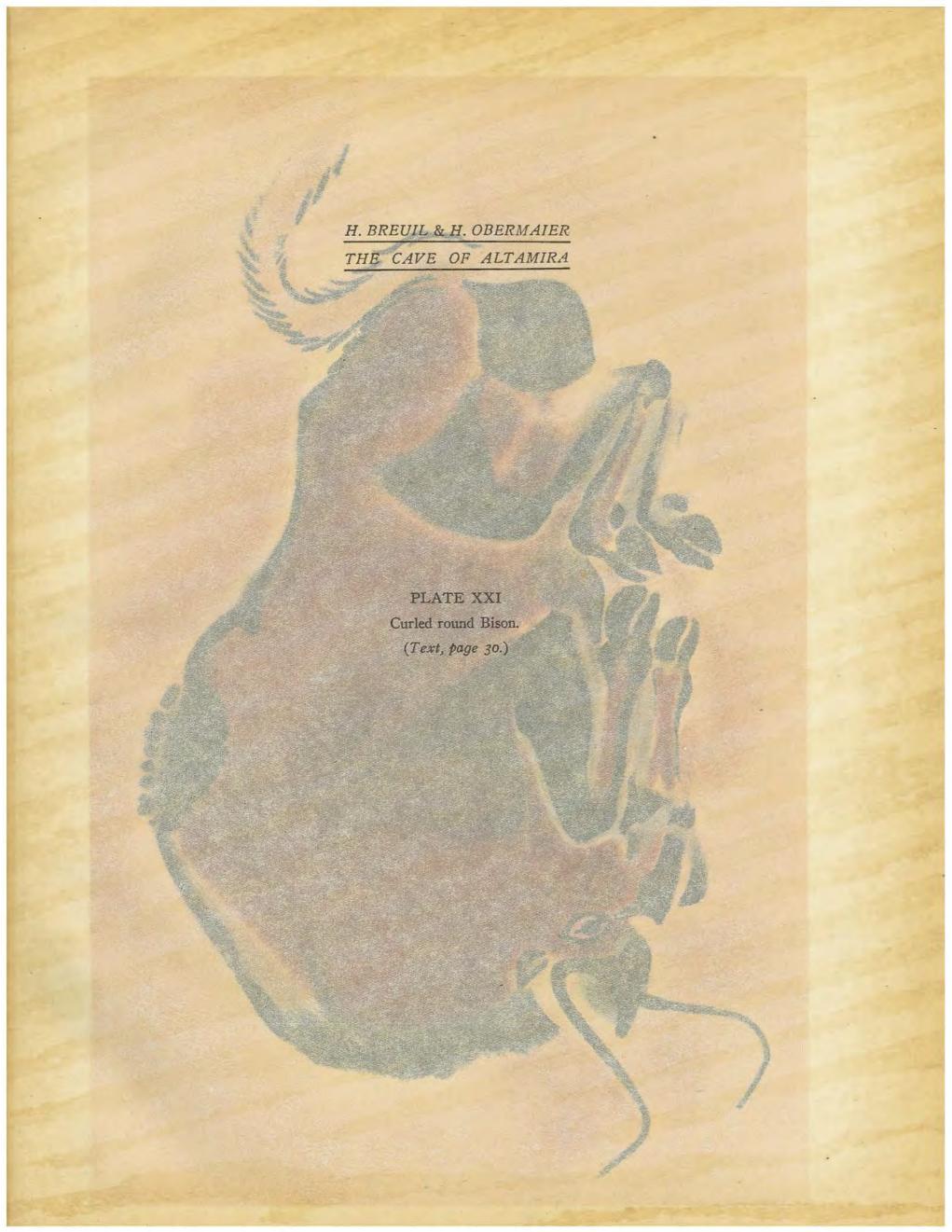


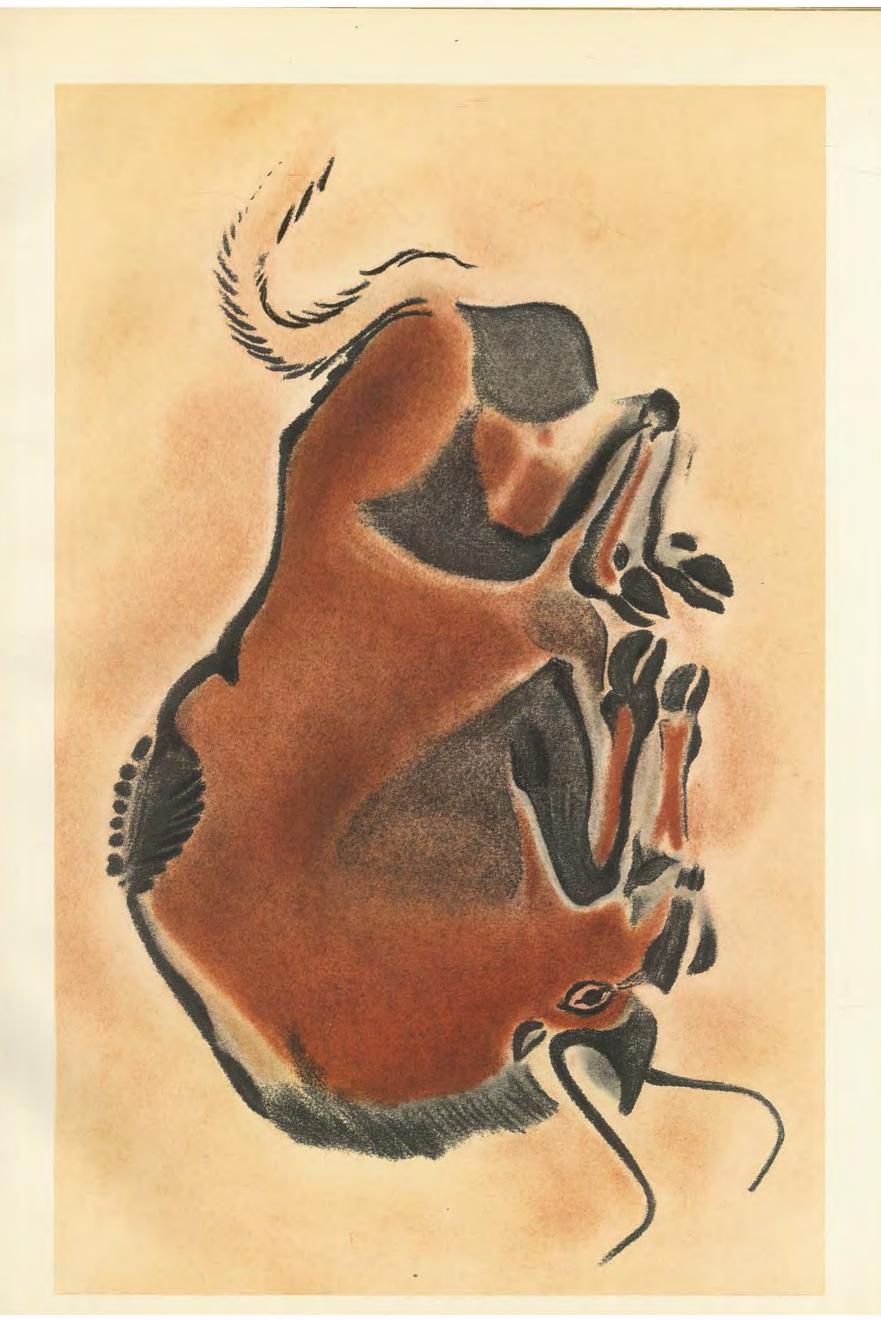


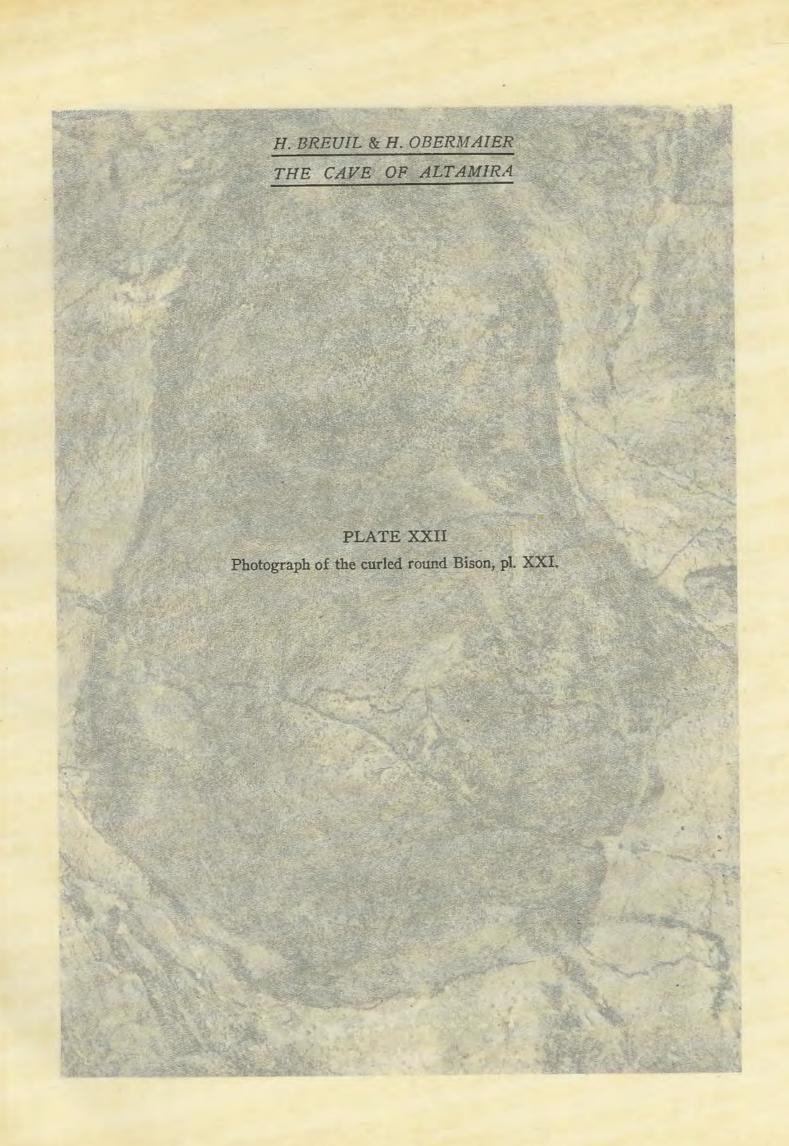




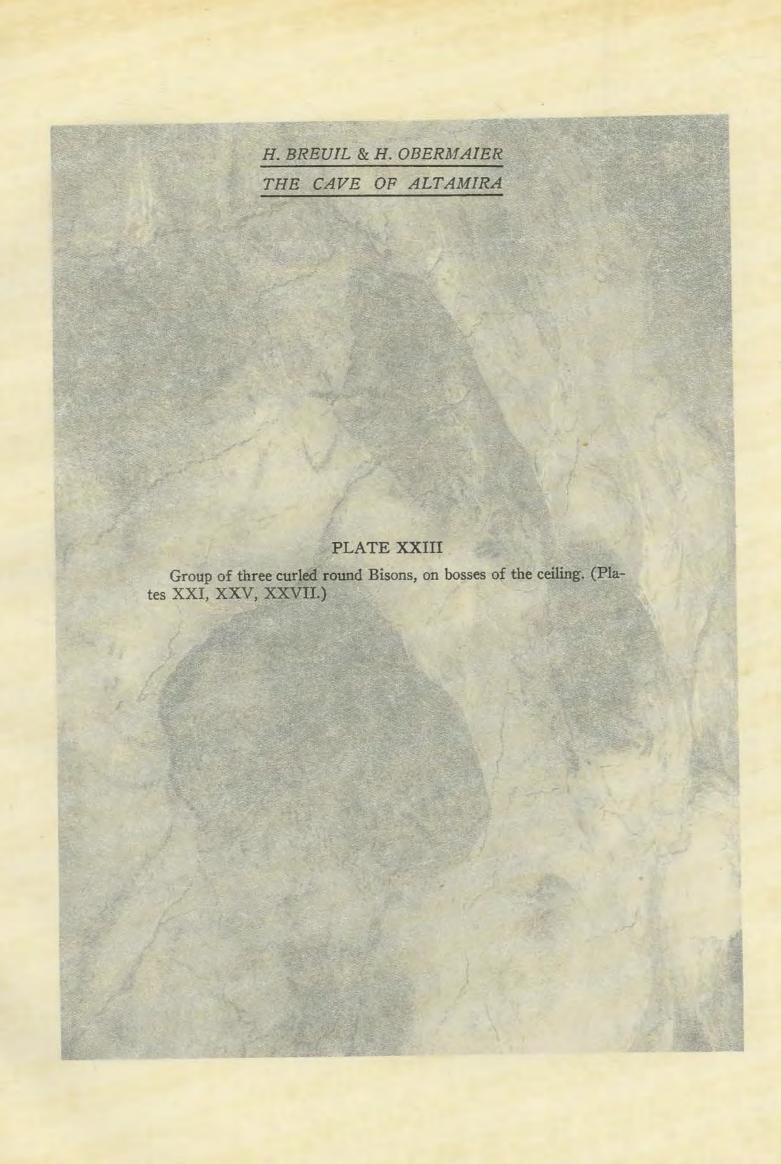




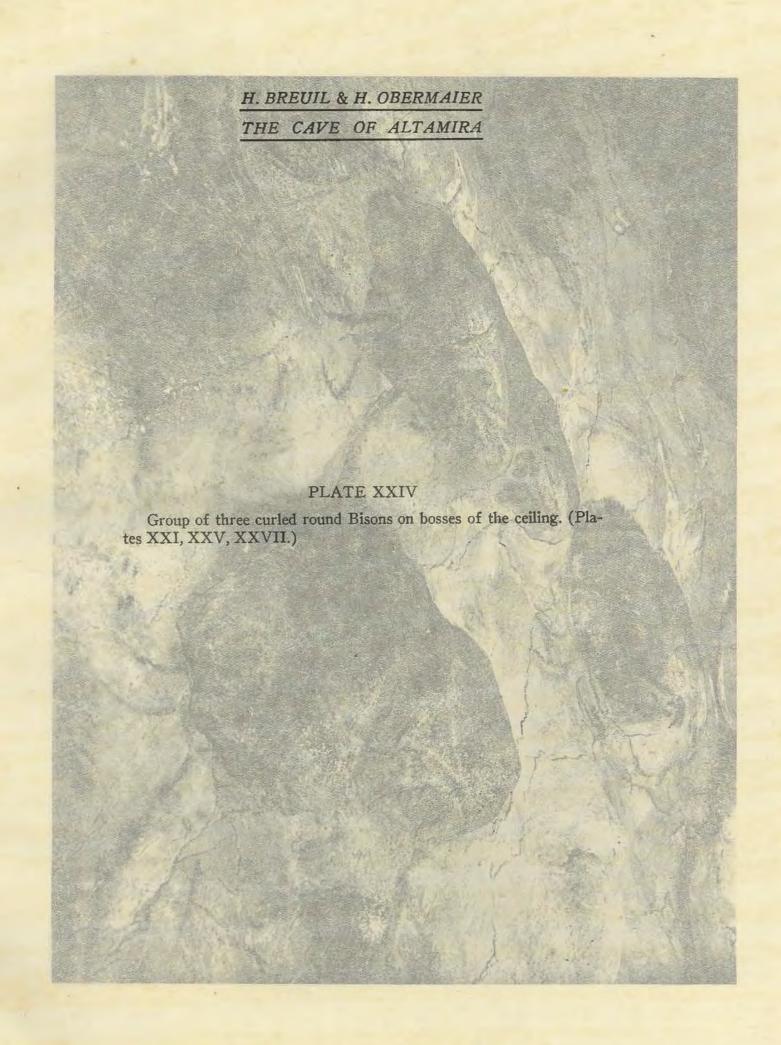


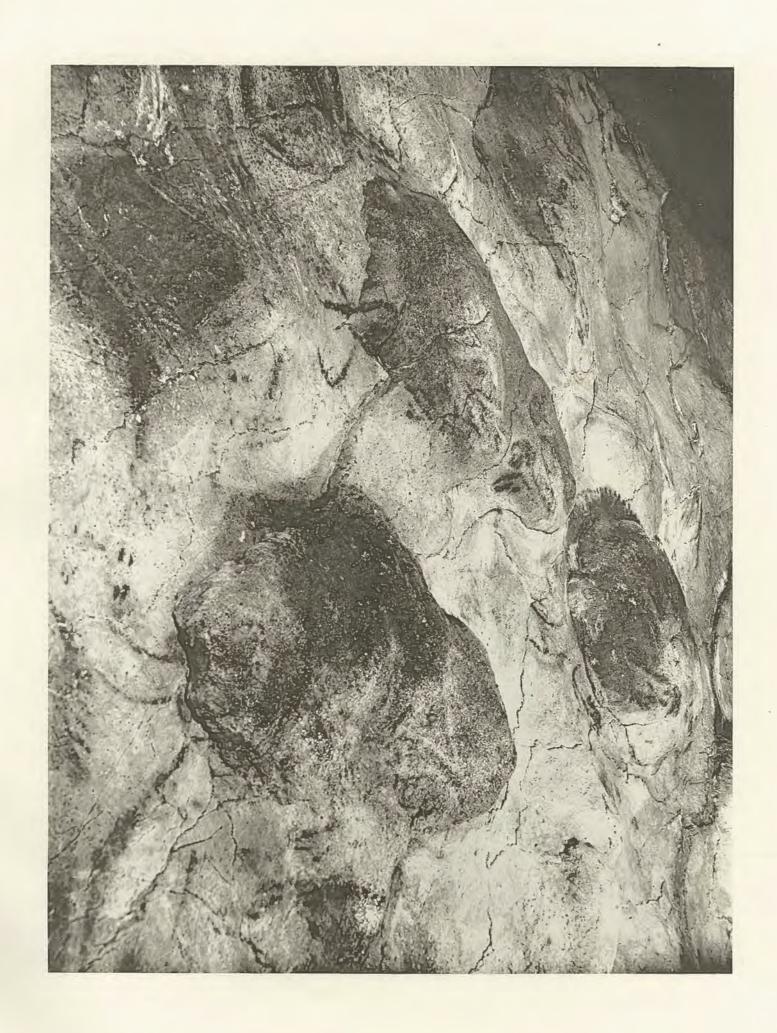


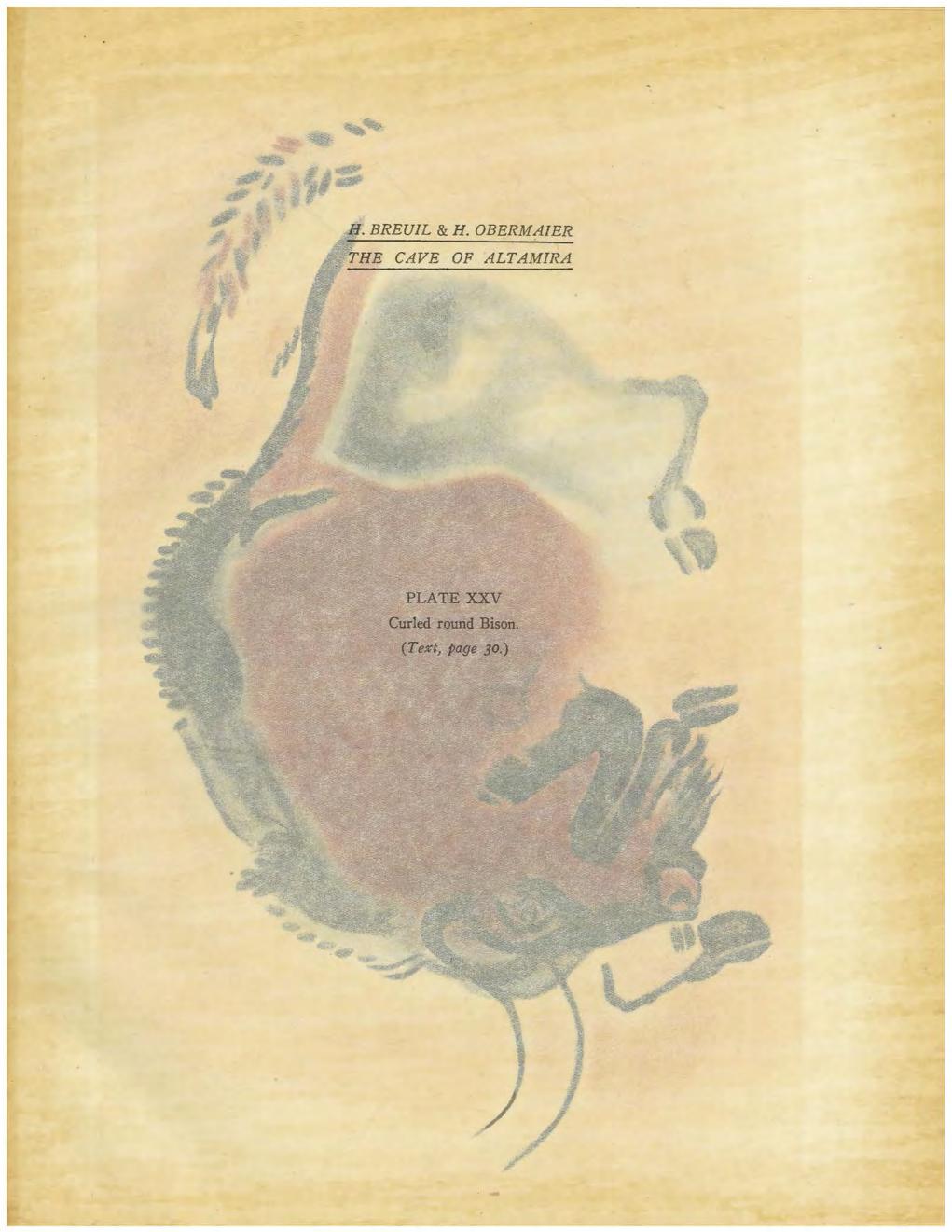






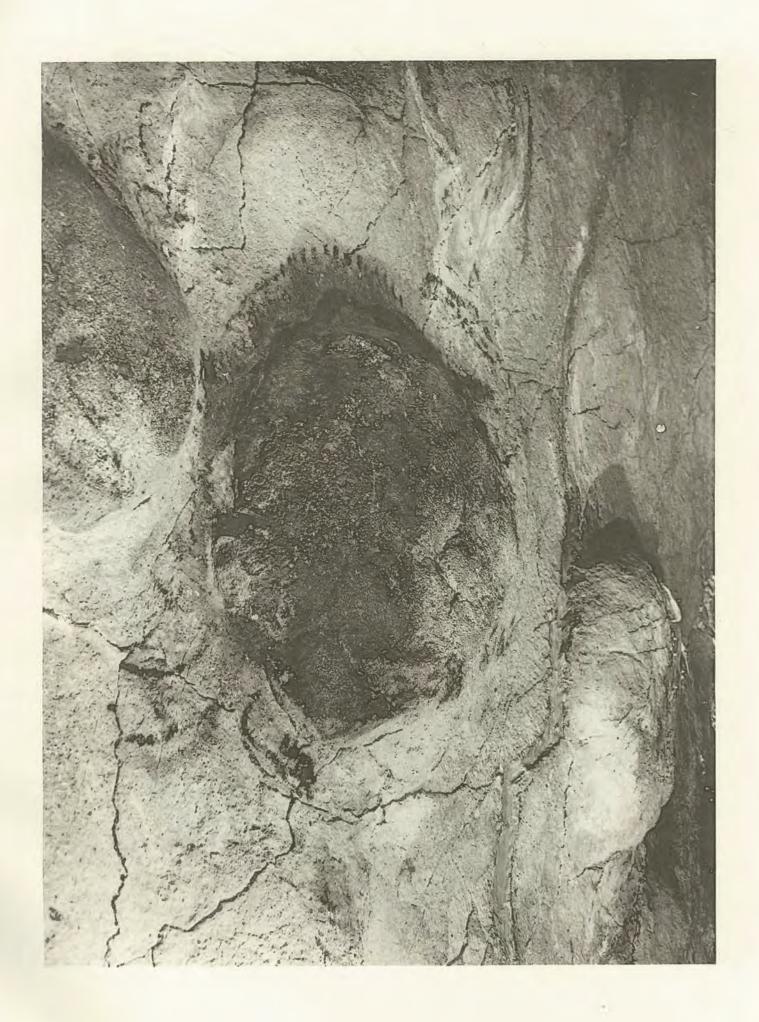


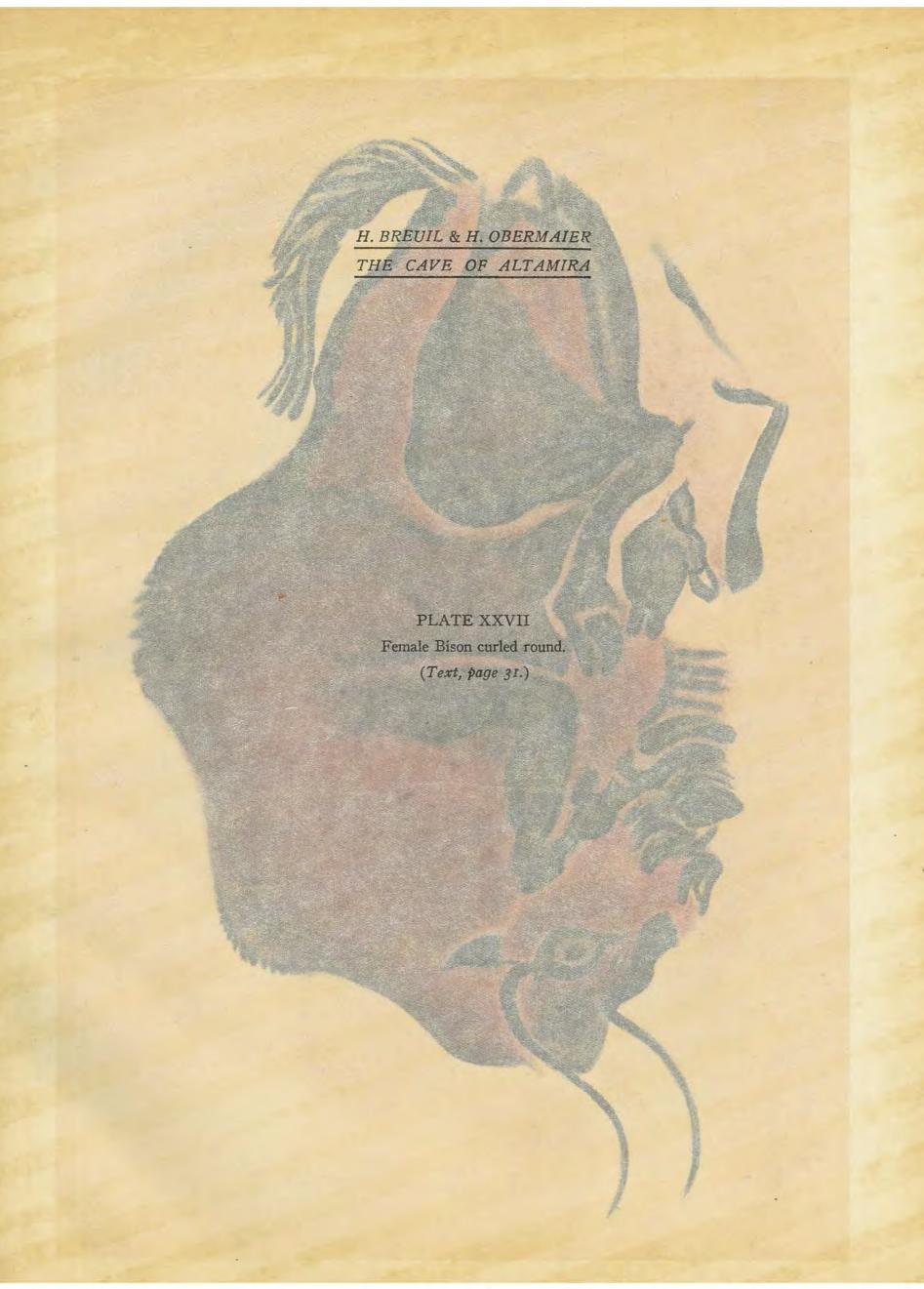


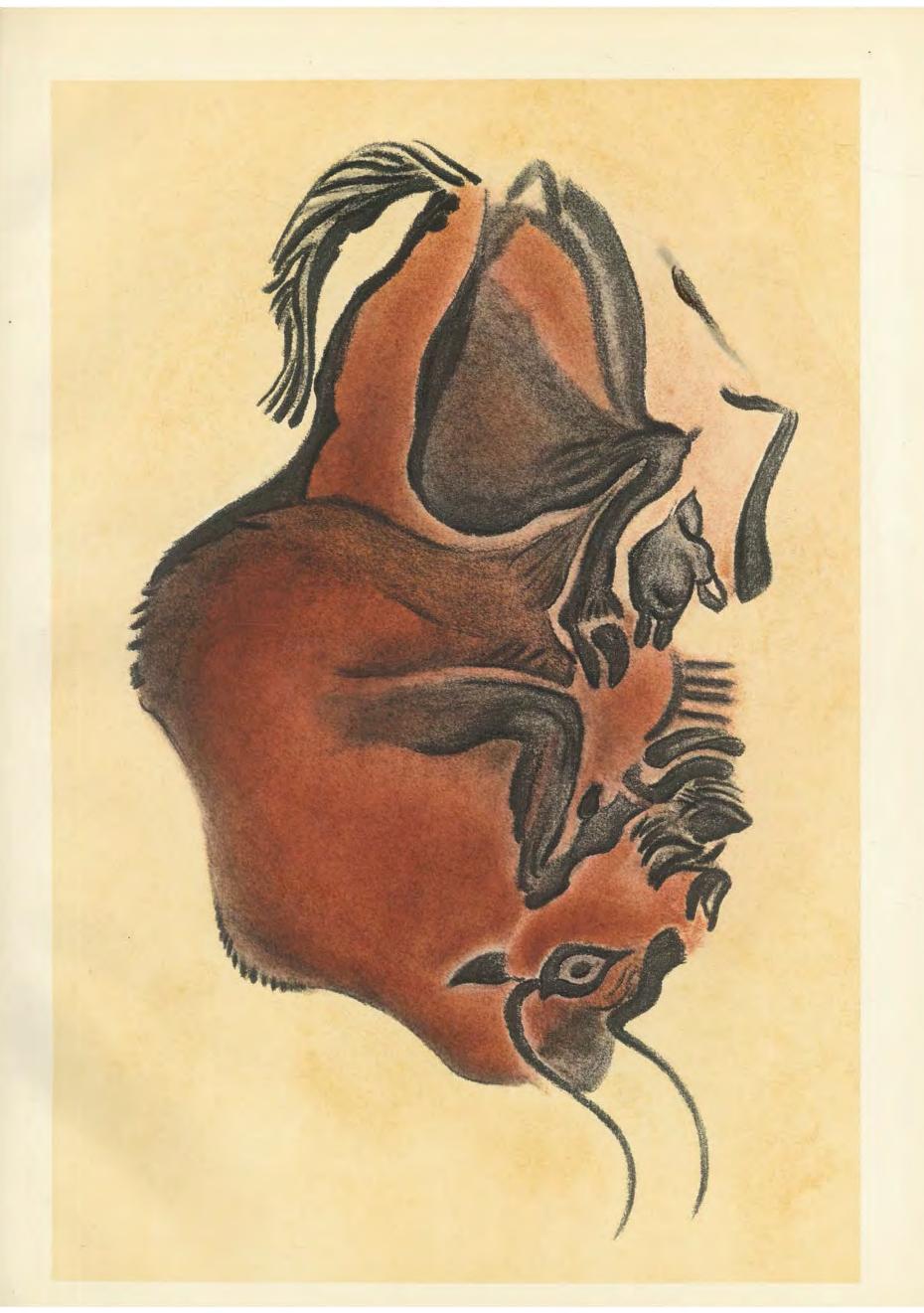


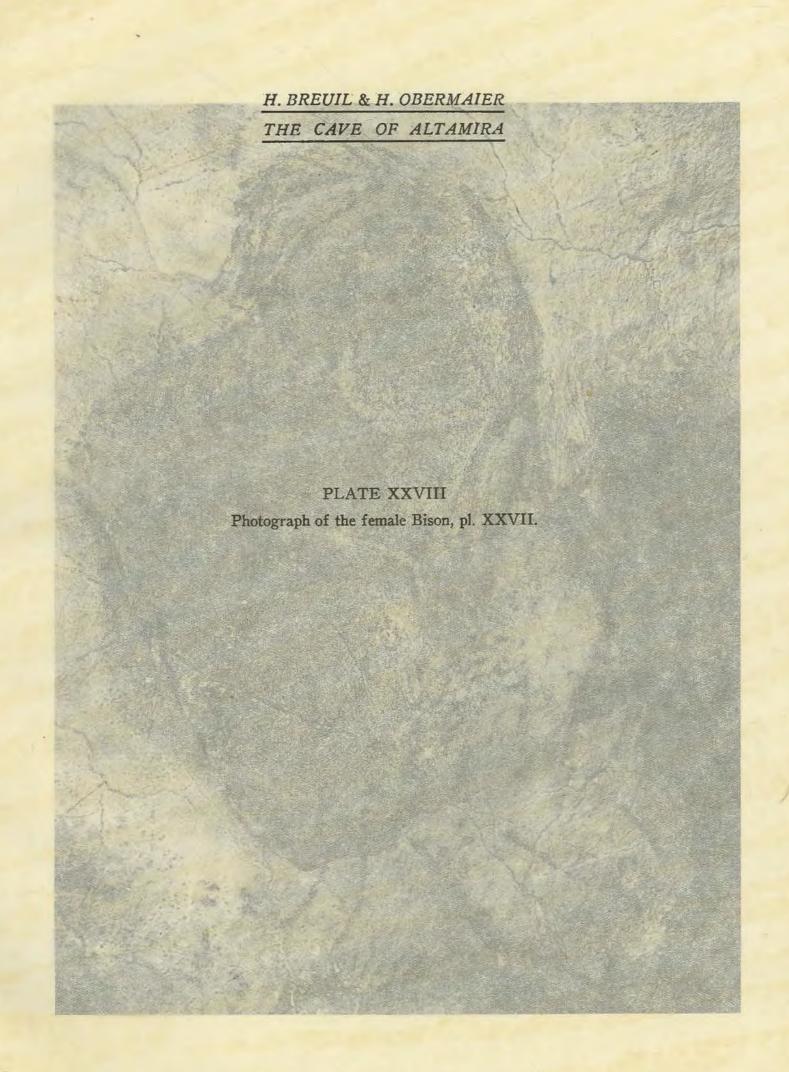


H. BREUIL & H. OBERMAIER THE CAVE OF ALTAMIRA PLATE XXVI Photograph of the Bison, pl. XXV.

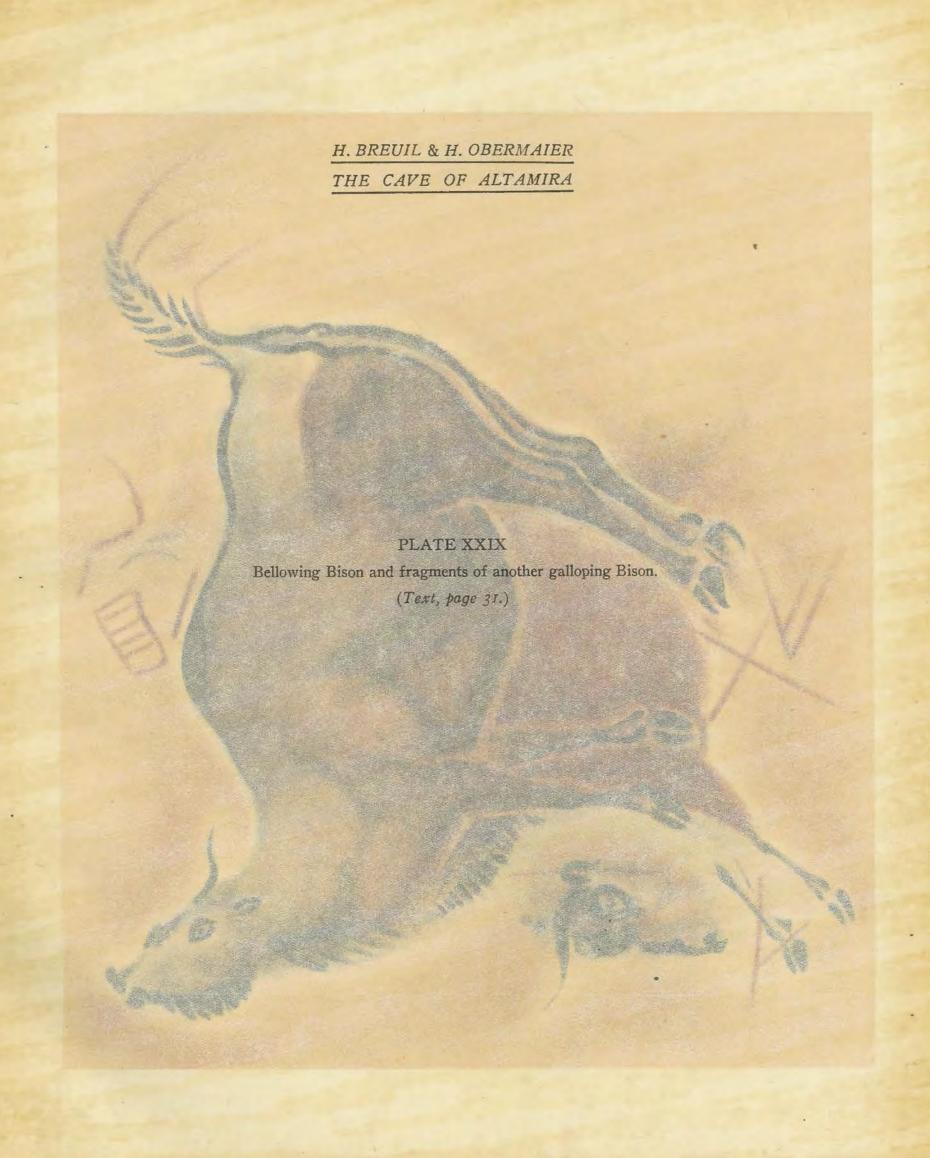




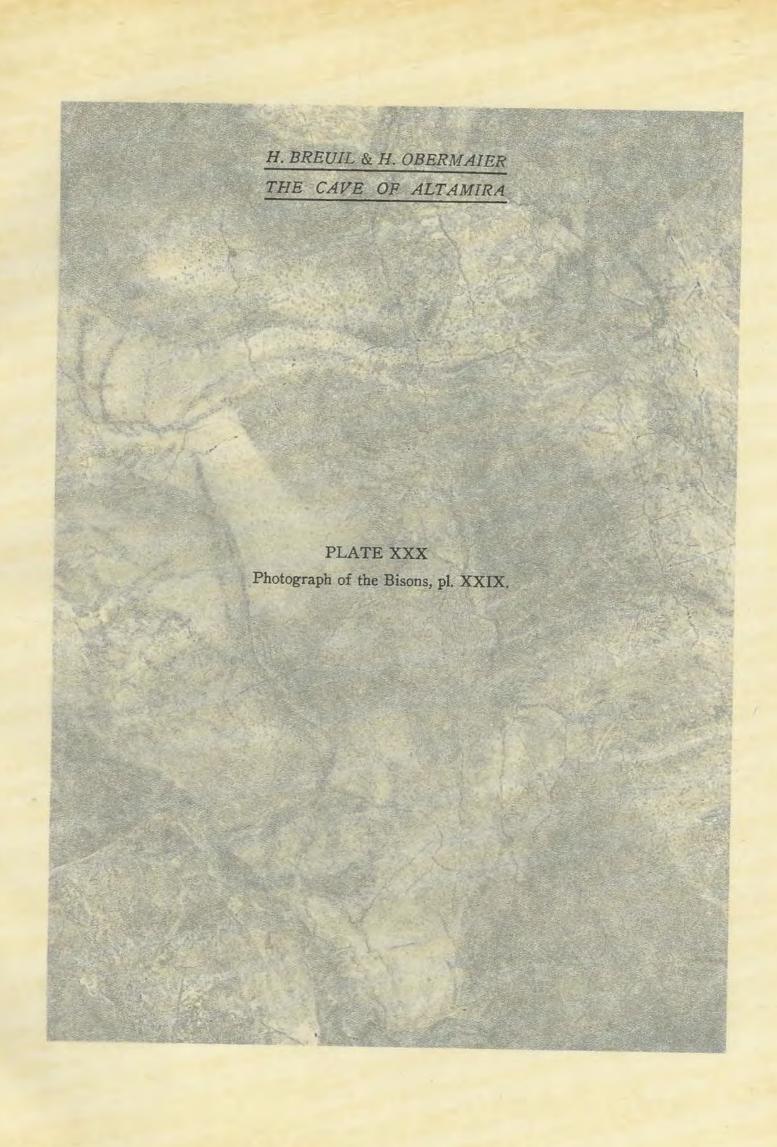














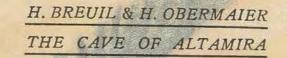
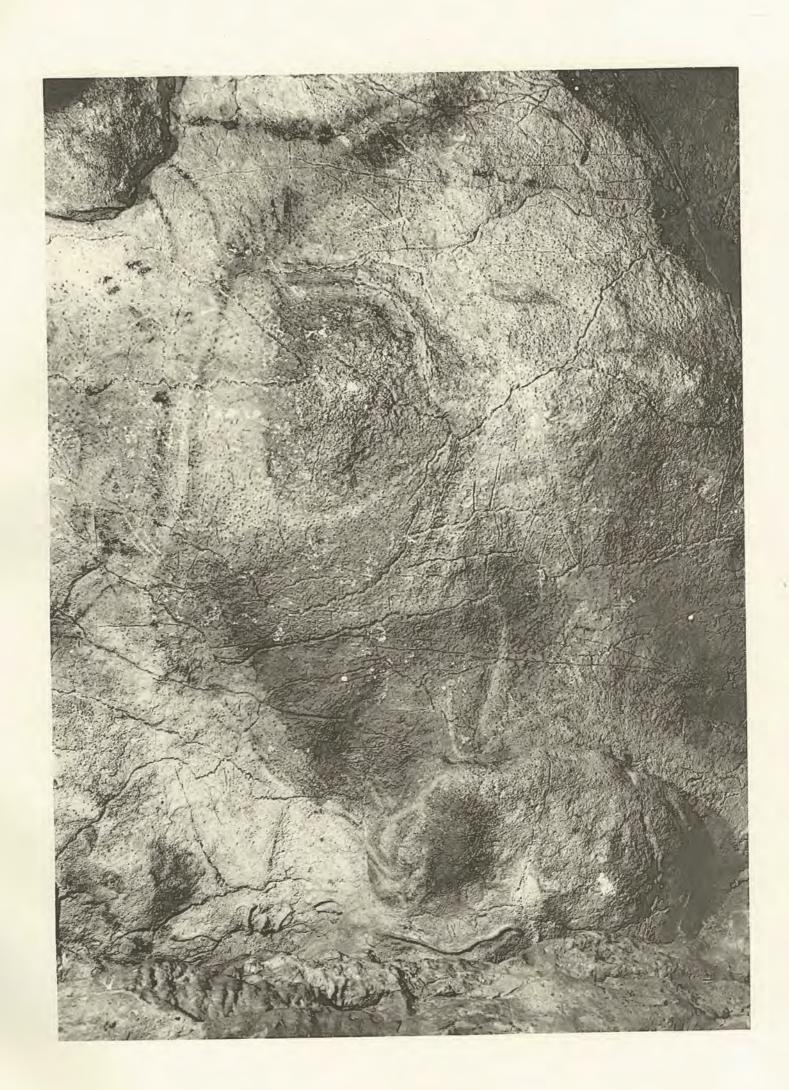
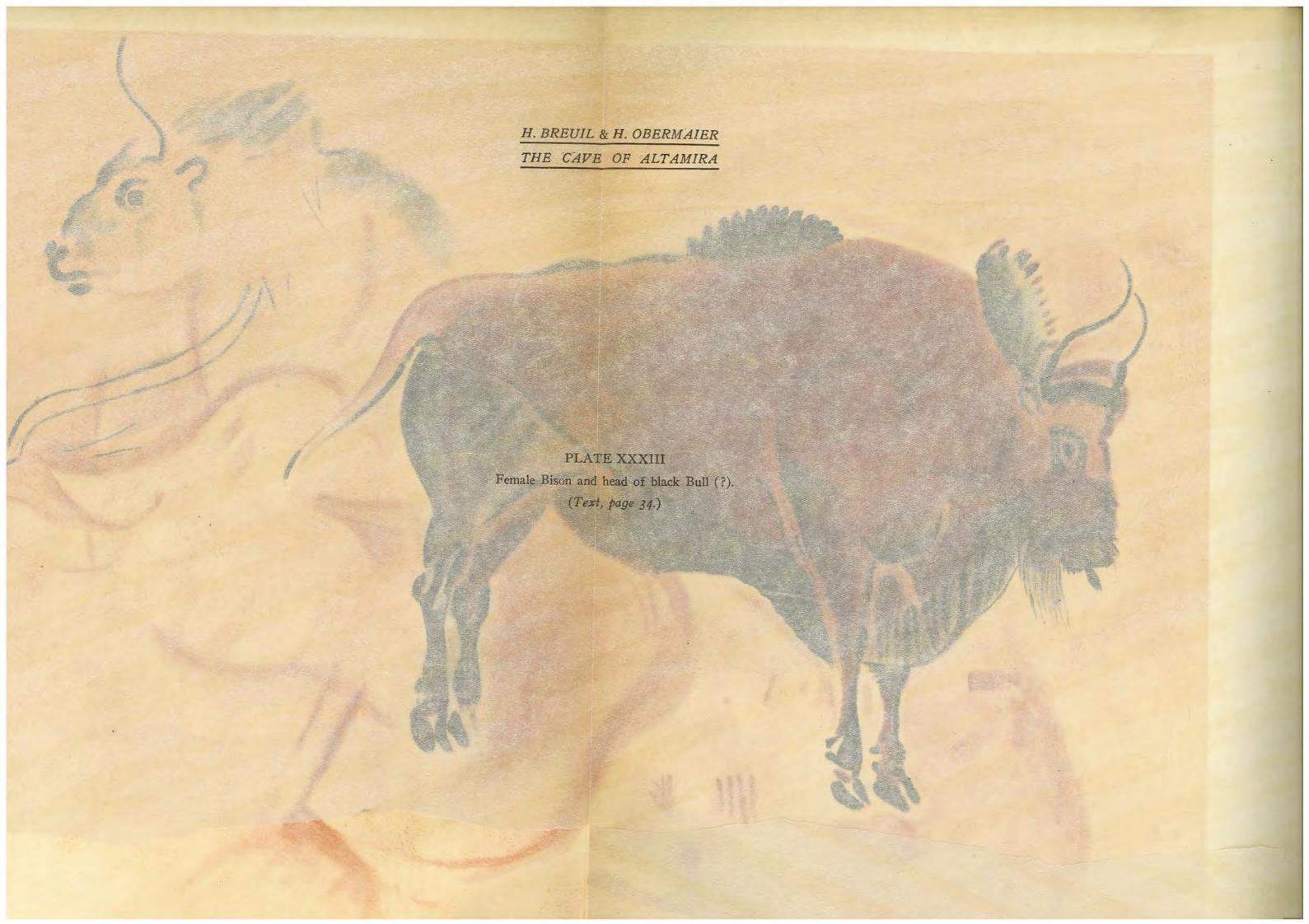


PLATE XXXI
Bison couchant, turning its head.
(Text, page 33.)

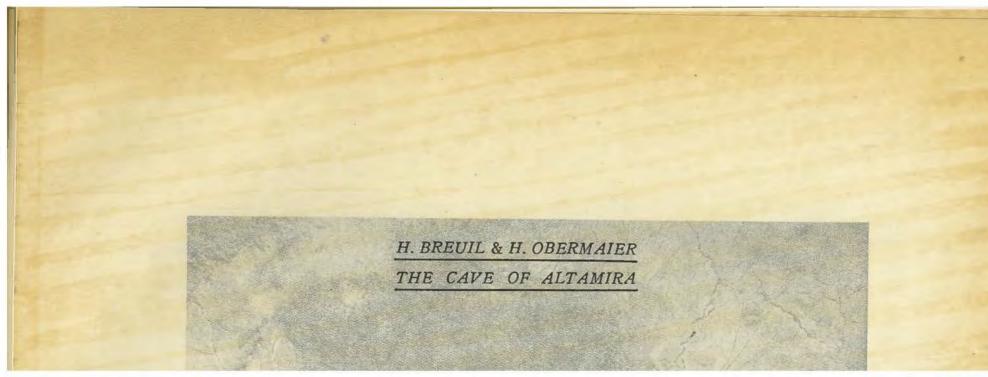


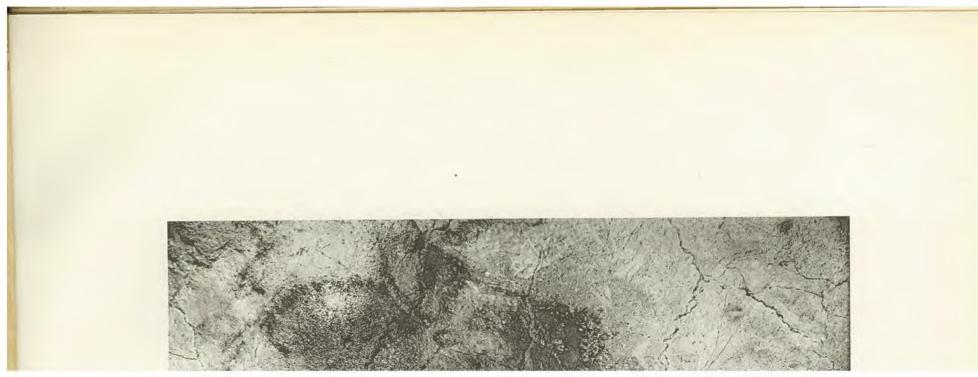
H. BREUIL & H. OBERMAIER THE CAVE OF ALTAMIRA PLATE XXXII Photograph of the Bison couchant, pl. XXXI.



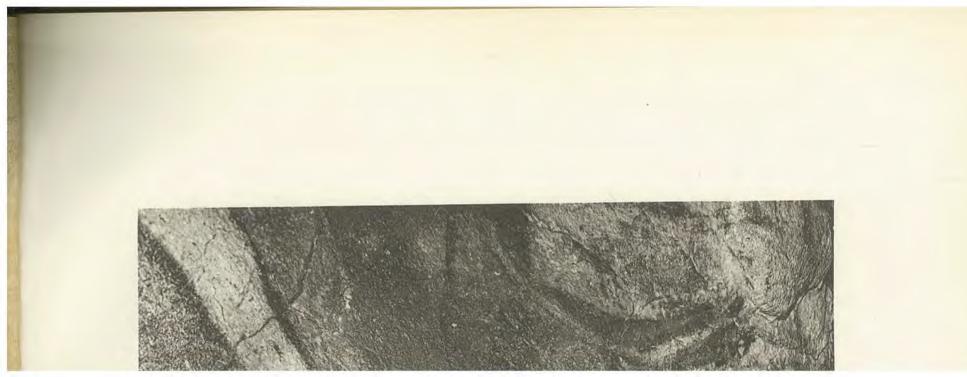


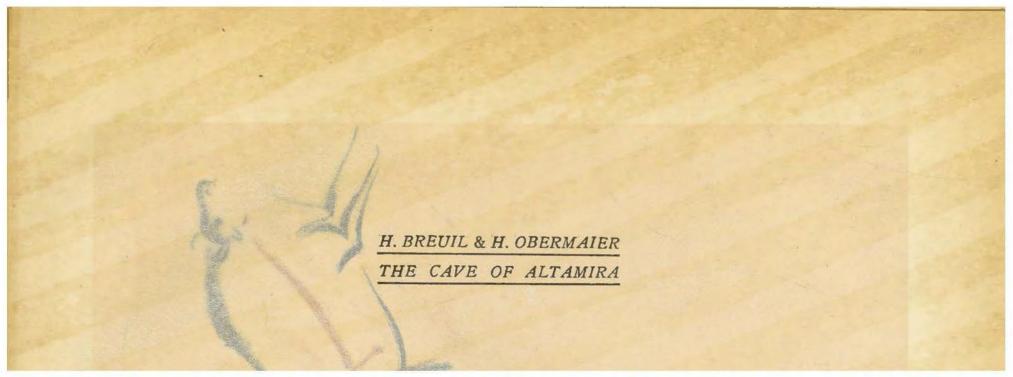




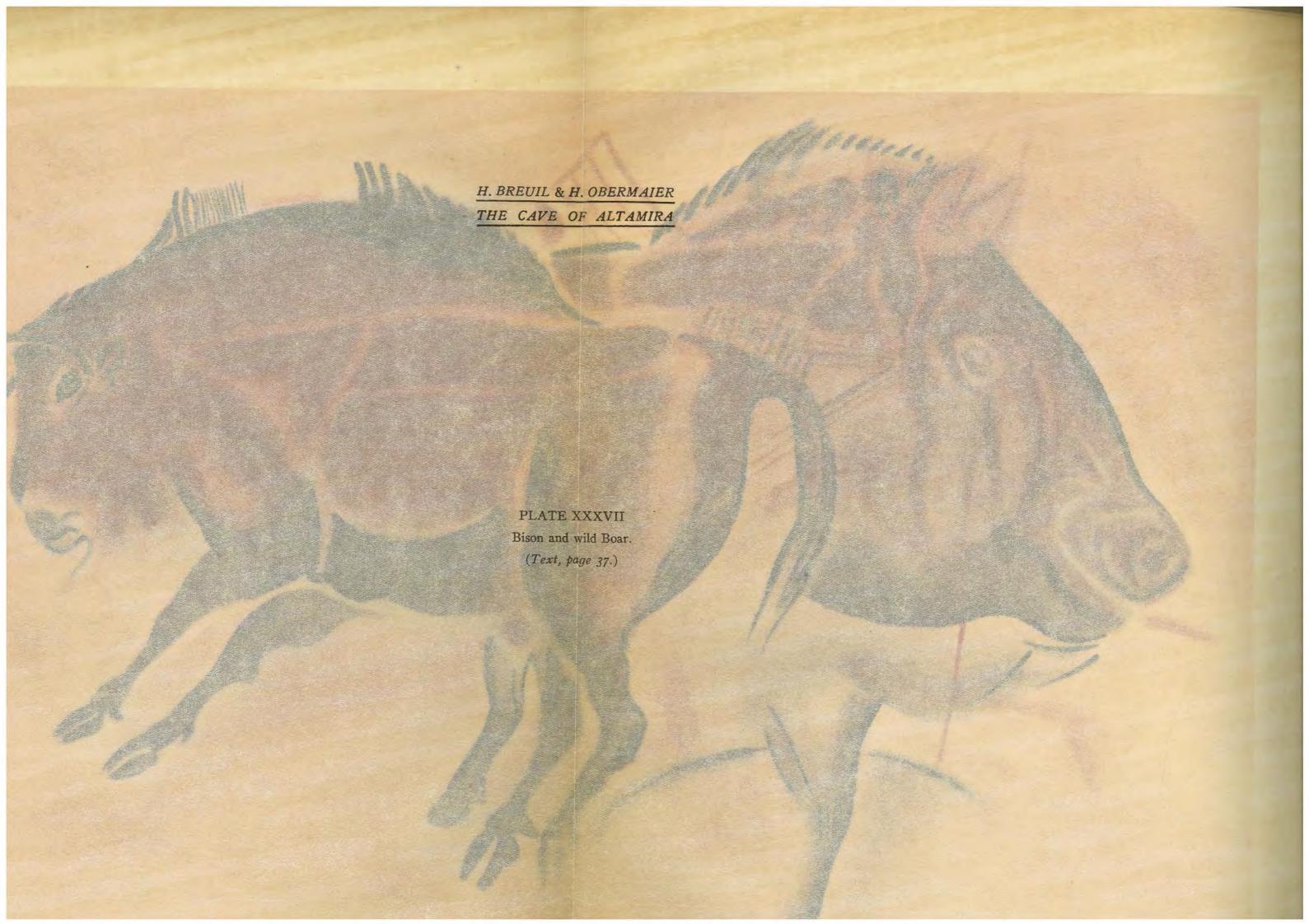


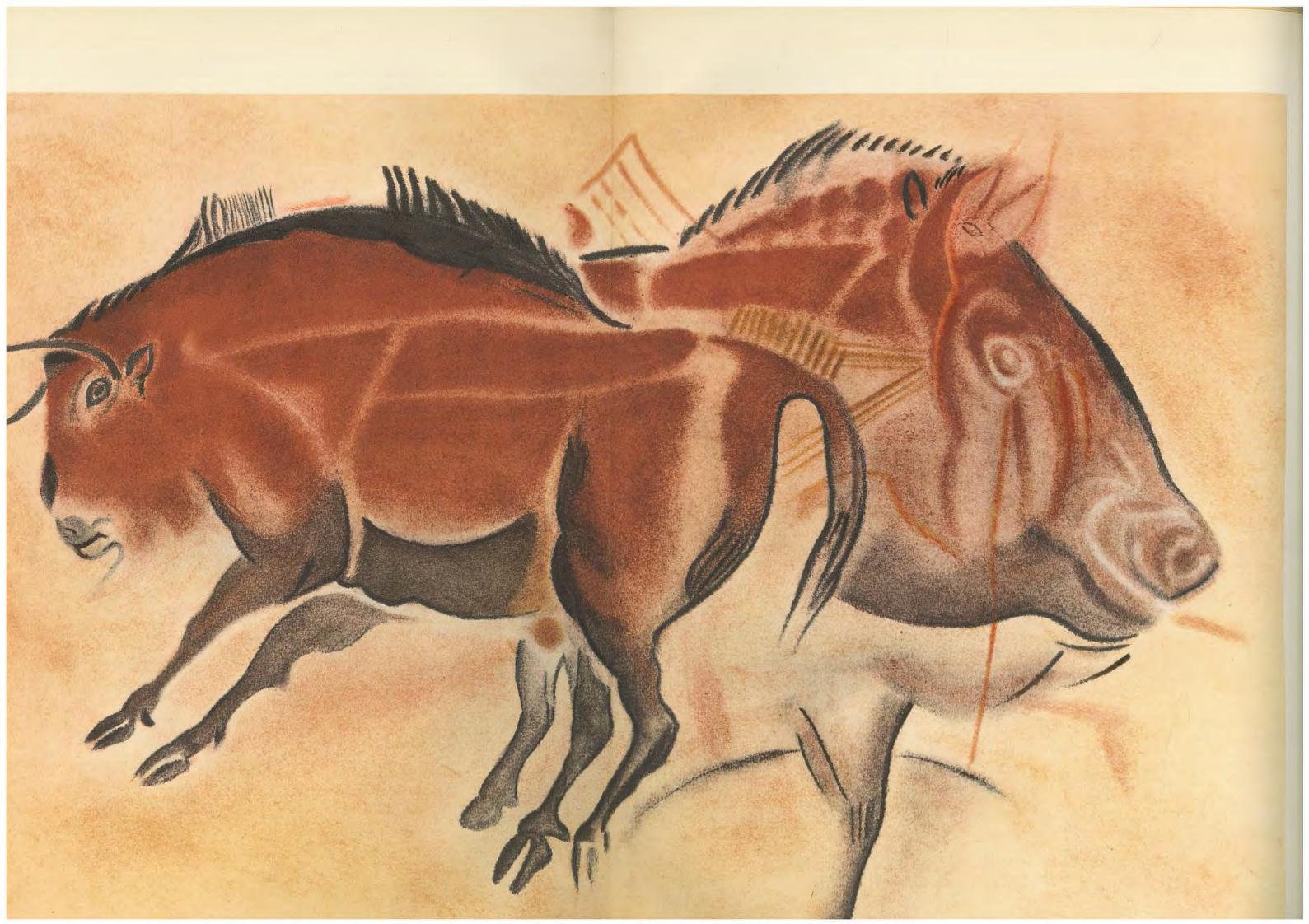
H. BREUIL & H. OBERMAIER THE CAVE OF ALTAMIRA

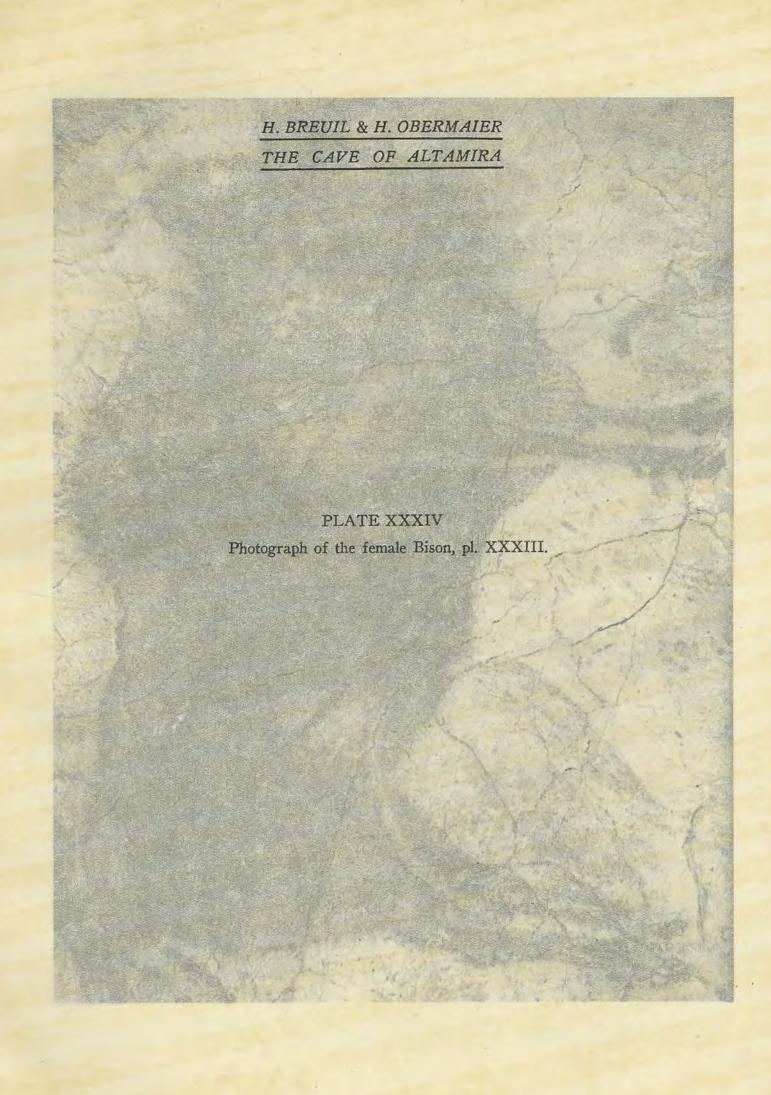














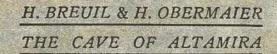
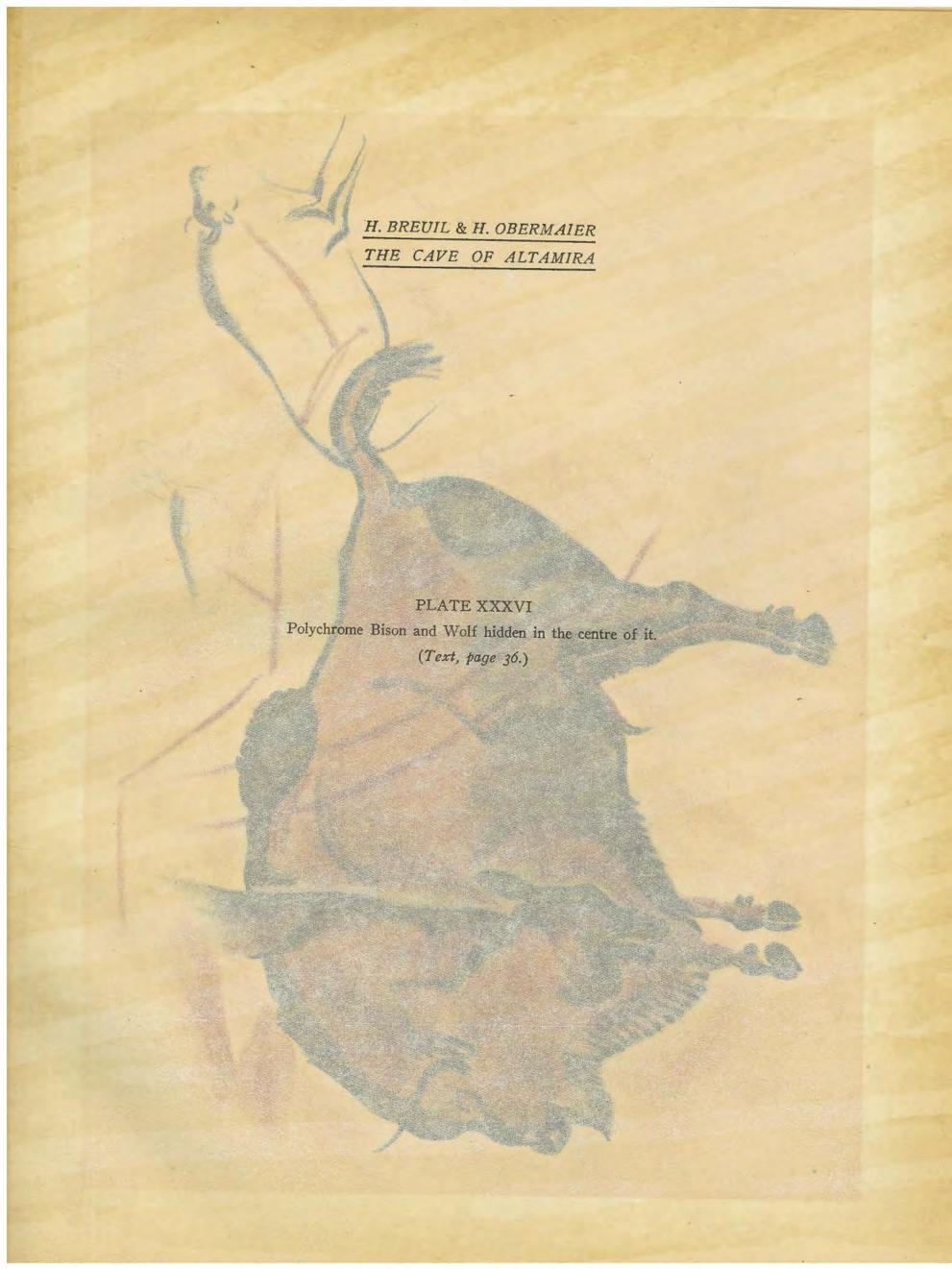


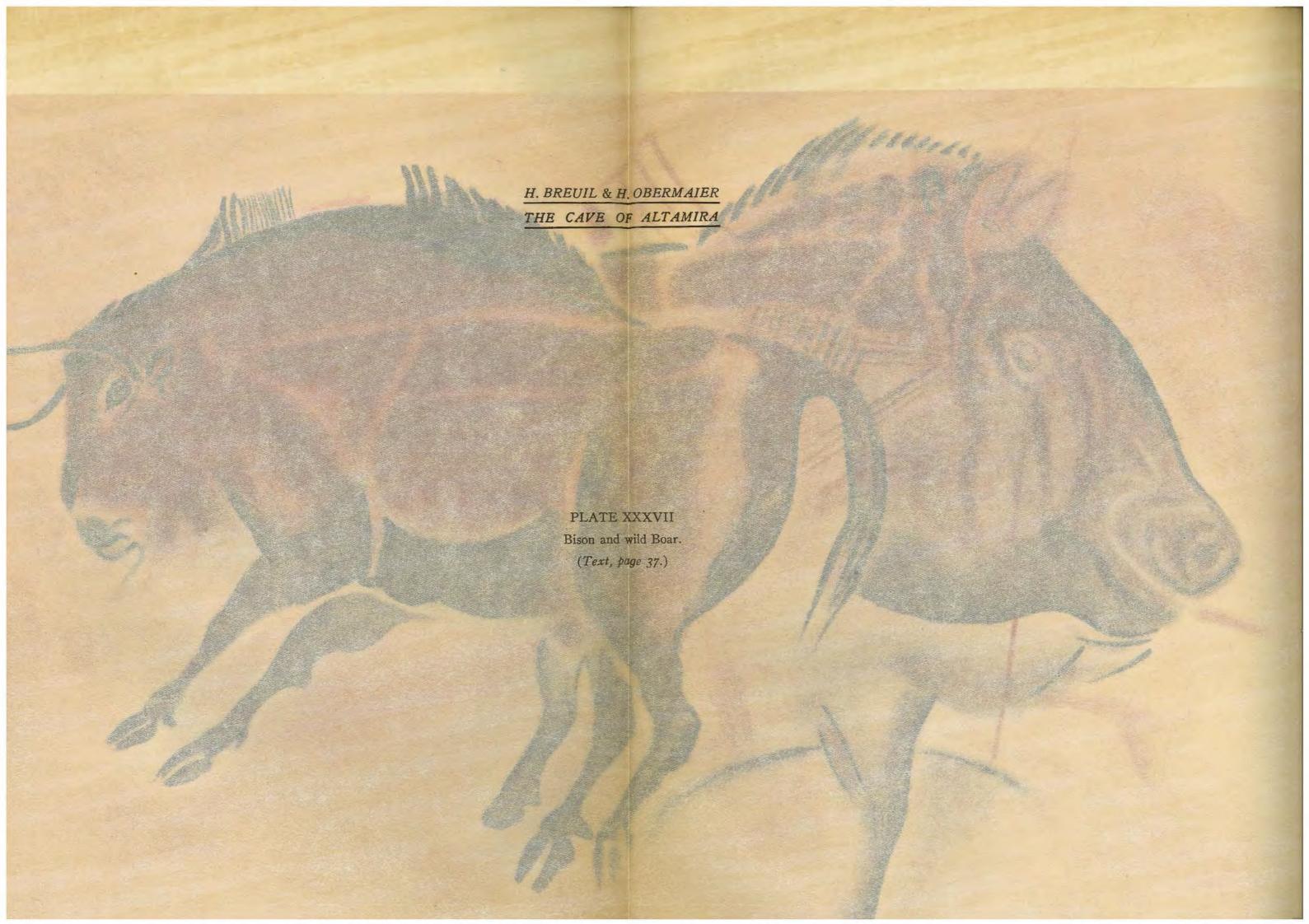
PLATE XXXV

Photograph of the hind-quarters of the female Bison, head of the black Bull (pl. XXXIII) and various parts of neighbouring figures.

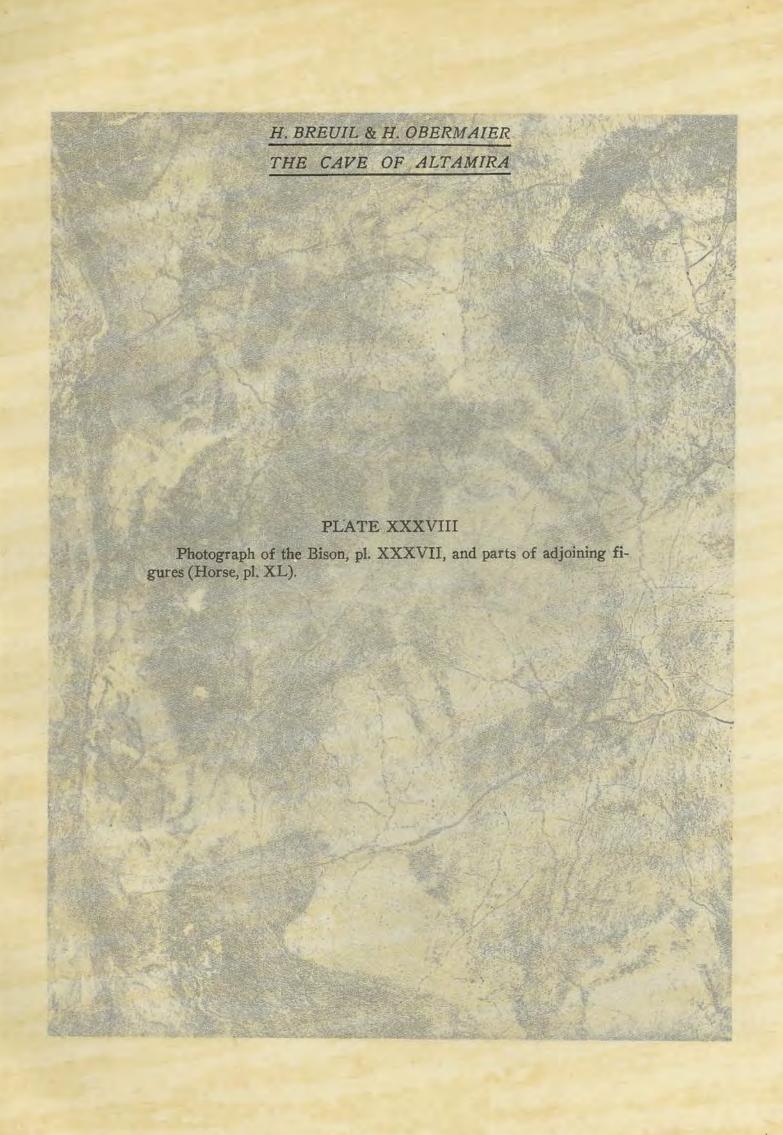














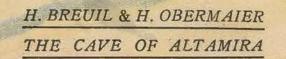
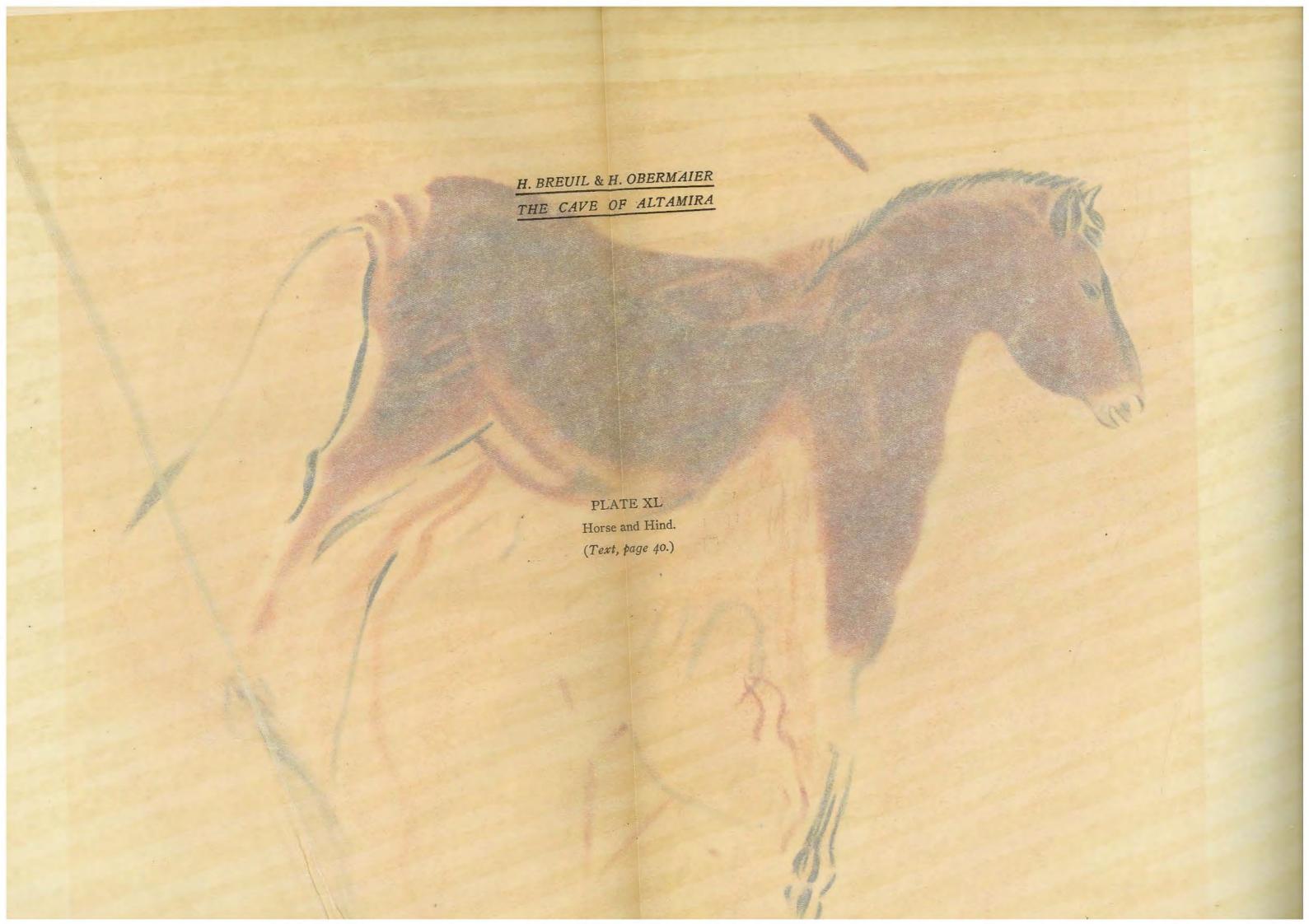


PLATE XXXIX

Bison, Hind and other animals interlaced.

(Text, page 38.)

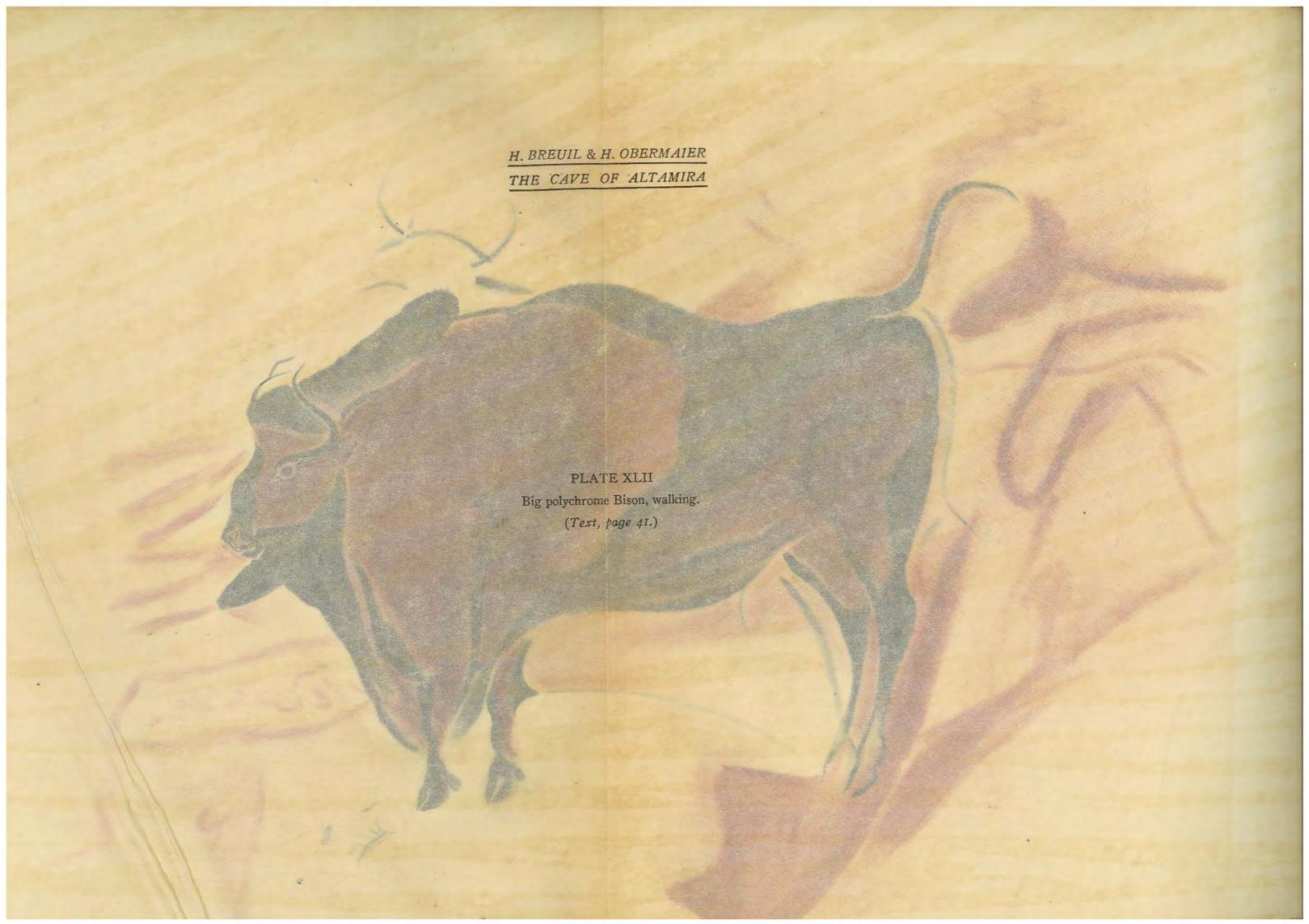






H. BREUIL & H. OBERMAIER THE CAVE OF ALTAMIRA PLATE XLI Photograph of the Horse and Hind, pl. XL.

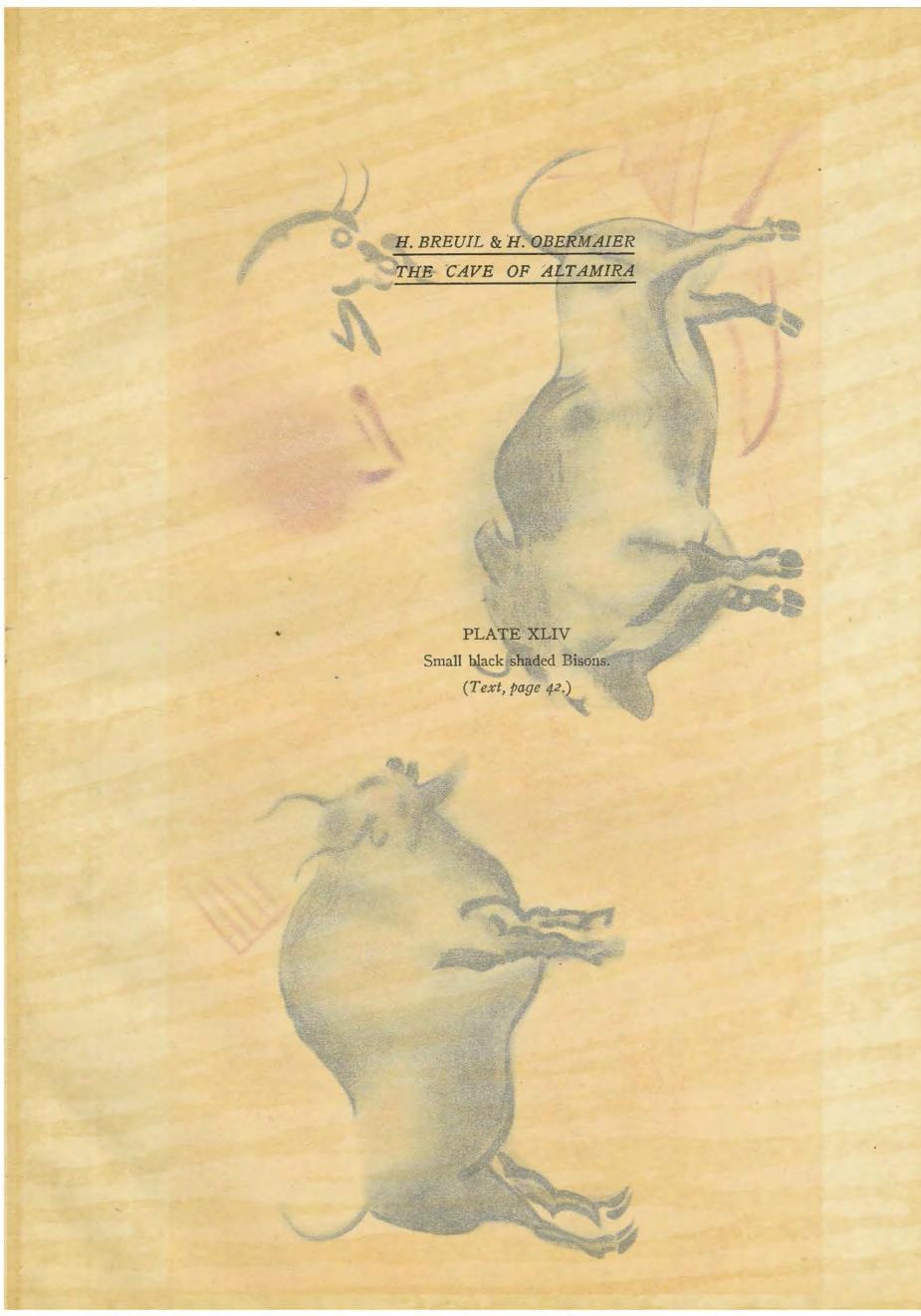


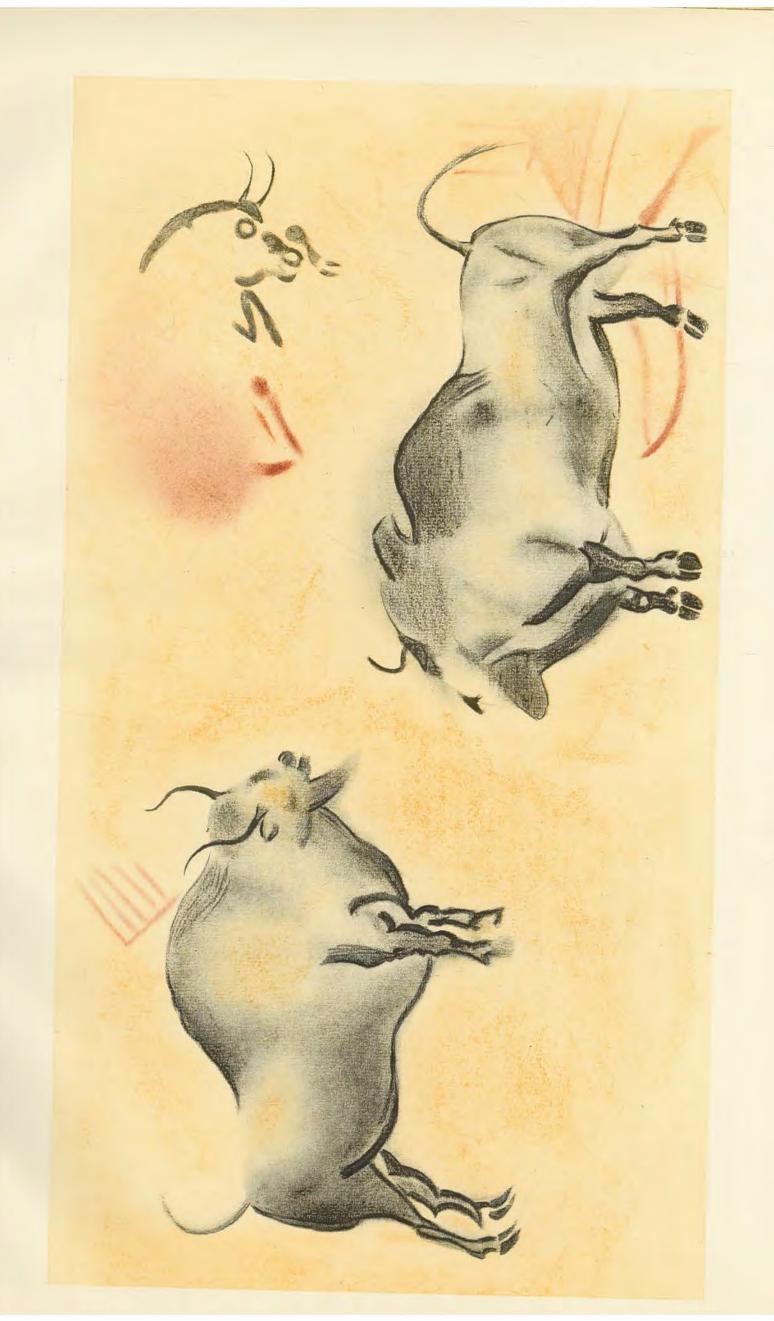


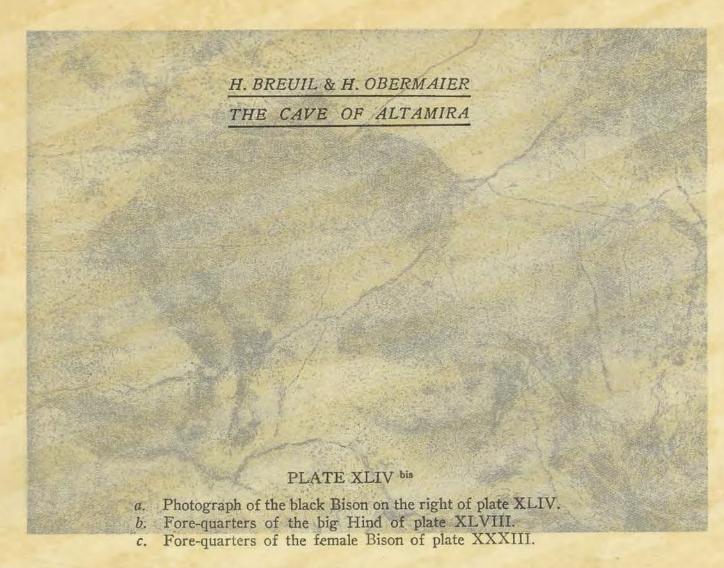


H. BREUIL & H. OBERMAIER THE CAVE OF ALTAMIRA PLATE XLIII Photograph of the big polychrome Bison, pl. XLII.



















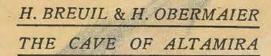
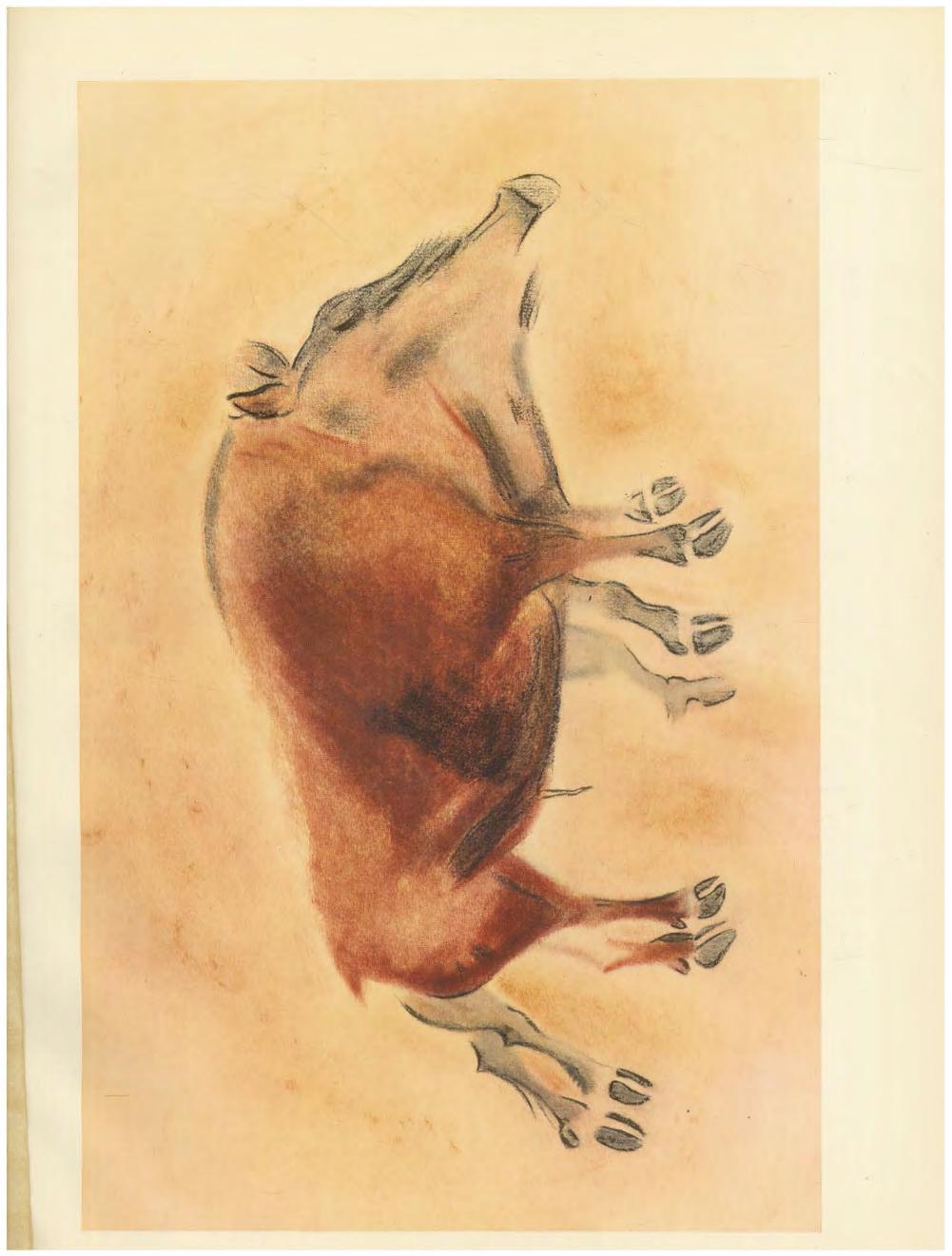
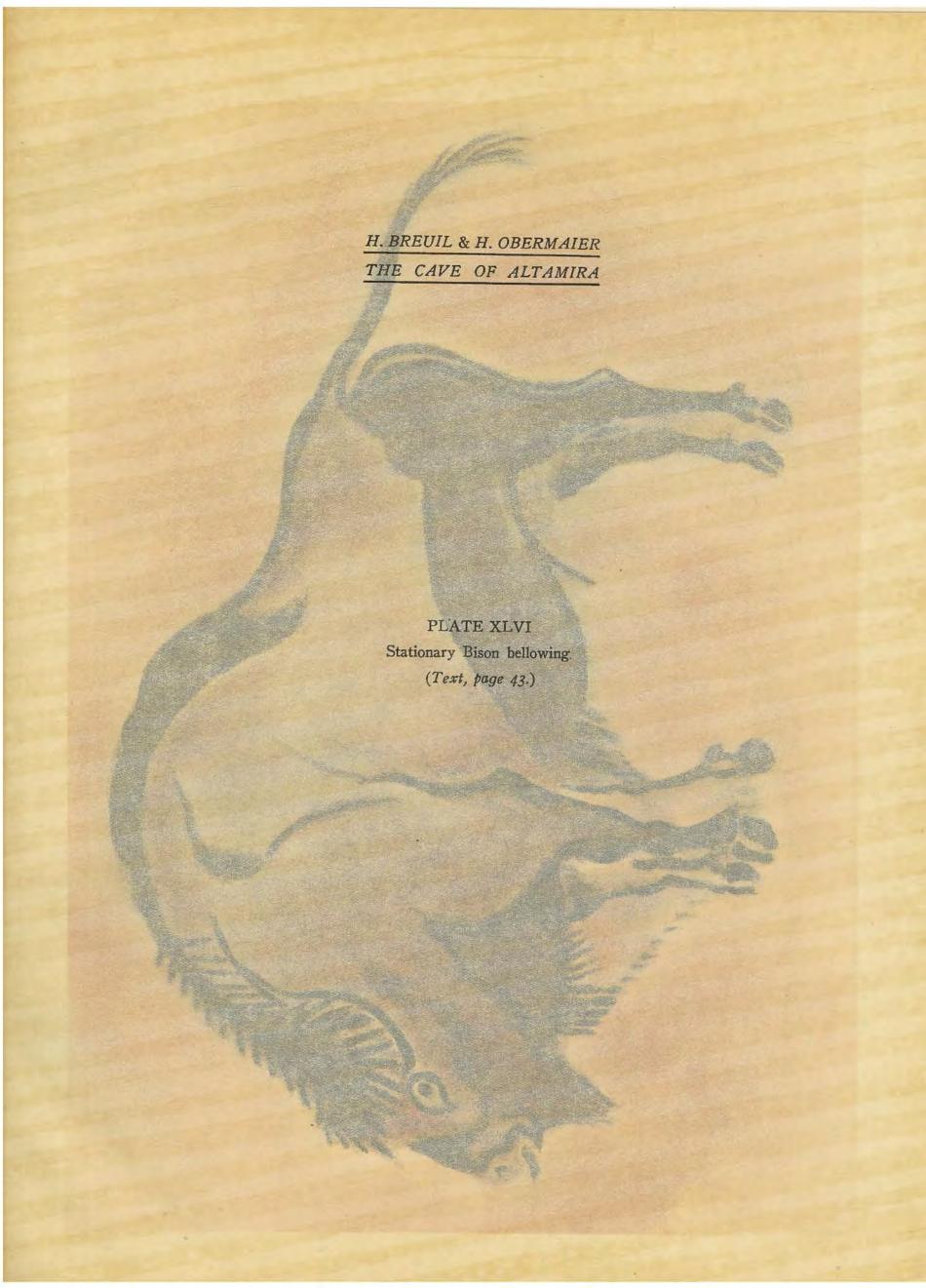


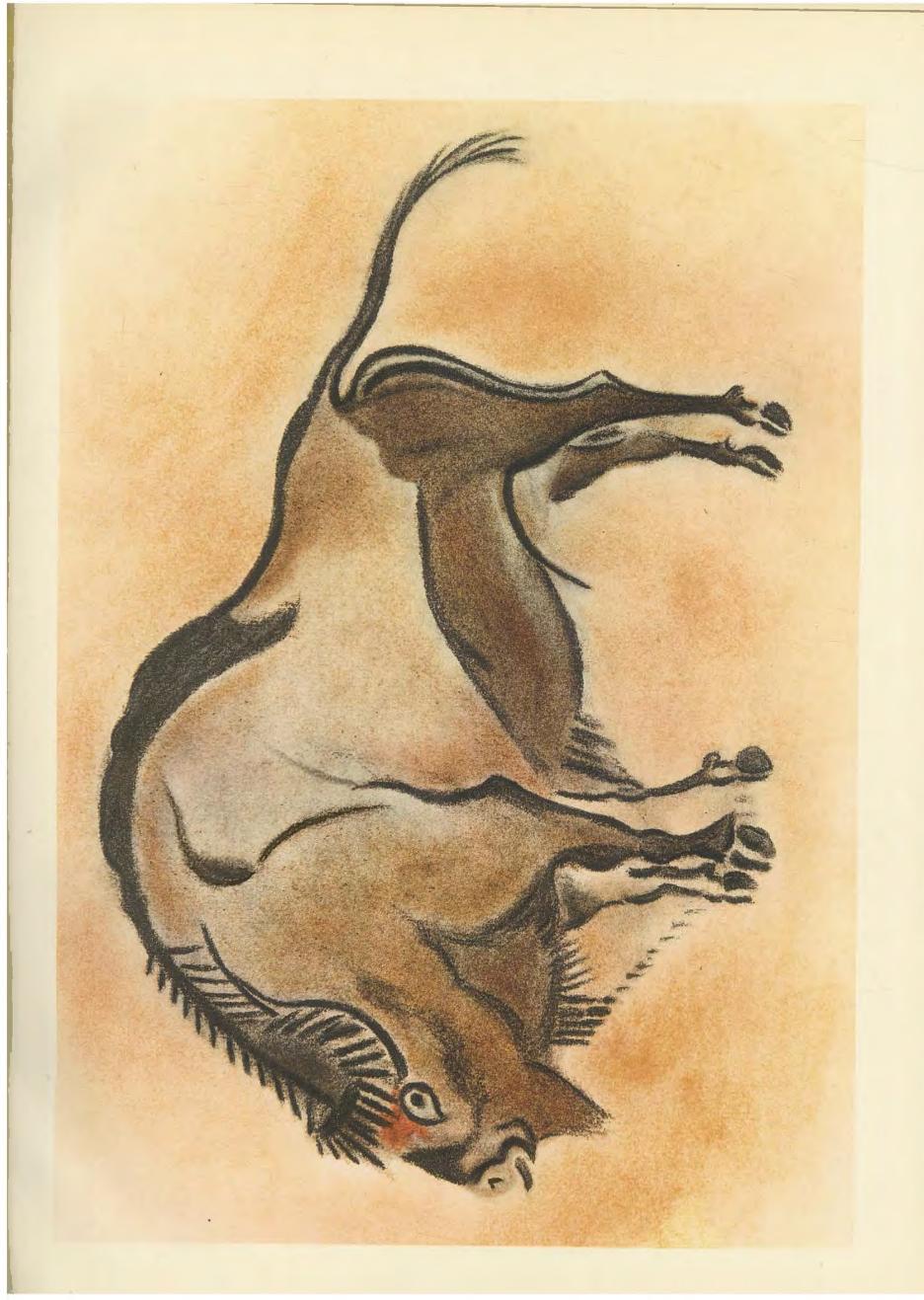
PLATE XLV

Walking wild Boar, painted over an earlier one.

(Text, page 42.)

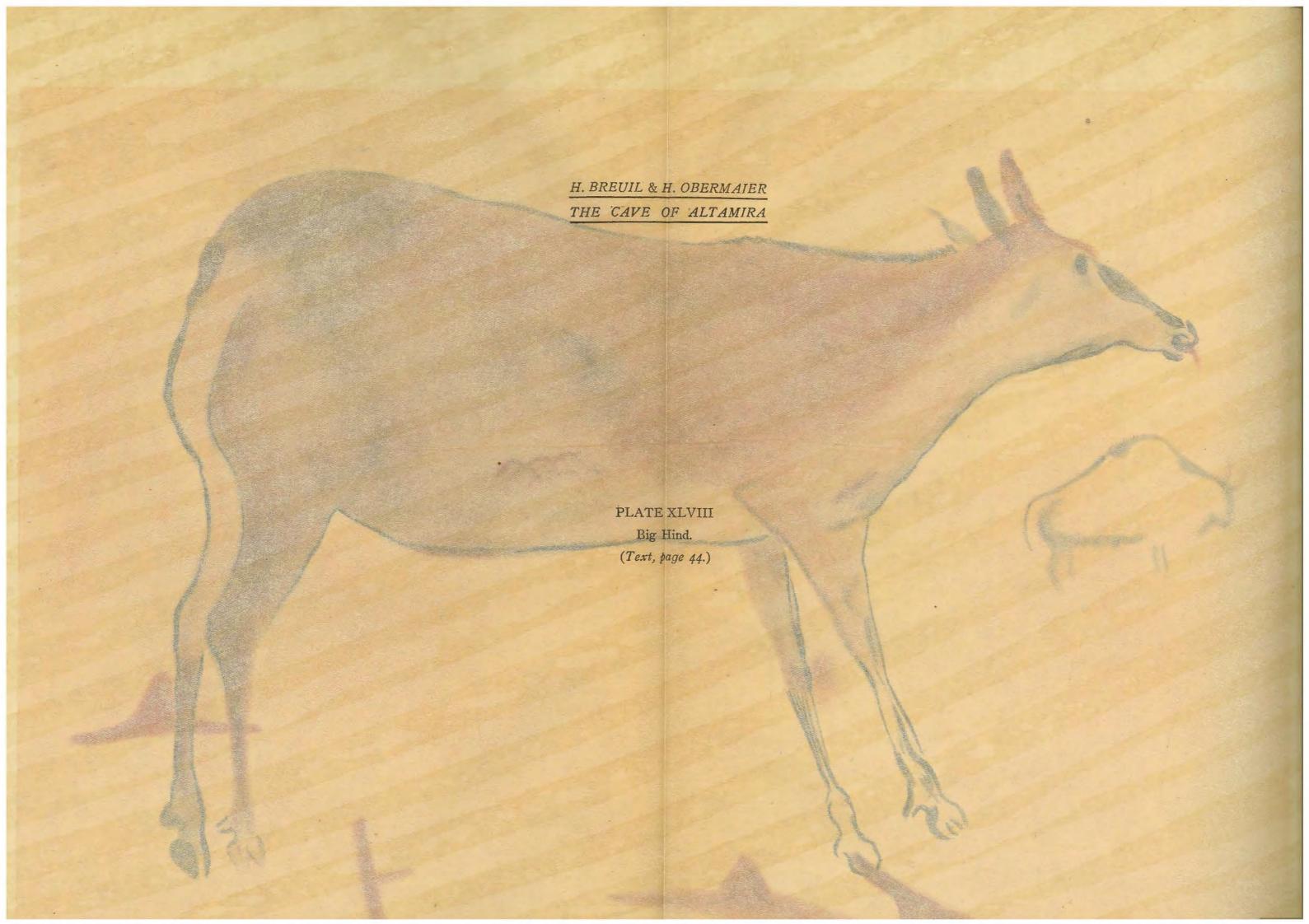


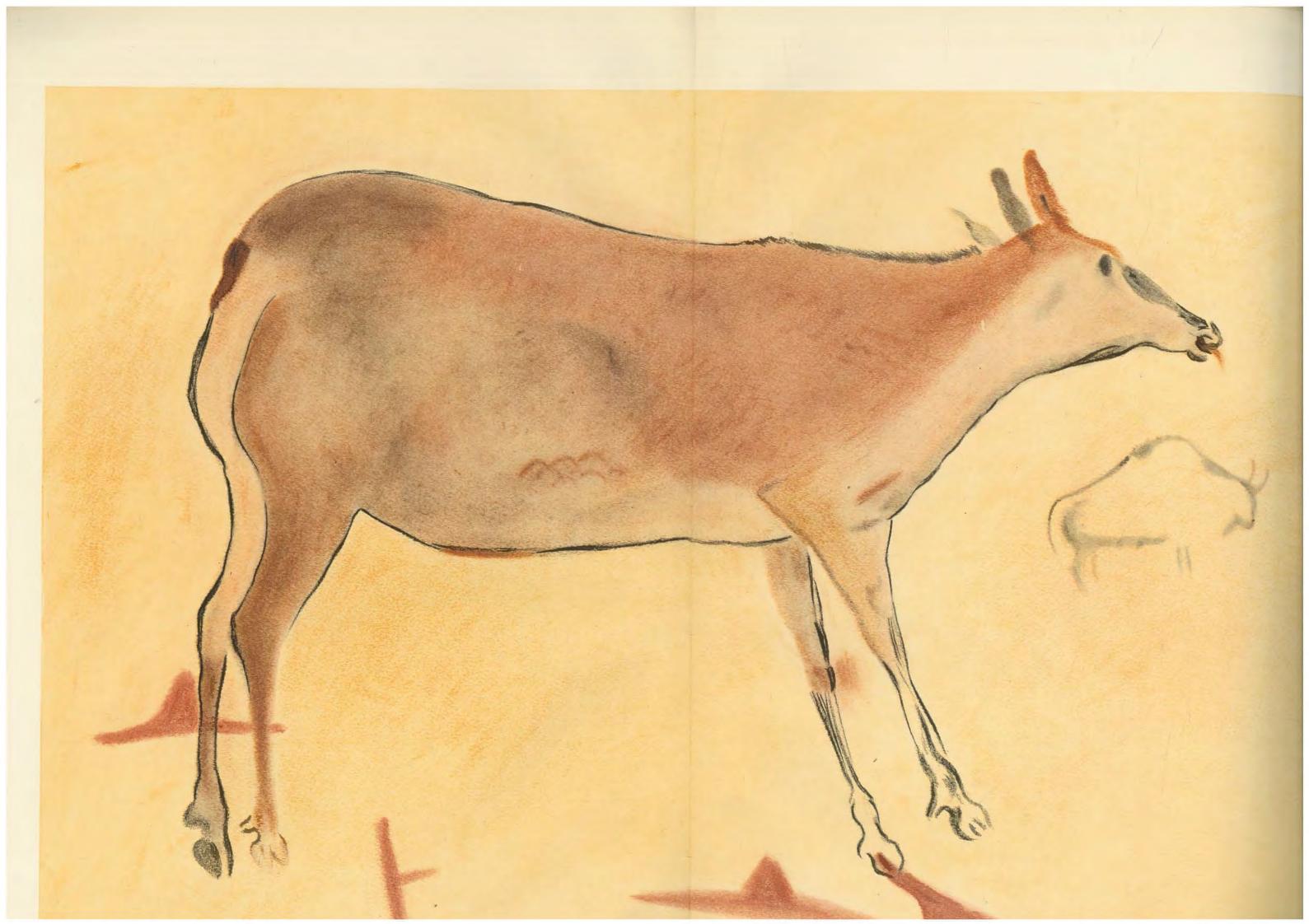


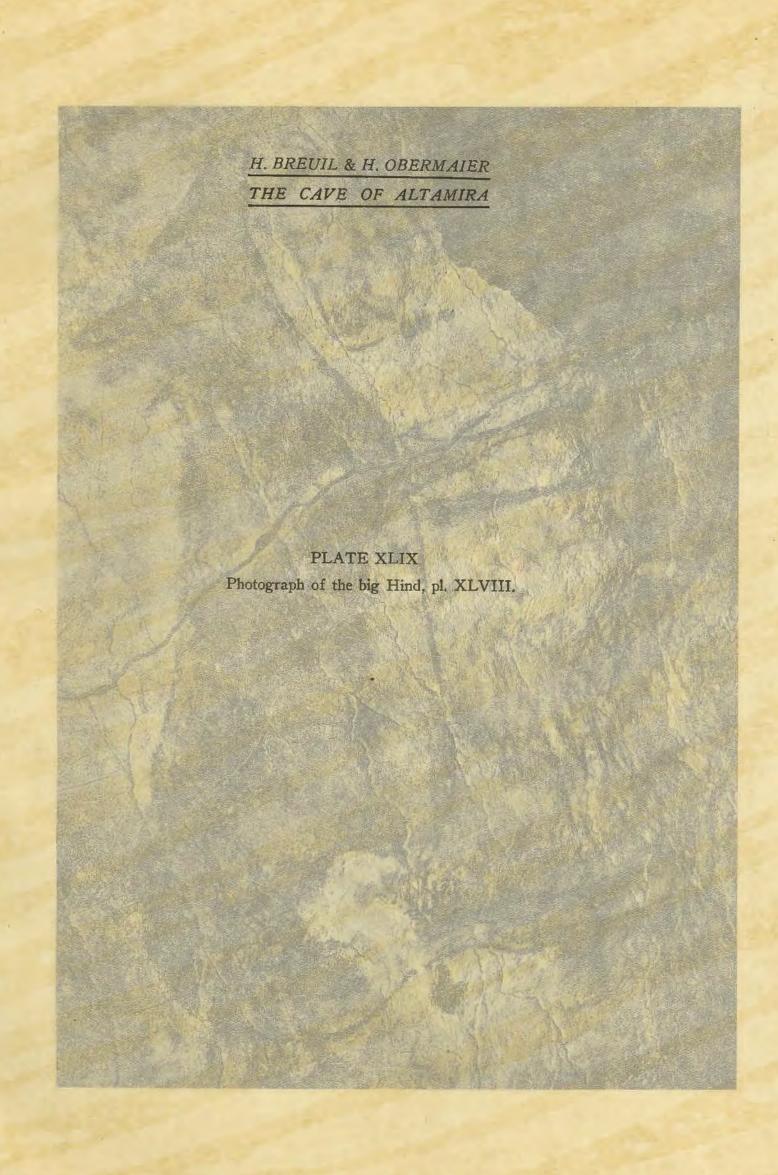


H. BREUIL & H. OBERMAIER THE CAVE OF ALTAMIRA PLATE XLVII Photograph of the Bison, pl. XLVI.











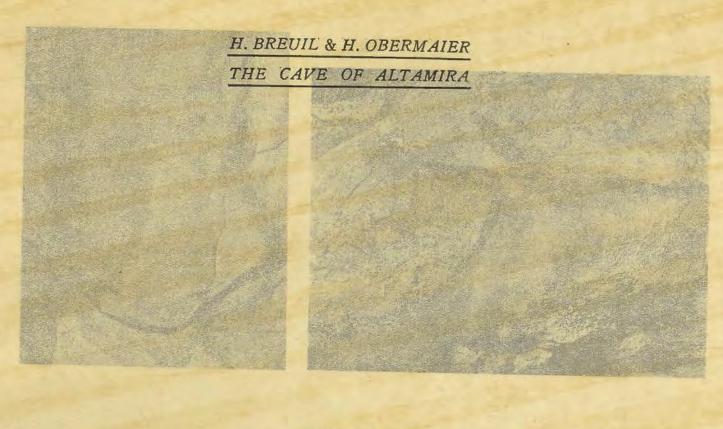


PLATE L

- Bison's head full face, in the end corridor (X). (Text, page 53.)
 Hind's head painted in black.
 Bison drawn in black.

(2 and 3 in the lower Hall VI.—Text, page 51.)







