THE MASTERS OF THE PAST

A case study on the attribution of Upper Palaeolithic cave art and its implications for the study of art instruction and non-utilitarian skills transmission in prehistory.

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Abstract

The main research question of this thesis has been: can we assign prehistoric artworks to their authors? Throughout the history of the studies on prehistoric (and in particular Upper Palaeolithic) art, authors have struggled to find space against their work; even when scholars have started exploring the people behind the masterpieces, a persistent scepticism has permeated the possibility of a truly art historical attribution process, despite the lack of any real obstacle to such an endeavour. Minoritarian voices within the scholarly community have set the theoretical foundations and the technical processes to attempt the task of attribution via a three-stage method comprising macroscopic observation, microscopic analysis and experimental confirmation. This method is put to the test on a peculiar case study within the panorama of prehistoric portable art: the cave of La Marche (Lussac-Les-Châteaux, Vienne), a Middle Magdalenian site that has returned an impressive collection of human-themed engravings on plaquettes. After providing a broader regional context for Poitou-Charentes and a local context for the locality of the site, the plaquettes are examined in their tracings for macroscopic observation, thus extrapolating a first series of "Groups" and "Hands" based on their rendition of the human head; a sample of the plaquettes subsequently undergoes microscopic observation via the RTI technique to confirm the first attributions; finally, an experimental protocol is carried out with volunteers with varying artistic skills, to confirm the macroscopic and microscopic evidence. The conclusion is therefore drawn that not only La Marche represent an example of "art workshop" in prehistoric Europe, but also that attribution of prehistoric artiworks is indeed possible and necessary to understand how non-utilitarian skills are transmitted in Magdalenian communities.

Table of Contents

SACRATISSIMO·CORDI·IESV

DOCTORIS·PHILOSOPHIAE

AD·GRADVM·DIGNITATEMQVE

ADSEQVENDOS

HANC·DISSERTATIONEM

MVLTO·SVDORE·ET·LABORE

CONFECTAM

ANIMO·GRATO

ET·PIA·DEVOTIONE

AVCTOR·LIBENTISSIME·DEDICAT

DIE·XXXI·MENSIS·IANVARII

ANNO·MMXXIII

Foreword

There is only one thing in life worse than being talked about, and that is not being talked about.

Oscar Wilde

The research presented in the following thesis has been carried out during my tenure as Ph.D. student at the University of York (2015-2022).

At the start of my tenure, I did not envisage my research would have taken this turn: as my supervisor could testify, I started off on a much broader, perhaps too broad topic for a Ph.D. thesis. The encounter with the collection of engravings from the cave of La Marche, however, tugged at some very deep cords in my classically-trained, humanistic heart and convinced me to deviate from my original plans and delve deeper into the realm of Upper Palaeolithic portable art, with all the potential this world had to offer to somebody with my educational background.

The results of this deep dive are now presented in these pages and organised in two parts. Part One will outline the theoretical background to my work and provide context for the site I have chosen as a case study:Chapter I will outline the contours of the problem this thesis aims to address, together with the aims and rationale of the work, the research questions and a synopsis of chapters; Chapter II will set the scholarship foundations for the research, explaining the principles of attribution as practiced outside of archaeology, reviewing the scholarly opinions on the problem of authorship (within and outside prehistoric studies) and building a case for the possibility and necessity of attribution of prehistoric artworks; Chapter III will provide the regional context for the Poitou-Charentes

(where the cave of La Marche, my case study, is located), giving further details of human populations, stratigraphic and explorational challenges, archaeological and artistic evidence for the Magdalenian period, before reviewing the scholarly views on Madgalenian art; Chapter IV will further focus on the Lussac-Les-Châteaux (Vienne) area, describing the cave of La Marche, the history of its exploration and the scholarship surrounding it, the stratigraphic circumstances and challenges it presents, followed by a review of its industries (lithics, bone and antler) and its anthropological materials, followed by a brief review of the other caves in the area; Chapter V, finally, will be centered on the engraved *corpus* of La Marche, exploring the geological characteristics of the supports, their state of preservation and the markings they present, whether natural or anthropic (artistic or not artistic). Part Two will illustrate the various stages of my research and the relative results of each: Chapter VI, a separate paper, presents *in nuce* the argument I have tried to build for prehistoric art as the perfect meeting ground for archaeology and art history; Chapter VII, itself a separate, published paper, contains the germs of the first stage of my attribution process, based on macroscopic observation; Chapter VIII presents the microscopic analysis of the archaeological plaquettes from La Marche, first outlining the technique used and subsequently describing the results; Chapter IX then details the third and final stage of the method, the experimental protocol for which methods and results are discussed. Chapter X, finally, conveyis my conclusions and ideas for future research.

Although I am fully aware of the "unconventional" nature of this research - in its methods perhaps more than in its subject, as it will become apparent in the following chapters - I have made a conscious effort, throughout this work, to keep the use of the word "pioneering" to the very minimum. Mainly, because the very nature of scholarship does not truly allow it: reliant on the work of those who wrote and researched before us we are, in the words of Bernard of Chartres, *nanos gigantium humeris insidentes* (like dwarfs standing on the shoulders of giants). Yet, it is from the highest point that sight reaches farthest, which is precisely what I have tried to do here: to apply the knowledge and methods I received from my teachers in archaeology and art history to new, uncharted fields of research. Many an eyebrow might be raised and I expect some might dismiss this as a pure "academic exercise", something that could be done but not necessarily should; as I

have written further *infra*, however, I am fully unapologetic and remain convinced that, to advance in our understanding of the past, we need to take down the barriers we ourselves set before us. If it need to be done by the way of "academic scandal", *fiat*.

I have a duty to inform the reader that my work - has well as those of several other researchers across the world - has been affected by the Covid-19 pandemic; the original research plans, therefore, had to be scaled down to guarantee a successful completion of the research. I have, however, offered as full an account as possible of all future research developments that could stem from this work, many of which were originally part of the research plan and that, due to circumstances, had to be expunged.

Several people - with their help in training me or facilitating access to museum collections - have been pivotal for my research: in particular, I would like to thank Dr. Catherine Schwab and M.me Marie-Sylvie Larguèze from the Musée d'Archéologie Nationale et Domaine National de Saint-Germain-en-Laye (Paris, France), Dr. Eric Robert and Dr. Laurence Glemarec from the Musée de l'Homme (Paris, France) for granting access to their institutions' collections and assisting me during my visits to their archives; Dr. Christophe Delage from the Muséum National d'Histoire Naturelle (Paris, France) for providing valuable bibliographic material and co-authoring our 2018 paper on this research's first stages; Mr. Mike Bamforth from the University of York for training me in the RTI technique; the University of York's Archaeology Data Service for allowing the use of their photographic equipment; the York Experimental Archeology Research (YEAR) Centre for allowing the space to complete the experimental protocol for my research.

Naturally, I wish to thank my doctoral supervisor, Prof. Penny Spikins, firstly for believing in such an unconventional research; secondly, for believing in me being able to carry it out; thirdly, for the patience she has shown to me across these long years. I would equally like to thank the chair of my Thesis Advisory Panel, Mr. Steve Roskams, for the precious advice he has always given me on my research.

Finally, the biggest debt of gratitude I have is with my *comites dulcissimi*, my partner Tom and our cats Daos and Che, for the invaluable moral support they have provided from day one and without whom, I am not ashamed to say, none

of this would ever have happened.

Simone Chisena
University of York - January 2023

Nota Bene: all images and illustrations, unless specifically credited, have been produced by the author. Similarly, all data utilised for graphs and tables originate from the author's research; when data from other works have been uses, appropriate credit has been indicated.

Author's Declaration

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for an award at this, or any other, University. All sources are acknowledged as References.

Chapter II has been presented for publication (but not published) to the journal *Archaeological Dialogues*. Chapter V has appeared as a published paper (co-authored by myself and Dr. Christophe Delage) on the journal *Open Archaeology* (2018, 4(1), pp.239-61).

Part One
Theory and Context

Chapter I
Introduction

Ahead of delving into the research proper, it will be necessary to outline the core problem examined in this research, the questions it posed and how I have addressed those questions across the thesis chapters.

1. The problem

For a large part of its history as an autonomous discipline, prehistoric archaeology has neglected the authors of prehistoric art. This is due to a wide variety of reasons, both internal (related to the confidence in the ability to successfully investigate the authors) and external to the discipline (a certain diffidence in the opportunity and necessity for such a study, seen by and large as the pursuit of art historians) and has characterized prehistorians' attitude to Upper Palaeolithic art for at least a century, the tide starting to turn only towards the end of the 1970s. The consequences of this approach have had a profound fallout on the study of the archaeological record: on the short term, large *corpora* of prehistoric art have been derubricated as the work of a single artist (on whose nature and status speculations have abunded, see Ch. II) or summarily classified as "anonymous"; on the longer term, it contributed to the creation of a methodological distance from the more traditional researchers in artistic authorship (the art historians) and, by consequence, to the establishment of an unspoken, reciprocal diffidence,to the point that art historians seldom include or discuss prehistoric art in their general works (with few, notable exceptions such as E. Gombrich and F. Zeri).

The major breakthroughs at the basis of the present research originate from the work towards authorship of prehistoric art carried out from the 1980s onwards - that is, from the renewed interest in the authors of prehistoric artifacts. On the one hand, the broadening of scholarly perspectives to encompass not just the dimension of art fruition, but also that of art production - triggered by a renewed interest and re-evaluation of portable art as a valuable component of Upper Palaeolithic visual expressions - concurred in bringing the authors out of the shadows in which the "monolithic" approaches to prehistoric confined them (chiefly, those of Breuil and Leroi-Gourhan); on the other hand, the theoretical debate over the subject of authorship from the last two decades of the 20th century - chiefly, those of J.D. Lewis-WIlliams and J.M. Apellaniz - highlighted the potential research perspectives into the identity - and, consequently, the potential social role - of prehistoric artists (see Ch. II, §3). In consequence of these developments in the scholarship, attempts have been made to investigate the authors of prehistoric artworks by means of art historical methods (e.g. Groenen and Martens, 2010) and technical, skill-based analysis (e.g. Rivero, 2015); contextually, a general methodology for attribution has been proposed but, to this day, not yet applied to an actual prehistoric art assemblage (Apellaniz, 2000).

This thesis proposes to complement and expand upon the work on authorship carried out in the previous decades in a twofold manner: from a theoretical point of view, by demonstrating not just the possibility of attribution - thus challenging one of the most tenaciously enduring taboos of prehistoric studies, the impossibility of ascertaining authorship - but also its utility and necessity as a legitimate mean to investigate artistic skills in prehistoric communities and, by consequence, cast further light on the social status of Upper Palaeolithic artists; from a practical point of view, by bringhing together the diverse attempts at attribution carried out to this day by Groenen and Rivero within a unique, holistic methodology and by providing a practical application and a concrete methodological definition to the method of attribution devised (but not implemented) by Apellaniz (see *infra*, Ch. II, §3.ii), thus demonstrating its effectiveness in achieving its proposed aims. In this respect, the engravings from La Marche (Lussac-Les-Châteaux, Vienne) presents characteristics that make it most suitable for such an investigation: the site has returned an assemblage of over 3000 engravings (belonging to the

same archaeological layer and thus stratigraphically uniform, see Ch. V, §2.i) on plaquettes, boulders and pebbles, 1500 of which human-themed. Among the human themes, the face is by far the most represented subject, the frequency of which allows for the study of variations in its representation: by identifying the main "points of variation" on which individual skill differs, it would be possible to identify the Hands at work on this collection (see. Ch. VII), an identification further tested by the technical analysis of the engravings by means of microscopic investigation (see Ch. VIII) and by the execution of an experimental protocol to verify the conclusions of the previous two phases of research.

Finally, this thesis aims also at throwing a bridge between archaeology and the neighbouring discipline of art history: by integrating the time-honoured techniques for artistic attributions devised by art historians with the technical analyses carried out by prehistorians into a single, comprehensive framework, the author wishes to invite scholars from both disciplines to a conjoined effort to create a shared methodology for the study of prehistoric artworks.

2. Research questions

- **Q. 1** - Is it possible to attribute prehistoric artworks to their author(s)?
- **Q. 2** - What information does attribution of prehistoric artworks provide about the lives of prehistoric artists?

3. Chapter synopsis

- **Chapter II** - outlines the theoretical background to the research. Section 1 is devoted to defining the concept of "artist's identity", the scope of its investigation and the evolution of the identity problem over the course of human history from Antiquity to the present day, each time highlighting the motivations for its importance and interest for the artist's contemporaries. Section 2 expands on the issues connected with the investigation into identity by describing the methods developed by disciplines outside prehistory for the study of anonymous artworks: firstly, the method devised by

J.D. Beazley for ancient Greek vascular painting is exposed; secondly, the palaeographic techniques for the attribution of anonymous medieval manuscripts is described. The purpose of these first two sections is twofold, to state unequivocally the existence of an identity problem for ancient artists and to demonstrate its successful investigation within the broader fields of archaeology and art history. Section 3 narrows the horizon by focusing on prehistorians' approaches to this problem. After a review of the scientific literature on the subject of authorship (aimed at highlighting the changes in perspective on the topic) the case for the attribution of prehistoric artworks is made: firstly, the opinions against are reviewed; secondly the opinions in favour; thirdly, the main argument for attribution at the foundation of the thesis is presented.

- **Chapter III** - describes the wider, regional context of the site examined in this thesis. After an outline of the geological peculiarities of the region of Poitou-Charentes (section 1), the evidence for human occupation is reviewed: Section 2 describes the anthropological evidence for Neanderthals and AMH; Section 3 reviews site-by-site the archaeological evidence for the region, with a specific attention to the excavation history, stratigraphic problems and industries (lithics, bone and animal materials); along a similar line, Section 4 reviews the evidence for artistic expression, with a specific focus on human representations at the purpose of highlighting the peculiarities of the region; finally, section 5 expands further on the contemporary scholarly approaches on Magdaenian art, delving especially on the relationship between symbolism, technology and style. Section 6 draws the final conclusions about the region.

- **Chapter IV** - further narrowing and focusing the reader's attention and following a similar scheme from Ch. III, this chapter reviews in more detail the archaeological area of Lussac-Les-Châteaux (Vienne). After a brief overview of the geological peculiarities of the area (Section 1, following the general description in the previous chapter), the archaeology of La Marche is described in Section 2, with a specific attention to the excavation history, stratigraphic problems and industries (lithics, bone and animal ma-

terials); Section 3 expands further outside the boundaries of the site to briefly describe the other caves in the area.

- **Chapter V** - focuses on the engraved assemblage from La Marche, encompassing its entirety regardless of the subjects represented. Firstly, the types of supports are described from a geological and petrographic point of vies, delving into the types of stone deployed and their sourcing based on the geology of the site and wider region; secondly, the treatment of the support is explored, with attention to surface preparation, engraving techniques and tools and pigment application (or absence thereof); thirdly, the subjects engraved are discussed, comparing the numbers of human versus non-human engravings and exploring the stylistical choices made in animal and abstract representations. Human representations are, *ça va sans dire*, only summarily treated in this chapter as they form the main subject of Part Two.

- **Chapter VI** - conceived as an independent paper for the journal *Archaeological Dialogues*, this chapter delves deeper on a specific theoretical point: the relationship between archaeology, art history and how prehistoric art could work as a meeting ground for the disciplines. After describing an academic confrontation between an archaeologist and an art istorian on the topic of prehistoric art (Section 1), the evolution and the state of the relationship between the disciplines is examined, both with reference to the other branches of archaeology (classical archaeology in particular) and to prehistory (Section 2). Section 3 then offers an argument on how prehistoric art can become the ideal subject for the two disciplines to develop a common methodology, offering examples of how this is already happening and how the work could develop in the future.

- **Chapter VII** - Published as an independent paper in the 2018 issue of *Open Archaeology* and co-authored with C. Delage,this chapter describes the first stage of the attribution method: the macroscopic observation. After a brief sketch of the site's history (Section 1) the theoretical background and method are described, alongside the problematic aspects (Sections 3 and

4). SUbsequently, the results of this first stage are explained, divided into Groups (marked by the first five letters of the Greek alphabet) and Hands (each indicated by the Group letter and an Arabic number) and followed by a description of those engravings that proved dubious to attribute (Section 5). Special attention is finally devoted to those engravings that present an overlapping of human and animal representations and, when detectable, the interaction between those (Section 6).

- **Chapter VIII** - following logically from Ch. VII, this chapter comprises the second stage of the attribution process: the microscopic analysis, conducted with the use of the Reflectance Transformation Imaging (RTI) technique. After describing the characteristics of this technique, its preliminary applications to archaeological contexts (prehistoric and historical) and the specific details for this particular application (Section 1) the results are provided following the criteria outlined by O. Rivero and already alluded to in Ch. II. A sample from each Group (within limits dictated by museum restrictions during the pandemic) has been selected and analysed, the results presented in the form of tables detailing Accidents, Corrections, Incision Profile, Groove Depth and the consequent Level of Expertise. Examples of these categories are provided in the form of photographic extracts from the RTI images of the archaeological plaquettes.

- **Chapter IX** - this chapter encompasses the third and final stage of the attribution method, presenting the results of the experimental protocol conducted with volunteers from the student cohort at the University of York. After describing the experiment in its different stages (Section 1), the results are presented starting with the participants' answers to the preliminary questionnaire they were asked to complete, collated in a series of graphs followed by a discussion. Subsequently, the the results of the RTI analysis of the experimental engravings are presented in a similar format to the archaeological ones and analyzing the same criteria, alongside photographic comparisons between the two sets of engravings (archaeological and experimental) highlighting the similarities detectable from the analysis. The purpose of this is to facilitate the comparison btween this chapter and

the previous and, therefore, a beter understanding of the archaeological artefacts in light of the experimental ones.

- **Chapter X** - after the theoretical and contextual expositions of Part One and the research described in Part Two, this chapter draws together all the results and draws the conclusions. Sections 1 and 2 aim at answering the research questions and main problems presented in Ch. II, with a particular focus on whether or not to identify La Marche as a prehistoric workshop for art instruction and if the possibility and necessity of the attribution of prehistoric artworks have indeed been demonstrated. Section 3, on the other hand, turns its focus towards the future of the research by highlighting further work that can be conducted within the path set by my work (and partly left outside the research due to the pandemic) and how the method itself can be improved to further understand this and similar prehistoric art contexts. Section 4, finally, aims at a further call to collaboration between archaeologists and art historians in the same spirit that animates Ch. VI, to develop and apply a common method for a thorough understanding and contextualization of prehistoric art within the broader perspectives of Western artistic expressions.

Chapter II
A case for the artist's individuality

The problem of "authorship" – and consequently of what characteristics the "author" has or should have – is not new to art history and critique; the last two centuries have seen, for example, a consistent fringe of the debate on classical art focusing on the dichotomy "art/craftsmanship" in regards to the nature of Greek and Roman artistic expression, with the general consensus swinging towards the latter option, rather than the former.

In this chapter, I will explore the possibility of investigating authorship of Upper Palaeolithic art, firstly by making a case for its possibility and its necessity; secondly, by outlining the method I intend to follow to carry out such an investigation. I have structured this chapter in three sections that aim at answering three different questions: Section 1 examines whether or not authorsip and identity are issues debated over the course of history; Section 2 presents examples of methods employed by scholars to investigate authorship of anonymous works; Section 3, finally, examines whether or not it is possible to ally such methods to Upper Palaeolithic art.

Before starting, however, it is necessary in my opinion to clarify two crucial points: the term "artist" is used here as a pure conventional term describing the creator of any form of visual expression. There is no intention, on my behalf, to apply the modern notion of artistry – the romantic idea of an inspired individual creating something unique and irreplaceable out of his whim and wisdom – to Palaeolithic art. Secondly, I would like to stress the fact that "identity" - as defined by giving a person a name - and "individuality" do not necessarily proceed at the

same time: as it will appear clear in the following paragraphs, identification of an author or an artist does not always come with the discovery of his/her name, as it is the case for prehistoric art.

1. The artist's identity problem over the ages

The problem of attribution is a direct derivation from that of authenticity, which would be convenient to discuss briefly.

The first artifacts to bear the signature of their authors are the black-figured vases from Attica, dating back to the 7th and 6th centuries BC. The discontinuous and apparently random nature of Greek vascular signatures has led to a fierce debate, in modern scholarship, about the reasons behind their presence or indeed absence - social and economic explanations have at the same time been accepted as complementary and rejected as conflicting -; nonetheless, it shows how alien the problem of "genuine authorship" was for early civilizations, no matter how advanced their stage of intellectual development (see, for example, the vast issue of Roman marble copies of Greek bronze sculpture, as explained by Zanker, 2006 and Gasparri, 1994). As Eric Hebborn notes (1997:xiv),

> The Sumerians, the Egyptians, the Babylonians and the ancient artists of both India and China have left us countless masterpieces, all anonymous, and scarcely one that could be called original in the sense that it reflects one person's individual, unique point of view. The artist-craftsman of those times was content to set aside his ego and follow accepted models that speak of cultures rather than idiosyncrasies.

It would be easy to dismiss the problem of authenticity in art as something of concern for art merchants only; according to Denis Dutton's definition of art forgery (Dutton, 2005:258), in fact, one of the reasons for the misrepresentation of an artwork's origin and creation is financial gain. However, such gain would only be the effect of a bigger cause, whose origin we can trace. They will become even more visible if we try to briefly follow the history of this problem.

The classical world ignores the issue of identity in the way we moderns conceive it; accordingly, they do not share with us the same obsession with "originals".

If we were to confront the numbers of artworks bearing their maker's signature either in paint or in sculpture, we would be presented with a stark disparity in favour of the "anonymous" products and with absolute unpredictability of occurrence (Immelwahr, 1984:*passim*; Boardman, 2003); interestingly, this also applies to less glamorous products such as the *dolia* for the transport and storage of liquids, where maker's stamps appear with equal irregularity, despite the obvious economical advantage a potter would gain by regularly putting his name on his earthenware. Perhaps the best way to cast light on the ancients' attitude to artistic authorship is to briefly examine the phenomenon of Roman copies of Greek sculpture. An exhaustive description of this is given in the 1994 edition of the *Enciclopedia dell'Arte Antica, Classica e Orientale*, under the entry "Copies and Copists" by G. Gasparri. From its inception at the Pergamene court of Eumenes II (last quarter of 3rd c. BC - first half of 2nd c. BC) to its arrival in Rome during the bloom of the Augustan age (1st-2ndc. AD) and beyond, we assist to the formation of a veritable "art market" very sensitive to the alternating fashions and often exploited for political and cultural reasons by the reigning emperor (see Zanker, 2006); however, the sporadic signatures on Roman copies convey much more attention to the geographical provenance of the models and materials, rather than to the artists responsible for either the copy or the model. In other words, if Pheidias is fashionable in Athens, no up-and-running Roman house can be without something "Pheidiac".

The turning point in the history of individualism in art takes place in the Reinassance; it is in fact between the 14th and 15th centuries that the personality of the artist finds its way into literature and, from there, into the realm of art production. In his 1961 paper, Rudolf Wittkower is able to pinpoint precisely the beginning of the interest in the artist's personality: in Boccaccio's *Decameron* (1349-51) the painter is described as a man "full of fun, high spirited, quite shrewd, of somewhat lax morals and not burdened by too much learning"; furthermore, in Francesco Sacchetti's *Novelle* (1392-1400) we hear painters described as "whimsical", constantly building "castles in the air", "permanently drunk" and "not even ashamed of yourselves" (Wittkower, 1961:292). This stereotype of the artist - which Wittkower defines as "protobohemian" (1961:292) will crystallize over time, to the point that two centuries later, in 1561, we can hear G. Cardano describe painters

as "fickle, of unsettled mind, melancholic, and changeable in their manners". The situation does not improve with painters of high stature: the habit of Leonardo da Vinci of spending hours on the scaffold painting the *Last Supper*, oblivious of the need to eat or drink; Pontormo's misanthropy, often associated with spending entire days without producing anything but simply passing his time "lost in thought"; Michelangelo's secretiveness to the point of not allowing access to his work even to the Pope, combined with his frequent bouts of melancholy and mood swings (of which he gives account in his letters); finally, the hypocondriac tendencies of Federico Barocci, strong enough to prevent him from working for more than a few hours per day (Wittkower, 1961:293-5). All of these examples are confirmation of Cardano's prejudices and, at the same time, a testimony of how the personalities of the single artists had become to differentiate, albeit within a common stereotype. The explanation, according to Wittkower, has to be found in the changes in the organization of artistic work at the dawn of the 14th century: with the end of the guild system, which regulated the work of artists throughout the Middle Ages, the artist finds himself on its own, thus subjected to alternating moments of activity and idleness; up to that moment, the guilds had exercised a strong equalizing influence, turning artists *de iure* and *de facto* into professional craftsmen with an established training and a regulated daily routine. As Wittkower concludes, the artist was not as much "liberated" during Renaissance (as Burckhardt's theory had postulated), but rather "exchanged old fetters for new ones": free from the control of the guilds, the artist elevated art from a mechanical to an intellectual activity, placing himself above his work; the price to pay was, however, having to face their environment alone, thus leading to the emergence of a "hydiosyncratical" profession dominated by strong individuals and *de facto* giving birth to the modern artist (Wittkower, 1961:297-8).

The emergence and appreciation of an individual style and, consequently, the possibility of attribution is a direct consequence of this new ability of the artist to become a historical being: with his newly found freedom comes also the freedom to choose his allegiances and his style. This opens the way to all the "rebellions" in the history of art: from Filarete and Brunelleschi's rejection of Gothic to Romanticism's rebuttal of academia. The artist's personality, writes Wittkower, asserts itself demandingly into the artist's work, requesting the public - who readily com-

plies with such request - to pay due homage to it in the appreciation of the artist's work (Wittkower, 1961:300-2).

2. The craft and science of authorship attribution

So far, I have tried to demonstrate how individuality has been, throughout history, an issue over which the intellectuals have reflected and the artists have acted. I will turn now to the methods to investigate such an individuality within the artistic work, especially when no other source of information is available but the artworks themselves. I have intentionally divided the examples into figurative and non-figurative artworks: the purpose of this will appear clear in the following paragraphs.

i. Figurative artworks

Perhaps the most remarkable method for attribution of anonymous figurative artworks is the one developed by Sir John Davidson Beazley (1885-1970) in the context of assigning non-signed Atticred-figured vases to their author(s).

In his seminal 1922 paper *Citharoedus*, Beazley presents its reader with a problem: given a red-figured amphora, how can we follow the work of its anonymous painter across the collections and create a catalogue of its production? He starts with a systematic description of the amphora in question, including a detailed examination of the two figures painted on the two sides of the vase, including notes on the painting technique employed in the creation of the two characters (Beazley, 1922:71-4). Once the subject of the decoration is established - a cithara player and his instructor - Beazley moves on to look at other red-figured vases bearing the same theme, finding a close resemblance in a Panathenaic amphora from the Rollin collection: in this case too, the decoration is limited to the same two figures, in the same position and with the same characteristics. A closer examination of the painting technique, however, reveals that, while the figures on the obverse are indeed similar in exectution, the two figures on the obverse do show some differences, this perhaps, Beazley hypothesizes, due to a restoration of the decoration. This notwithstanding, he lists a series of details rendered in a similar

way among the two figures on the reverse of the amphoras (Beazley, 1922:74-7). Armed with this initial list, Beazley proceeds to examine a further eleven different vases, moving from simple to complex decoration and from amphoras to different vascular forms: in every case, he proceeds to highlight the differences and the similarities among the figures, constantly referring across to all the thirteen vases. His conclusion, after this examination, is that all thirteen samples belong to the same author: the points of resemblance, he states, are not negligible, since they involve both the master lines to define the figure and the minor ones to describe their details, to the point that it is possible to speak of " a coherent and comprehensive system of representing the forms of the human body naked and clothed". A system, he states, that extends far beyond the thirteen examples described and that cannot be taken as the standard for human representation at that time (Beazley, 1922:77-82). Beazley rejects the possible objections to his isolation of the "system": its characteristics are recurrent and coherent and there is no possibility of it being confused with a different one; it does appear in limited quantities in the published catalogues - and not at all in those of signed vases - and could be easily followed, if its characteristics are memorized, through the collections exhibited in museums. All these characteristics are sufficient to define this system as "personal" (Beazley, 1922:84). Finally, Beazley explores the possible "applications" of this system, examining three possible options: substantive work, copy or "translation", a copy of a copy (Beazley, 1922:84). Excluding immediately this latter option, he examines the first two in further detail: he is ready to admit that some of the pieces in the group might be "school pieces" and, therefore, copies; however, the homogeneity of the design - not just within the single figures, but also among figures, composition and non-figurative decoration - is such that can only be explained by the single authorship, for the whole corpus, of one anonymous artist which he names "the Berlin painter" (Beazley, 1922:84-90).

ii. Non-figurative artworks

The disciplines connected with the study of manuscript books - codicology and palaeography - have long established a method for identifying, with reasonable approximation when not with certainty, the identity of the scribes at work on a

single codex. Once an identification has been carried out, it is possible to follow the work of the scribe within a library or - in case of dispersion - several libraries. I will mention below the works of Benskin (1990) and May (2013) to illustrate how the palaeographic method works.

Both authors have to solve an identification problem: for Benskin, it means to corroborate the theory that MS Harley 913 is the work of a single scribe, whereas for May the problem consists in assigning a certain manuscript (Add. MS 82370, the Stanhope Manuscript) to a known scribe, John Hanson. Despite the difference in the respective situations, however, both Benskin and May follow a similar investigative trajectory.

An important point is made at the outset by May: in the Reinassance, professional scribes write a "set hand", modelled on a standard alphabet and deployed with the highest possible degree of uniformity throughout all the documents they produced. Even possible variations for letter forms - such as "r" and "s" - were codified and used regularly, so not to disrupt said uniformity. Professional scribes, however, were a minority: the largest part of the literate population could be described as "amateur scribes", not adhering to a single model script and often using several different scripts at the same time, with occasional transmigration of letter forms from one script to another. The combination of these variations, however, is what constitutes the personal style of every writer: once the variations typical of a certain hand are isolated, it is possible to identify it across several different documents (May, 2013:351-4). All of our authors, in fact, proceed along this line: once the basic scripts are isolated - Anglicana and Secretary for Benskin, Secretary and Italic for May - a letter-by-letter analysis is carried out.

For Benskin, the analysis of Hand A, suggested as the single author of MS Harley 913, shows how much the variations in the Anglicana "textura" taken as representative of four different hands (Benskin, 1990:165-71) are consistent with both natural variation within the script and mutated conditions in the process of composition of the manuscript. The letter by letter analysis (Benskin, 1990: 175-192; 193) demonstrates this point by narrowing down the number of frequent variations to the basic script to a maximum of three variants, rising to 4 for more complex letters and letters for which variations are contemplated in the script - such as "g","r", "s" and "x". Furthermore, the analysis of other components of

the script such as capitals, ligatures and Tyronian notes demonstrates a uniformity consistent with a single hand for MS Harley 913 (Benskin, 1990:185-7). Similarly, for May, the letter by letter analysis is carried out by confronting Add. MS 82370 with a manuscript certainly attributed to John Hanson, KM:255. The analysis, together with a clear correspondence in the duct of the main letterforms (May, 2013:359-61) shows further correspondence in the choice of antiquated letter forms (2013:361-5), imports from Secretary script (2013:365-71) and scribal abbreviations (2013:371-6), thus allowing the author to claim with high probability the identity of the scribe of Add. MS 82370 with John Hanson.

3. Reading between lines: an approach to attribution of prehistoric art

In the previous section, I have provided examples of the methods developed by scholars to identify anonymous authors of artworks based only on the information provided by the artworks themselves. Regardless of the peculiarities of the different types of artworks, it can be comfortably concluded that all the methods described share a common strategy: the identification of those characteristics recurring together and over time for each individual artist. Equipped with this conclusion, it is time to verify whether there is margin for its application to Upper Palaeolithic art, starting with a review of the attitudes towards authorship and attribution in the archaeological literature of the 19th and 20th centuries and subsequently arguing for both the possibility and necessity of the research on these subjects. We could divide the attitudes towards authorship in the literature in three broad periods: a ”monolithic” period (1900-1980), an ”opening towards the authors” period (1980-2010) and finally a ”research into the authors” period (2010-present).

During the 19th century, prehistoric studies were organized around what could be defined as the “paradigm of simplicity”. Based on a simple evolutionistic model, strictly linear and regular in its rhythms, this paradigm was organized on two distinct levels: firstly, simplicity consisted in the linearity of the process which led from one link to another in the chain of an evolution which was indi-

stinctly biological and cultural, the model excluding at the same time branching, convergences or parallelisms and, most of all, the phenomena of cultural diffusion; secondly, simplicity also designated the necessary condition (cultural and biological) of primitive man, the first link in a unique chain of steadily increasing complexity. This paradigm found its most perfect expression in the works of Gabriel de Mortillet, who made use of it as the organizing principle for his project of classification of prehistoric industries: Abbevillian, Mousterian, Solutrean, Magdalenian and Robenhausian followed one another in an immutable and universal chronological order. In 1883, his manual, *Le Préhistorique*, summarized all the ins and outs of this paradigm of simplicity. This overall conception dominated the prehistory of the second half of the 19th century and was not shaken until 1907 when the work of Henri Breuil on the Aurignacian threw Mortillet's chronology into disrepute and, at the same time, established the complexity of the processes of cultural evolution, their independence from biological evolution and the need to take into account the phenomena of diffusion and acculturation (Richard, 1993:60). The debate on Upper Paleolithic art proceeded along the same directions: in its first stages, the interpretations of portable art adapted to the paradigm of simplicity and for several decades the theory of "art for art's sake" prevailed (Richard, 1993:60; Needham, 2017:39); the discoveries of parietal art that followed, however, called into question the vision of a primitive man whose simple mind would not have conceived (or designed) abstractions, whether aesthetic or symbolic, an approach that explains the obstacles encountered by the recognition of decorated caves, which only occurred after 1900 and led to the revision of these first interpretations.

The first discoveries of Upper Palaeolithic artworks at Chiffaud (Poitou-Charentes, see *infra*, Ch. III, §4) dates back to 1834 and they were originally attributed by its discovered, A. Brouillet, to the Celtic period; only J. Boucher Des Perthes conceived the possibility of a "pre-historic" art and indicated it examples in the knapped flint tools he rescued from the Somme gravels. it will take to wait until 1864 to see the appearance of the first monographic work on prehistoric artworks by E. Lartet and H. Christy (the two explorers of the Vézère valley) and entitled *Objets gravés et sculptés des temps préhistoriques*. In their work, the authors noted the aesthetic value and the skill of the prehistoric engravings and sculptures

and saw in them the manifestation of true art; in particular, an antler dagger from Laugerie-Basse, the hilt of which had been sculpted in the shape of a reindeer, aroused their admiration. They noted the skill of "the worker, or if you will the artist", who had been able to adapt the forms of the animal so well, "without violating them too much, to the necessities of the usual handling of this weapon". (Richard, 1993:60). But if such objects forced them to conclude that the existence of an art from the Paleolithic, the authors remained nevertheless aware of the difficulties that such a conclusion would inevitably raise, stating in their work that the age of those artworks do not agree well with the uncultivated state of barbarism normally associated with primitive peoples with no access to metals and other commodities of civilization. This notwithstanding, Lartet and Christy did not distance themselves from the linear evolutionistic paradigm of their time; rather, they removed art as one of the markers of civilization and relegating it as a natural manifestation of humanity - regardless of how primitive - and the result of instinct and spare time, spontaneous and without any meaning. So was born the concept of "Ludic art" or "Art for Art's sake", a principle who would be swiftly adopted by the most prominent names in prehistoric studies (Richard, 1993:60-1).

The first will be Edouard Piette who, in his description of Magdalenian art from the Pyrenees, will describe it as the product of human imagination, meditation and leisure, a state of "interior peace" prehistoric people found specifically after all the climatic changes when France had become a peaceful land populated by reindeer; a privilege not allocated to humans prior to that period however, as their life, on the other hand, was entirely occupied by the brutish task of hunting and fighting for survival (Richard:1993:61). Magdalenian art, a "ludic art", corresponded to an innate trait of human nature which leisure had allowed to develop; admittedly, it possessed a beauty still readable by the moderns and its products were also works of art, but it was still a mere imitation, its creators had contented themselves with representing with striking truth the animals they saw during their daily hunts; unaware of perspective, they confined themselves to the "inferior genre" of "portraits"; clumsy in unconventional perspectives, they were equally unskilled in the art of composition. Magdalenian art, in essence, was no more and no less than a naïf art (Richard, 1993:61). Gabriel de Mortillet will espouse whole-

hartedly this approach: in his argument, prehistoric art confirmed all the better the chart of a strictly linear evolution of the human mind and techniques that left aside abstractions almost completely; certainly, Upper Paleolithic art had some non-figurative motifs, but for him it was only the case of "ornaments of great simplicity", in which one did not find any of the signs which, in present times, have passed from age to age acquiring and retaining a mystical and religious meaning. The Magdalenians, in other words, were far too primitive for having obtained any degree of symbolism to justify religious meaning for their art (Richard, 1993:62).

The first elements that will lead to disproving this approach to prehistoric art emerged in two distinct stages: first, the discovery of burial practices amongs Upper Palaeolithic people; second, the discovery of Magdalenian parietal art. Although Lartet and Christy had admitted since 1864 the cult of the dead amongst primitive people, the traces of those burials left many scholars skeptic, as did the discovery of Cro-Magnon (Dordogne) burials by Lartet in 1868. One of the skeletons showed all the signs of a ritual burial: covered with a necklace of sea shells, beside it lay carved flints and bones, some of which of reindeer. This set of grave goods, without polished object or work of art, and the fauna associated with it sufficiently demonstrated, according to Lartet, the high antiquity of this strange burial. The stratigraphy of the cave, however, included at least two levels of occupation, the first of which, certainly Magdalenian, was prior to the burial; despite Lartet's defence that the second level was also Magdalenian and that the burial was contemporary, the scholarly community preferred to see it as a later burial. This notwithstanding, it will be these burials - together with those discovered in Menton between 1872 and 1875 and returning large quantities of Upper Palaeolithic materials associated with skeletons covered in red ochre - that will shift the scholarly opinions towards the existence of a "Magdalenian religion", the first being Emile Carthailac who, after adhering to the theories of de Mortillet up until 1881, will entirely undergo a change of opinion in 1886, when he recognized that the skeletons from Menton left very little doubt about burial rituals for prehistoric times. De Mortillet, on the other hand, will remain skeptical up until his death in 1898 (Richard, 1993:62-3). The discovery in 1878 of the cave of Altamira by Marcelino Sanz de Sautuola constituted, at the same time, the first major discovery in the field of parietal art and the first open exposure of scholarly prejudices

about it: the paintings appeared unmarked by smoke, thus suggesting sophisticated lighting techniques; the paint was easily removed and appeared "fresh"; geological incrustations on the walls and the floor did not tally with the antiquity of the paintings; the absence of aurochs and the presence mainly of bisons was deemed incompatible with prehistoric fauna; finally, the paintings we simply too beautiful to fit the tight linear evolutionary scheme of the time. It will take until 1901-2 for the authenticity of Altamira to be accepted (Marcelin Boule's famous *Mea culpa d'un sceptique* dating to 1901) and for the general opinion on the subject to shift, after the presentation in 1902 of the art from Font de Gaume and Combarelles by Henri Breuil and Louis Capitan (Richard, 1993: 63-5).

What the discoverers of parietal art did not (and could not possibly) predict was just how much their work would shift the experts' opinion. Portable art and, to an even greater extent, parietal art showed a level of complexity that in turn reflected the intellectual and social complexity of its creators, thus putting finally to rest the "paradigm of simplicity" that underpinned the principle of "Art for Art's sake". It will be Solomon Reinach who, at the dawn of 20th century, will set the basis for the next interpretive paradigm for prehistoric art. Well aware of the ethnological discoveries of his time, Reinach relied heavily on ethnographic comparison to draw his theories about prehistoric people; according to his analysis, figurative prehistoric representations were almost exclusively of animal species that were hunted. All had an element of "desirablility", while no dangerous or useless animals was depicted. This choice was the index that the parietal art was not only of imitation; to this view that he openly condemned, Reinach substituted that of art as "hunting magic". In many primitive peoples, Reinach said, the image was the capture of the object and took part in bewitchment rituals; such practice could be transposed without difficulty in the Magdalenian age, where art therefore had a sacred character, "mystical and religious", which was confirmed by the position of ornaments, hidden deep within the caves. These were sanctuaries, where mysterious ceremonies were held with the aim to multiply the necessary animals to food. It will be this interpretation - itself long lasting and casting long shadows over the years to follow - that will see the passage from linear evolutionism to the first steps of cultural relativism (Richard, 1993:66-7).

It is undeniable that, from those early days in the 1900s until the 1980s, the

scholarship on Palaeolithic art had a remarkable "monolithic" character: firstly, because it approached Palaeolithic art as a monolith, without any attention towards the peculiarities of its expressions; secondly, because of a monolithic focus on "meaning", thus directing efforts towards the fruition of art rather than towards its production (Conkey, 1987:413). The first major synthesis on Palaeolithic art, Henri Breuil's *Quatre Cents Siècles d'Art Pariétal, les Cavernes Ornées de l'Age du Renne* (1952) is the first to offer a periodization of European prehistoric artworks - the 'Aurignaco-Perigordian' (c. 35,000- 20,000 BC) and the 'Solutreo-Magdalenian' (20,000- 10,000 BC) phases (Moro Abadia, 2015:12)- and, at the same time, a first overarching theory about its meaning, the so-called "hunting magic" or "sympathetic magic". Derived from ethnographic comparison, it postulates a direct correlation between the animals depicted and the animals targeted for hunting; consequently, the ritual killing depicted in the artwork will become a good omen for a successful real-life hunt. Art is, in other words, a "means to an end" rather than something borne out of cognitive or spiritual needs (Needham, 2017:39; Lorblanchet, 1999:13). Walking away from Breuil's "hunting magic" interpretation, A. Leroi-Gourhan's *Préhistoire de l'art occidental* (1965) postulated the recurrence of certain animal or geometric representation associated with particular locations in the cave as responding to precise cosmological schemes with a clear distinction between female (bison) and male (horse) domains. From this initial assumption, a full classification and periodization of Palaeolithic art descends, one so inclusive to be come the paradigm for scholarship on the subject for years to come (Conkey, 1987:414). Leroi-Gourhan's work distanced itself from ethnographic parallels and focused directly on art itself, with particular attention to groups of representations, the internal relationships proper to each group and with their spatial setting, leading its author to speculate a creative capacity of prehistoric artists as equal to that of contemporary humans (Needham, 2017:44).

Both of these interpretations have now been thoroughly surpassed for their own internal shortcomings: in both cases, art is viewed as a monolith and, therefore, the interpretive syntheses proposed universally valid; furthermore, they both promoted wall paintings as the "elevated form" of Palaeolithic art, thus discarding other artistic expressions such as portable art and personal ornamentation (Needham, 2017:24, 45). Alongside these reasons, these interpretations have to

be rejected also with regards to the problem of authorship: on the one hand, Breuil's work implicitly postulates a vast number of authors for prehistoric art - potentially one for each and every animal representation onto whom the hunting magic is invoked; on the other hand, Leroi-Gourhan's synthesis is so focused on the categorization effort of creating typo-chronological styles that authors are reduced to mere physical agents through whom a universal *kunstwollen* operates, so much so that a single authorship is suggested for the great monumental complexes. Despite these differences, it is undeniable that in both these approaches the author fades in the background, totally obscured by the meaning of the artworks themselves (Groenen and Martens, 2010:13).

The 1980s see a decided turn of the scholarly tide in prehistoric art. Alongside a widening of the focus on monumental complexes to include their wider context - exemplary in this sense is Arlette Leroi-Gourhan's *Lascaux inconnu* (1979) placing the parietal art in context with the wider excavation results (Conkey, 1987:417) - the breaking of the "monolith" of Upper Palaeolithic art led to a significantly higher amount of attention devoted to categories of artifact previously considered "minor" and not requiring as much cognitive capability as parietal art, a widening of the geographical interpretive horizons due to new discoveries and publications and, last but not least, the first important theoretical formulations on the subject of authorship (Moro Abadia and Gonzalez-Morales, 2013:277-83; Conkey, 1987:415-9).

The abandoning of the prejudicial view of parietal art as superior to portable or "mobiliary" art - with deep roots in the late Victorian division between "arts" and "crafts" (Moro Abadia and Gonzalez-Morales, 2008:538) - led, on the one hand, to the investigation of technical skills involved in the production of portable art (exemplary, in this sense, the work of White on the scuplting procedures across the *corpus* of European female figurines); on the other hand, to a re-evaluation of non-parietal art as a point of access into the social world and, consequently, to its consideration as the most important media for the expression of individuality and identity. It should not surprise, therefore, that the renewed interest of archaeologists for personal ornamentation dates back to this phase in the history of the studies (Moro Abadia and Gonzalez-Morales, 2008:539; Moro Abadia and Gonzalez-Morales, 2013:284). To this period - and functional to the

tidal turn towards portable art - also date the publication of some of the largest assemblages of portable art, among which the last volume of the La Marche collection, concerning bovids (Pales and Tassin de Saint-Pereuse, 1981; Conkey, 1987:417).

This widening of interpretive horizons proceeded alongside the surpassing of the long-established Eurocentric view of Palaeolithic art. Up until the 1980s, in fact, the vast majority of specialists in prehistoric art were French, as were most of the publications on the subject, with non-French scholars playing a minor role in the field; furthermore, interpretations of prehistoric art were heavily influenced by th Franco-Cantabrian "canon", to the point of bringing Gabriel De Mortillet to conclude that Palaeolithic art is "exclusively a French art" (Moro Abadia and Gonzalez-Morales, 2008:542). This approach, already broadly critiqued from a philosophical point of view within the realm of postcolonial studies, came under severe scrutiny in the field of Palaeolithic art following a series of new discoveries outside Europe, in both newlyfound sites (the most important of which being Blombos Cave, South Africa in 1999) and during new investigations at known sites in Eurasia (with the sites of Vogelherd, Hohlenstein-Stadel, Geissenklösterle, Hohle Fels, Dolni Vestonice, Pavlov, Kostienki, Avdeevo and Gagarino all returning examples of Aurignacian and Gravettian art), Siberia (Mal'ta) and the Ural Mountains (Kapova). Further discoveries between the 1990s and the 2000s in Africa (together with Blombos Cave, also Border Cave, South Africa and Apollo XI Cave, Namibia returned examples of portable art) and Australia ultimately confirmed the baselessness of the Eurocentric view by disproving both its core tenets for the exclusive European occurrence of prehistoric art and its European origin (Moro Abadia and Gonzalez-Morales, 2008:543-4).

Together with the groundbreaking field discoveries, it should not be overlooked that the theoretical debate of this period further oriented the prehistoric art debate towards the issue of authorship. On the one hand, the 1980s saw the appearance of Lewis-Williams' shamanic interpretation of prehistoric art, first published in 1988 and further expanded in across time, in turn aligned to the instances of cognitive archaeology, emerged between the end of the 1980s and the beginning of the 1990s . Rooted in the application of neuropsychological principles to the study of prehistoric art, it postulated that symbolic representations

in prehistory are the result of visual manifestations (called "entoptic phenomena") taking place during hallucinatory episodes denominated Altered States of Consciousness (ASC) and induced by various means, either physical or chemical; once the ASC experience has ended, the images perceived by the shaman would form the basis for the art they will produce (Needham,2017:46-7). On the other hand, 1982 sees the first appearance of J-M. Apellaniz' attempt not just at authorship investigation, but also at attribution of prehistoric artworks via the application of art historical methods, imaging and experimental protocols, a method he will refine and perfect over time and well into the 2000s (Conkey, 1987:417; Appellaniz, 2000; 2003a-b; 2004a-b).

Despite the critical aspects of Lewis-Williams' approach - which sparked a debate among scholars since its first appearance that is far from being resolved (Needham, 2017:47-9) - it is undeniable that both his and Apellaniz' work (see *infra*, §3.iii for a fuller description) had the merit of bringing authors of prehistoric art back at the center of the debate. Both of them in fact, although with different intentions, tried to enquire into the identity of those authors: by theorising an equivalence between artists and shamans, Lewis-Williams has suggested a potential line of investigation in the social status of artists and, consequently, in the value of art making in the Upper Palaeolithic; Apellaniz, as it will be clear *infra*, with his research has broken one of the longest lasting taboos of prehistoric art research, the impossibility of finding the authors.

These suggestions will come to full flourish in the last wave of research in the field of prehistoric art, published - as Needham notes not without a hint of irony (2017:35) - from around the year 2010, when the Neanderthal genome came to be known in its entirety. The debate stirred by the genome's publication aimed directly at another deeply-rooted assumption of prehistoric art studies, that *H. sapiens* alone is capable of artistic expression - an example of which is the exchange of papers and replies over the new U-Th dating of the scalariform parietal drawing of La Pasiega (Needham: 2017:35-6). The relationship between Neanderthals and art, however, is not the only assumption that has been challenged in the last two decades and, at the same time, is a facet of the wider debate on the prehistoric artist's identity: the role of women and children in the creation of prehistoric art was - and is - the subject of considerable research, both as crea-

tors of parietal art (Van Gelder and Sharpe, 2009) and of portable art (Nowell and Chang, 2014); at the same time, more specialised attempts have been made to investigate individual artists, both from a chiefly art historical point of view (Groenen et al., 2004; Groenen and Martens, 2010. See *infra*) and from a more technical, skill-based angle (Fritz et al., 2015; Rivero, 2015. See *infra*).

i. The case against

After a summary review of scholarly attitudes towards authorship of prehistoric art and how they have evolved across time, it appears clear that prehistoric artists have, slowly but steadily, emerged from the background of the debate where they had been confined by the all-encompassing paradigms of the first part of the 20th century to reach the center of the research, reminding scholars of the still unresolved problem of their identity.

It is necessary to focus specifically on how scholars have approached the issue of attribution in prehistoric art, starting with voices in opposition.

As Groenen et al. (2004:128-9) highlight, the issue of attribution has always been present among prehistoric art scholars; this notwithstanding, its translation into research has always remained *in potentia*, no matter how large or remarkable the body of evidence could be to prompt a scientific interest. Perhaps the most extreme of these opinions is the one by Andre Leroi-Gourhan who, in his *Prehistoire de l'art occidental* seems to categorically exclude the very possibility of an attribution - although, without building a case for his statement:

> In reality, it is materially impossible, within the same cave, to establish if two side-by-side paintings are by the same hand. (quoted by Apellaniz, 2004a:69, translation by the author)

A passage from a work by Nougier (1993) is emblematic in this sense: while recognising the talent and prowess of Upper Palaeolithic artists, to the point of considering the existence of "ateliers", he does not feel the need to extend this acknowledgement into an investigation on their "identity", stating instead that prehistory only gave us "anonymous" artists. Furthermore, Nougier's approach to the individuality of the Upper Palaeolithic artists seems to be influenced by

some judgement of value: only those artists who show superior ability have an identifiable style which can be recognized within the larger complex of prehistoric art (Groenen et al. 2004:128).

Michel Lorblanchet moves along a similar line when, in his analysis of the engravings from Sainte-Eulalie (1973:288) he observes that the animal representations, far from being "standardised", possess their unique, individual character. However, he falls back on the concept of "overall homogeneity" to claim a single authorship for the entire complex; in opposition to Nougier, he does not seem to consider the possibility of a "workshop" that could account for such an overarching homogeneity.

L. Pales too (1976:pl.99) seems inclined to consider single authorship of the entire La Marche collection; however, in a similar fashion to Leroi-Gourhan, he does not present an argument for this position, limiting himself to notice a possible common author for two of the engravings he has studied.

What is remarkable across the entire spectrum of these views is their unapologetically "defeatist" approach; instead of arguing for the impossibility of attribution of prehistoric artworks, they turn it into a self-fulfilling prophecy that, as such, does not need any evidence. The lack of argument makes it similarly difficult to investigate the reasons behind such choice, which can only be hypothesised: I think it would be reasonable to say that it might be motivated by a distrust in the effectiveness of our current instruments to investigate such topic and, to a lesser degree, a certain resistance on the archaeologists' side to approach a problem that is generally viewed as strict competence of art historians. I will devote space *infra* to discuss these concerns.

ii. The case in favour

The methodological shift in the aproach to authorship of prehistoric art seems to have happened between the latter part of the 1990's and the present day, in particular with the work of J.-M. Apellaniz. I have already anticipated much of this content in a published paper with Christophe Delage (Chisena & Delage, 2017:243-6), to wich I direct the reader for further reading.

In his 2004 paper, condensing his work started in the 1980s, Apellaniz articulates a general critique of the "evolutionary" approach to palaeolithic art, suggesting its replacement with a "formal" theory overcoming the contradictions of the current interpretive paradigm and outlining the technique of assigning prehistoric works of art to their authors.

The evolutionary approach, postulating the variation (similarities and differences) in representation as the result of generalized changes in styles over time is, according to the author, severely flawed:

1. Lack of any theory concerning form;
2. Differences and similarities in representation are observed generally and globally, without analysing their formal nature, their magnitude, their characteristics and occurrence;
3. Comparison between representation has been carried out partially, not globally.

This has led to the perception of differences, but not to their extent and importance; prehistoric art's general adherence to "naturalistic" representation was enough to apply the evolutionary paradigm and construct a "history", but not a theory capable of explaining the meaning and value of similarities and dissimilarities. Furthermore, the lack of any challenge to the hypothesis has led to its crystallization, therefore reducing its value against any other hypothesis that is "falsifiable" (2004a:63-4). The mistakes that followed were of a logical, "philosophical" and methodological nature:

1. The hypothesis became the proof - with the formation of the equivalences "schematic" art = earlier stages and "naturalistic" = later stages;
2. Inability to disentangle from the Darwinian mindset that acritically pervaded not only archaeology, but art criticism as well;
3. Approximate use of comparison between undated artworks and dated ones by means of general comparison;

4. Controversial use, by several eminent scholars, of the categories of "style", borrowed from art criticism (2004a:64-9).

But what can the evolutionary approach and the theory of style be replaced with? Apellaniz suggests his "theory of the Palaeolithic form", by which he means the set of formal qualities that gave the "image" of the figure, which Paleolithic society imposed on its members. These qualities are scattered through all the representations drawn by the artists, all of which have a common denominator. To recognize it, it is enough to compare the forms that a significant sample of them present and deduce it. For example: if we were to collect all the representation of horses produced across Upper Palaeolithic Europe, ideally place them in a stack on top of each other and look at them as through a series of glass panels, we would be able to identify the general outline of the Palaeolithic horse, together with the individual variations produced in every single one of its representation. It is easy to understand how, therefore, the combinations of variations on this general model are potentially endless; furthermore, as the author underlines, the statistical study of the variation over the horse form is enough, by itself, to disprove the theory of styles of Leroi-Gourhan (2004a:70-2). A similar point, expressed as the necessary conditions to attempt an attribution, is developed by Groenen et al. (2004:132-3).

It is in contrast with another of Leroi-Gourhan's opinions – the impossibility of recognising individuals in Palaeolithic art – that Apellaniz introduces his method of attribution of Palaeolithic artworks to its authors. The author candidly admits his bewilderment in the face of the scholars' resignation never to know the authors of prehistoric art (see *supra*, §3.1): given the nature both of the graphic sign and of prehistoric art, nothing prevents an attribution, if not from being achieved, at least from being attempted. The main parallel, in this sense, is writing: based on a general model (the Latin alphabet for Western people, Cyrillic for Eastern Europeans, etc.) individuals produce variations that sum up to a potentially infinite number of combinations, so much so that an entire discipline, graphology, has been developed to study the graphic sign of individuals. (see *supra*, §2.2). Stemming from these premises, the author develops his three-stage method: macroscopic observation, statistical study and experimental protocol (2004a:73-8).

The problem of individuality, underlying Apellaniz' work, is also the object of a 2015 paper trying to investigate the issues of gender, apprenticeship and tradition, although with a slightly less critical tone. Acknowledging the difficulty of investigating individuality in Palaeolithic societies – especially on the subject of art – the authors suggest a turn towards a less broad view and instead approach the problem on a microscale level, trying to look behind art to observe those who created it (Fritz et al., 2015:1308-10). By applying microscopic analysis to portable art from the Magdalenian, the authors were able to investigate skill levels and the consequent level of expertise of prehistoric artists; an expert artist/maker would be able to control the three fundamental angles involved in the process of engraving (tool, front working and side working angles), lack of which will result in slips and mistakes in the execution; at the same time, an experienced engraver would take into account other important factors such as the location and the size of the engraving in relation to the structure and nature of the surface, together with the use of better quality raw materials. A beginner's artwork would, therefore, be characterized by lower quality raw materials and frequent mistakes: bad tool angles, poor positioning and understanding of support structure etc., making it possible to tell an expert's engraving from a beginner's. (Fritz et al., 2015:1317-9).

The authors also try to cast some further light on the concept of "art workshop" and its meaning in Palaeolithic art. Given that engraving technique is not an inborn skill but an acquired one, and that the sequence of movements used to create an engraving seems to remain constant throughout the Magdalenian period – from the front to the rear, with the head (including horns or antlers) coming first, followed by the chest, the back line, the front legs, the stomach, the back legs, the rear end (including the tail) last and details such as fur, marks, eyes or nostrils added after the outline was completed – the authors make the hypothesis that the learning process revolves around three elements: showing, imitation and practice, with the apprenticeship itself involving both the acquisition of technical know-how and the transmission of social codes connected with artistic productions (Fritz et al., 2015:1320). Despite acknowledging that the apprenticeship of a Palaeolithic artist will likely never be fully understood, Fritz and her colleagues try even further to imagine how it might have worked: was there a specialised social group responsible for controlling the production and teaching of art? Were there

rules regulating this skill transmission, such as age limitation or access to good quality materials? Did craftsmen hold any kind of social privilege? It is hard (if not impossible) to answer such questions, but the authors agree it is reasonable to imagine the artists of the Magdalenian holding a certain cultural or spiritual power connected to their skills (Fritz et al., 2015:1321-2).

Olivia Rivero, in a published extract from her doctoral thesis (Rivero, 2015:135-152) expands and enlarges the work of Fritz on the Magdalenian apprenticeship. By applying a microscopic analysis similar to that of Fritz et al., the author isolates a series of indexes (2015:62-3) that she uses to define three levels of expertise: expert engravers (2015:135-6), beginner engravers (2015:136-42) and engravers in training (2015:143-7). Although she does not go as far as Fritz et al. in formulating questions – or attempting answers – about the possible social role of Magdalenian artists, Rivero makes some interesting observations on how the possible apprenticeship of an Upper Palaeolithic artist might have unfolded. By comparison with the process of skill acquisition for flint knapping (2015:151) she describes a possible initial phase, where children begin to discover the gestures and actions and practice them on low quality materials, followed by an intermediate one in which young adults have partially acquired the skills, yet remaining quite far from achieving complete mastery. This outline finds a parallel in the works of art from sites such as La Garma: artifacts of higher aesthetic value are also those showing the highest level of skill and are realized on bone, whereas lower skill paired with lower aesthetic qualities are found in artifacts on lithic support (2015:151-2). Furthermore, the lithic materials employed appear to have been easily accessed, probably collected on the cave's floor, as opposed to bone, requiring much higher efforts for its harvest and treatment (2015:152). These observations, together with the fact that no rare materials have been found within the cave – thus disproving the hypothesis that high-quality artifacts might have been finished, rather than entirely executed, in the cave – bring the author to the conclusion that the presence of high-quality artworks on bone and low-quality artworks on stone at the same site and at the same time might be ascribed to other causes, namely the different degree of expertise of the artists responsible for their creation.

It is interesting to note, in conclusion to this review of favourable opinions on attribution, the work carried out almost in parallel to Rivero by Marc Groenen

and Didier Martens (2006); parallel but not identical, as Groenen has attempted attribution by the application of "traditional" art historical methods - La Pasiega A being his case study of choice. Taking the move from the theoretical work of Apellaniz himself (2006:13) the authors build a convincing preliminary argument for the "professionalism" - meaning by this the specialized training they received to attain highly refined skills - of Upper Palaeolithic artists, based on a) the remarkable number of artistic traces returned by the archaeological record, far higher than "amateur" activity would produce, b) the generally high level of skill shown by Upper Palaeolithic artists and c) the high social status and group support the must have enjoyed, deduced by the monumental character of parietal art. Such professionalism, the authors argue, imply repetition and, by consequence, the assimilation of graphic habits and conventions and the development of an individual style, which is possible to trace across a complex of artworks (2006:14). By the analysis of these individual styles and by comparison of parietal animal representations in La Pasiega A, the authors identified two distinct artists, one responsible for six paintings, one responsible for three, plus a "workshop style" group attributed to "pupils" (2006:16-9).

It is important, before proceeding further, to clarify something in regards to the methodologies described *supra* by Rivero and Groenen. Although the reader might be under the impression of having a choice to make between these two methods, a preference for one or the other would be misleading, as the two methods provide different sets of information: on one hand, the traditional art historical methods deployed by Groenen clarify issues of style and graphic sign; on the other hand, the imaging technique deployed by Rivero aim at establishing technical abilities and skill levels. An exclusive choice between the two, therefore, would deprive the researcher of a vital data set and, consequently, produce partial conclusions.

iii. The possibility and necessity of attribution

As I have mentioned *supra* (§ii), I intend to address here the two main concerns of those scholars who seem to lack interest in the attribution of prehistoric artworks. The first concern, as I will try to demonstrate in the following chapters,

has no reason to exist anymore: if it was understandable to doubt our means of investigation in the 1950's and the 1960's, modern technology (Fritz et al., 2015; Rivero, 2015; *infra*, Ch. VI-VII) has plenty of ways to investigate portable art with the purpose of attribution.

What I believe is necessary to affirm is, together with the possibility of attribution, also its necessity in order to better understand the society that produced those artists.

Every form of two-dimensional art consist of a graphic sign on a support. Both parietal and portable art from the Upper Palaeolithic – with the exception of three-dimensional figurines – falls within this category; it can therefore be concluded that portable art from the Upper Palaeolithic consists of a graphic sign on a support, usually stone or animal-sourced materials such as bone or antler. The graphic sign that constitutes the artwork, as Apellaniz says (2004a:73-8) conveys the natural movements of the author's hand; or, with the words of A. Perrig, forms a "stroke system", a "purposefully organized system of movement traces" reflecting the style of the drawing (Perrig, 1991:15). Both these definitions imply an element of unconscious – or rather, involuntary – action escaping the direct control of the author; this makes the graphic sign both uniquely individual and impossible to fully imitate. It is such a characteristic that permits the attribution of virtually every graphic sign to its author, regardless of the form – writing, painting or drawing – and support: the development of disciplines such as palaeography and codicology have produced evidence for the effective attribution of written graphic signs, whereas art historians have long developed their methods for attribution of drawn and painted graphic signs (see *supra*, §2.i-ii). Given the above, it is possible to conclude that the attribution of prehistoric art is undeniably achievable.

But what is it that makes attribution necessary? The answer is partially suggested by Fritz et al. (2015:1320-2) when they hypothesize the possible rollout of a training process for future artists. If attribution of prehistoric art is carried out along the lines of the method adopted by Beazley and the codicologists, isolating the single hands and determining the relationships between them on a hierarchical level of skill - thus investigating the possible teacher-pupil relationships - the road will be opened to a better understanding of skill transmission mechanisms in prehistory and, consequently, a better understanding of intra-group and inter-group

social dynamics in the Upper Palaeolithic.

I have mentioned several times the word "skill". It will be necessary, before going further, to try and provide a definition: how is it possible to define skill in prehistoric art? Furthermore, by what means we can measure and identify such skill, so that we can tell a "skilled" artist from an "unskilled" one?

In our consumeristic society, used as we are to all sorts of products and materials being readily available, it would be hard to imagine a system of education – and, consequently, of skills transmission and development – based only on the amount and quality of material available. For a hunter-gatherer community, however, a strict economy of resources is fundamental for survival: the archaeological record clearly shows how much rare materials are reserved for special occasions and often charged with supernatural meaning (for example, Einwoegerer et al., 2006; Bahn, 2011); conversely, tools and supports not easily available would not be light-heartedly entrusted to a beginning artist with little or no experience in handling them. Archaeological evidence from the Magdalenian points in a similar direction: as Olivia Rivero has pointed out (2015:152) the engravings returning the highest number of marks for low skill have been created using locally sourced, coarse grain supports of poor quality, whereas engravings showing high level of skill and mastery of tool handling have been realized on better quality, "imported" stone support or animal-sourced materials such as bone or antler. This leads me to a first, summary definition of "skill" in prehistory: the ability to make good use of precious, hard-to-find materials, where for "good use" I mean the production of objects deemed aesthetically pleasing, metaphysically meaningful or practically useful.

This first definition leads to the second issue hinted at *supra*: measurability. Fritz et al. (2015) and Rivero (2015) have provided an interesting set of answers to this question. Both studies have focused on microscopic analysis of engraved artifacts. Fritz et al. (2015:1308-10) isolated three main angles involved in the process of engraving: tool, front working and side working angles; the inability to control these angles, they argue, will lead to a poor result in the form of slips and mistakes. Rivero (2015:135-52) expands this investigation further with her SEM analysis of engravings on bone and antler; the result is a list of five characteristics or "indexes" the presence or absence of which allows to determine the

level of skill of the engraver over a scale ranging from "expert" to "intermediate" to "beginner". Both studies, finally, acknowledge that other factors are kept into consideration when it comes to measure the skill of an engraver: the location of the engraving on the support; its size in relation to the support;the nature of the support's surface which, in turn is connected with the quality of the support itself (Fritz et al., 2015: 1317-9; Rivero, 2015:136-48). Informed by this empirical evidence and drawing from the artistic evidence collected during the course of macroscopic observation, I can formulate a more complete definition of "measurable skill" applicable to prehistoric art: the ability to make good use of precious, hard-to-find materials embodied in the knowledge of the raw supports, mastery of the tools of the trade and talent in conveying detail of the subject represented.

Finally, a brief reflection with regards to the resistance of archaeologists to overstep into art history, hinted at *in limine*; to this purpose, it would be worth considering a brief dispute between the art historian Sven Sandström and the archaeologist Christophe Delage, published between 2015 and 2016 on the pages of the Swedish journal *Fornvännen* (Sandström, 2015; Delage, 2016). In his first paper, Sandström argues that the human-themed engravings from the cave of La Marche (Lussac-Les-Chateaux, Vienne) are fakes; in his response, Delage replies only to the main critique and not-so-subtly accuses Sandström of poor knowledge of both La Marche and the archaeology of Poitou-Charentes; this in turn triggered a further reply by Sandström who, in a rather pique tone, responds mainly to the accusations of being an ill-equipped researcher than to the main points raised by Delage. The result of this exchange is not, as one would hope, an enrichment for the scholars involved and the field of study concerned; on the contrary, it takes more the forms of a "dialogue of the deaf".

I will not discuss here the authenticity of La Marche's engravings, which from an archaeological point of view is entirely beyond question (Delage, 2016; Chisena and Delage, 2018) and doubting which would make this entire work devoid of purpose. Rather, this diatribe shows all the characteristics of the confrontation between two diverse methodologies that struggle to understand each other:

1. The involuntary – yet inexcusable when dealing with someone else's field – ignorance of each other's latest developments;

2. The ignorance of each other's methods of analysis;
3. The tendency to dismiss the opposite opinion as the result of ignorance;
4. The avoidance of dealing with each other's points, but rather the construction of a parallel argument;
5. A certain academic insularity.

Many of these issues stem from an exquisitely human tendency towards factional thinking, which in turn inevitably leads to confrontational behaviour and animosity. However, it is worth focusing on points 1, 2 and 5, as I believe they are interconnected and responsible for a form of vicious circle: ignorance of neighbour disciplines' methods and developments leads, in fact, to a restricted view of the record they are both trying to analyze and, if protracted over a long period of time, will inevitably generate those forms of "parochial" thinking proper of each discipline, destined to foster even more ignorance and distance if left unchallenged. The root of this *forma mentis* is an old one, inextricably connected with Western European categories and insisting on hard boundaries between disciplines and "fixed" research styles to which scholars are advised to conform should they wish to be accredited and published (Knight Jr., 2013:xiii-xiv).

How are we to escape this methodological cage built long before us and whose boundaries we, often unknowingly, fulfil? First and foremost, we must acknowledge their existence and the best way to do so is to investigate our own disciplines' histories; secondly, we need to find a catalyst, a common ground we can explore in order to foster the creation of shared methods of analysis capable of producing fruitful results in both fields.

My genuine hope is that my modest work might throw a bridge between our two disciplines: on the one hand, by inviting art historians to apply their methods to prehistoric art, with the caveat that, due to the nature of prehistoric art itself, integration with archaeological methods and technique will be necessary; on the other hand, by encouraging archaeologists to explore the methods of art history without the fear of this being seen as a "field invasion".

4. Conclusion

In this chapter, I have presented the theoretical background to my research, aimed at demonstrating the possibility of attribution of prehistoric artworks. The next chapters will be devoted, respectively, to a panoramic overview of the macro-region of Poitou-Charentes where my case study of choice is located, the presentation of the aforementioned case study I have chosen for my research, the methods employed to carry out the investigation and the relative results, to further investigations beyond the limit of the case study and to the final conclusions derived from the research results.

Chapter III
The Poitou-Charentes, a privileged place in prehistory

The cave of La Marche sits in one of the four regions forming the French Department of Poitou-Charentes. It would be difficult to underestimate the importance of this land of welcoming landscapes and mild climates, so naturally favourable to human settlement; together with the Perigord it is one of the privileged places in prehistory, home to several important sites and theatre of the first discoveries and explorations in the "heroic" age of prehistory.

Net of all romantic suggestions, I believe it would be important to devote space to a contextualization of La Marche within the macro-region it is part of, in order to better understand what has led to the creation of its assemblages and what environment its inhabitants were immersed in. To do so, I will look first at the geological nature of the region, its natural resources and landscape; subsequently, I will consider the history of human occupation in the area, starting from the earliest evidence in the Middle Palaeolithic and continuing into the Upper Palaeolithic; finally, I will review the artistic evidence returned by the area, with a particular attention for the Magdalenian period and, within that context, ti human representations.

1. The geology of the region

Formed by four departments (Vienne, Deux-Sévres, Charente and Charente-Maritime), the macro-region of Poitou-Charentes sits at the junction of four different natural regions: the Armorican Massif (E), the Parisian Basin (N), the Central Massif (W) and the Aquitanian Basin (S). (Buisson-Catil and Primault, 2010:10). This characteristic is already revealing of the high diversity of its landscape, which is worth exploring in more detail.

The West-Central area, despite its low reliefs, is not short in geological diversity: the Haute-Poitou is the country of Jurassic limestone plains and plateaus often covered with Tertiary deposits crossed by large valleys that open up into wide bird's eye views (Vienne, Clain, Gartempe and Anglin), encased in the Bathonian and Bajocian limestones and stretching out in basins housing the alluvial deposits of the Quaternary terraces. The alternating of Jurassic limestones and marl is characteristic of the southwest and west of Poitiers and the Clain valley, gently rolling towards the southwest. Beyond, on the plateaus, is the vast forest which once formed the border zone between Poitou and Aunis, Saintonge and Angoumois; these names describe the geographical reality of the Charente basin, whose various landscapes are distributed, apart from the oceanic coastal line, in plains to the north, countryside to the south, border of the Limousin and valley of the Charente, with the Limousin Rim made up of crystalline rocks that dip from East to West. The valleys are steep-sided, narrow and winding: the Vienne (from Excideuil to Confolens), the Tardoire (upstream from Montbron) and, to a lesser degree, the upper Charente (Buisson-Catil and Primault, 2010:10).

To the west of Charente Limousin begins the karstic land of Jurassic limestone from Montbron to Civray with the Tardoire valley could be considered as a polje where the waters of the Tardoire and the Bandiat are dispersed. The Braconne and Bois Blanc forests cover a dry surface, with limestone pavements and, especially, very wide and deep sinkholes like the Grande Fosse or chasms with complicated architecture like the Fosse Mobile. The resurgences are almost all to the West, the main one being that of La Touvre. To the west of the Ruffec-Angouleme line, the Jurassic limestone plateaus often constitute veritable plains: on the Sequanien and Rauracien limestones, a real causse is formed and the marly

limestones around Villefagnan provide a depressed area with wide valleys, like the meandering one of the Charente south of Mansle, constituting the Vale of Angoumois. To the south of the Cognac-Angouleme line, the Cretaceous country begins, with the hard Cenomanian and Turonian limestones alternating with less resistant horizons. The peaks are covered with sand and pebbles with a beautiful, fort-like appearance; the valleys, with wide flat bottoms, are often peaty and covered with meadows, their slopes hollowed out with caves and rock shelters (e.g. La Quina). Towards the South-East, towards Bordeaux and Perigord, the sands, clays and gravels become increasingly frequent (Buisson-Catil and Primault, 2010:11).

Finally, to the West of Chateauneuf begins a more open landscape dominated by the great plains with clumps of trees which overlook the land of the Woods and those of Champagne which bear the vines of Cognac. The link between all these regions is the Charente and its tributaries (Buisson-Catil and Primault, 2010:11).

2. The humans of Poitou-Charentes

Even with a summary examination of the geological characteristics of the region, the reader will notice how suitable it would be for human settlement: the Jurassic limestone plains and valleys, dotted with rockshelters and caves, offer a natural network of dwellings; at the same time, the woodlands are a sure source of fuel and materials for fashioning tools, not to mention a valid hunting ground for woodland-grazing animals. It should therefore not come as a surprise that this region witnessed settlement waves from very early on in the Middle Palaeolithic, with one of the sites in the region (La Quina) becoming eponymous for one of the stages of the Mousterian. The next sections will delve deeper into the settlement waves that invested the region, first with the Neanderthals and, subsequently, with *H. sapiens*. It will appear clear, at the end of this survey, how essential this region has been and remains to understand the population dynamics of human species in Europe.

i. Neanderthals

Historically, the Poitou-Charentes has always been at the forefront in the study of Neanderthals: the discovery, in 1907, of the first Neanderthal remains from Abri Commont (Petit-Puymoyen) followed by the remains from La Quina in 1908 - several years before the discovery of important Perigordian sites such as La Ferrassie and Pech-de-l'Azé - opened a season of research destined to last for the whole of the 20th century. Furthermore, Palaeolithic archaeology in the region has been marked by game-changing results: it will be the examination of the Neanderthal remains found at Fontéchevade that will lead to the abandoning of the "Presapiens" hypothesis and it will be thanks to the remains found at Saint-Césaire (La Roche-à-Pierrot) that the Chatelperronian industries will be definitively associated with Neanderthal populations. (Verna, 2010:17)

To this date, the regional sites have returned more than 200 Neanderthal remains, which makes it the European region with the highest density of Neanderthal sites. Of these remains, 160 are concentrated in four particular sites: Abri Bourgeois-Dalaunay and Abri Suard (both at La Chaise), Les Pradelles (Marillac) and La Quina (Verna, 2010:17). Twelve more sites have equally returned copious remains, although less numerous: Artenac, Castaigne cave, La Cave, Hauteroche, Abri Commont, Fontéchevade, Jonzac (Chez Pinaud), Montgaudier, Le Placard, Les Rochers-de-Villeneuve, Rochelot, Abri Rousseau and Saint-Césaire. Taken together, these remains - including cranial and post-cranial remains of adult and immature individuals - cover a chronological interval between 240,000 and 35,000 years BP and come from very different topographical and archaeological contexts: hyena's lairs, deposits at the foot of the cliff, caves and rockshelters (Verna, 2010:17).

The occupation of Poitou-Charentes in the Paleolithic is attested at least around 500,000 years BP; little is known, however, about the biological identity of these populations. The oldest human remains are actually those of Neanderthals found at the Abri Suard (La Chaise); since the abandonment of the "Presapiens" theory, there is now no reason to think that another human taxon occupied this region during the Middle Paleolithic (Verna, 2010:18). In a synthesis concerning Neanderthal human remains du Poitou-Charentes carried out in 1986, B.

Vandermeersch underlined the absence of human remains prior to the Riss glaciation, mirrored by the abundance of these during the course of the interglacial Riss-Wurm, thus making Poitou-Charentes an exceptional region in the European context. This brough the author to suggest, noting the permanence of the occupation of the region since the penultimate glaciation, "a local evolution, probably without external input" (Vandermeersch, 1986: *passim*; Verna, 2010:18).

From a strictly anthropological point of view, several aspects relating to the biological identity of the Neanderthals of Poitou-Charentes remain unknown. At the population level, the question of the biological link between the individuals of this region - and between them and the other Neanderthals from a diachronic and synchronic point of view, has still been little addressed: echoing the suggestion of a "local" evolution suggested by B. Vandermeersch, S. Condemi (2001:164-5) underlined the morphological similarities between Charentais individuals of distinct chronological ages; however, the hypothesis of a different origin for the same individuals has been proposed. Moreover, the question of the "transition" between Neanderthals and *H. sapiens*, although greatly brought to light by the discovery of the human remains of Saint-Césaire, has only been little treated thereafter. These Chatelperronian remains remain isolated and their successors, the Early Aurignacian craftsmen, have only recently received new attention (Verna, 2010:18-9).

ii. Anatomically modern humans

The anthropological documentation for *H. sapiens* in Poitou-Charentes is no less rich than that offered by its Nenderthal sites. At least 24 sites have returned remains assigned to anatomically modern humans from the Upper Palaeolithic. In particular, the last three decades have seen a new impulse in this field of research: discoveries of new sites, further and more attentive excavations at the reference sites, the revision of cultural sequences and industries, the impact of geological approaches have modified the data on the stratigraphic and chronological context for the unearthed remains; furthermore, the possibility of dating directly by ^{14}C both the fossils exhumed in the past and the new discoveries has further implemented the data available to scholars (Henry-Gambier, 2010:25).

Of the four departments, the Charente is by far the most generous in returning fossilized human remains. Even excluding the very dubious - and to this day, impossible to re-examine - mandibule of an adult individual from Bellevaud, discovered in 1942 and attributed by its discoverers to an Aurignacian level (Henry-Gambier, 2010:25), the anthropological record is exceptionally rich and worthy of a review in some detail:

- **Chez le Rois (Mouthiers-sur-Boeme)** - Investigated repeatedly during the first half of the 20th century, the site has returned two series of human remains: the first, a set of 32 teeth excavated from removed soil from archaeological layers, is currently lost; the second, discovered in 1958, comprises two fragments of mandibules from young individuals (at a dental age of 10-12 years old) and a series of teeth belonging to both young and adult individuals. This second set constitutes one of the most important dentary assemblages for the Early Aurignacian in Western Europe: mandible A includes the symphysis and the portions of adjoining bodies broken at the height of the alveolus of the second molar, with the canines, the first premolars, the second deciduous molars as well as the first right and left permanent molars are in place on the arch; mandible B, on the other hand, is limited to the alveolar edge, with the second incisor, the canine and the first right and left premolar in place; finally, the loose teeth very likely belong to the same two mandibles. Further excavations conducted in the early 2000s and subsequent ^{14}C dates at 31-28,000 years BP confirmed the original attribution of the remains to the Early Aurignacian (Henry-Gambier,2010:26).

- **Fontéchevade (Montbron)** - Forty-five years of archaeological activity at this cave have returned six human fragments, the majority of which (four fragments) belonging to the neuro-cranial region: the left parietal bone of an adult, associated with a permanent premolar; the right portion of a mandible containing immature teeth belonging to a child of approx. 5 years of age; a fragmentary frontal (glabellar) bone of an adult; finally, the the cranial cap (frontal and incomplete right parietal, left parietal) of an adult. The remaining two fragments belong to the post-cranial skeleton: the fragment of a radius belonging to an adult and the fifth metatarsal bone equally at-

tributed to an adult. Although dated archaeologically with a high degree of certainty (De Sonneville-Bordes, 1959; Henri-Gambier, 2010:27) and dated by a ^{14}C measurement on associated faunal remains to 33,000 years BP, these remains come with some controversies: the site has, in fact, returned a very disturbed Bronze Age burial, which has cast many doubts about the correct temporal association of the remains (Henry-Gambier:2010:27).

- **La Quina-Aval (Gardes-le-Pontaroux)** - Despite its unquestionable importance for the study of Neanderthals, the Aval station of La Quina has returned relatively little remains belonging to *H. sapiens*. G. Henri-Martin, responsible for a series of excavations at La Quina between 1905 and 1936 reported the discovery of several interesting remains: two fragments of femur, one of which adapted to become the handle of a tool; a patella; two premolars and the mandible of a child (Henri-Martin, 1936:191-202). Regrettably, the vast majority of these remains are currently impossible to find, with the sole exception of the child mandible: it belongs to a morphologically modern child just over the age of 6, the second decidual molar is present as well as the first permanent molar; the germ of the first premolar is visible and the socket of the second permanent molar is barely dehisced. Further investigations at the site carried out in the years 1995-1998 allowed to propose an archeological date for this mandible between 32,650 ± 850 years BP (Henry-Gambier, 2010:28).

- **Les Garennes (Vilhonneur)** - In 2005 this karstic cave was the theatre of a major anthropological discovery for the European Upper Palaeolithic: a partial human skeleton associated with hyena skeletons, a hand stencil and parietal marks depicting a face (Henry-Gambier, 2010:29). The skeleton - morphologically modern and assigned to a young adult - was dispersed and distributed as follows: the ribs, vertebrae, coxal bones, the sacrum, femurs and tibiae were scattered on the surface of a scree in the same room decorated with the hand stencil and the face-shaped marks; the skull - in perfect condition - was sealed at the top of the filling of a small, partially blocked gallery opening into the same room; the mandible, the upper limbs and the small bones were not found (Henry-Gambier, 2010:29). All of the

bones are heavily encrusted with mineral deposits and all of the long bones show gnawing marks by carnivores. There are no tools or other artifacts associated with the human remains or the hyena skeletons, however two faunal remains - a horse talus bone and the fragment of a diaphysis from an ungulate - were found in close proximity with the skeleton. One rib from the human skeleton and one rib from one of the hyenas has been dated with ^{14}C: the animals date at 28,500 years BP, whereas the human skepeton has been dated betwee 27,000 and 26,000 years BP, thus placing both in the early stages of the Gravettian and excluding that the hyenas are to be held responsible for the gnawing marks on the long bones. Finally, there is no direct association between the human bones and the parietal marks; it is possible that the latter and the former are contemporaneous, however nothing indicates a perfect synchrony (Henry-Gambier, 2010:30).

3. The archaeology of a privileged place

From very early on (as mentioned *supra*, §2.i) the Poitou-Charentes was a privileged research area for Palaeolithic archaeologists, in particular because of the presence of numerous cavities yielding the remains of ancient occupations. It should not surprise, therefore, if Palaeolithic art appears to be "born" in the eyes of prehistorians in Poitou-Charentes with the discovery, in the 1830s, of engraved stones in Chaffaud cave (Vienne). A few decades later, in 1912, Henri Breuil organized the chronology of Upper Palaeolithic cultures based, in part, on the imposing sequence of the Placard cave in Charente. Since then, this region has always occupied a prominent place in the knowledge of Palaeolithic settlements, both in their biological and social diversity (Buisson-Catil and Primault, 2010:13). It will be worth, therefore, to look at the archaeological evidence returned by this region, with particular reference to the Magdalenian, period to which the site examined by my research belongs. Before that, however, it will be equally necessary to give a general overview of the challenges the area poses to the archaeological exploration and the broader context of the industries for the Magdalenian period.

i. Explorational and stratigraphic issues

In the words of J. Clottes at the opening of the volume *Prehistoire entre Vienne et Charente*, the "re-investigation" of a formerly excavated site is both a frustrating and challenging experience, especially when it comes to a major site, as one cannot help dreaming of what one could have learned from it had the site escaped the looting. On the other hand, the discovery and recognition of intact areas here and there are conductive of many satisfactions: alongside the possibility of connecting them, the establishment of a precise and reliable stratigraphy, the analyses that become possible and the results they bring (Buisson-Catil and Primault, 2010:7).

This thought contains in a condensed form all the challenging aspects of the archaeological investigation of Poitou-Charentes: on the one hand, the peculiar archaeological richness of the region constituted a propelling force for its investigation fom the earliest days of prehistoric archaeology in Europe; on the other hand, the consequence of this long-lasting, almost uninterrupted exploration covering a span of almost 150 years is the application of successive excavation techniques - born, in turn, from evolving approaches to archaeological artifacts - bound to have an impact on the conservation and, consequently the understanding of the sites themselves. The peculiar nature of the sites - mostly open rock shelters, as it will be clear *infra* - further exacerbates the conservation issues, as most of the sites have been subject to almost uninterrupted utilisation by local inhabitants and have undergone the inevitable process of deterioration consequent to such use, often compounded with intentional looting of the archaeological artifacts.

In this sense, the three major Magdalenian sites reviewed *infra* represent an excellent sample of the explorational history of the region as they represent the three main "waves" of investigation in the area: Montgaudier, discovered in 1850 and explored systematically from the second half of the 19th century (Debénath, 2010:259); Le Bois-Ragot, discovered in 1968 and explored over the course of twenty years (Dujardin, 2010:299); finally Taillis-des-Coteaux, discovered in 1998 and currently still being investigated (Primault, 2010:271). Furthermore, each of these sites presents multiple levels of occupation that span well beyond the boundaries of the Magdalenian: for Montgaudier, the occupation can be traced back to the Mousterian, as documented by the lithic industries (Mousterian type Quina

and Charentan; Debénath, 2010:265); similarly, Taillis-de-Coteaux presents levels of occupation from the Aurignacian onwards, demonstrated by both the lithic industries and radiocarbon dating on organic materials (Primault, 2010:276); finally, Le Bois-Ragot seems to have been occupied much later in comparison to the previous sites, as the layers only show traces of Magdalenian and Azilian occupation (Dujardin, 2010:301-6). Considering these initial data (the age of discovery and the determination of the occupational levels) already highlights the difficulties hinted to *supra*: if in fact the conclusions on Montgaudier and Le Bois-Ragot can be drawn only from chrono-typological data, for Taillis-de-Coteaux we can rely on the further support of radiocarbon dating on organic materials.

The issues appear even more evident when the stratigraphy of the sites is analyzed in some detail. To this purpose, it is convenient to proceed site-by-site and highlight the main stratigraphic characteristics of each site:

- **Montgaudier (Montbron)** - the shelter with the longest explorational history presents five main areas, each with distinct characters: the Grand Porche, The Premier Etage, the Abri Lartet, ther Abri Gaudry and the Abri Paignon (Debénath, 2010:260-1. See Figure 1). The Grand Porche (10m x 13m, N-NE orientation) gives access to a vast cave more than 20m deep whose ceiling has partly collapsed; it was by emptying this cavity to level the neighboring meadows with the sediments thus recovered that one of the first explorers (M. Paignon) unearthed the famous perforated stick decorated with seals. The Grand Porche has three locuses; in the last locus, the layers are affected by strong post-Magdalenian karst aspiration. The stratigraphy of the Grand Porche - originally studied in the 1970s and further in the early 1990s - reaches more than 10m in thickness and is composed by a lower set, consisting of a non-calcareous deposit, fluvial in nature and of allochthonous origin, and an upper set, consisting of an essentially calcareous deposit of autochthonous origin. The lower set includes 26 layers composed either of coarse elements packed in a sandy matrix, or of levels composed essentially of fine sediments in which sands dominate; there are also pebbles and granules of quartz, quartzite and granite indicating an allochthonous origin and fluvial transport, with micro-cracks sometimes ap-

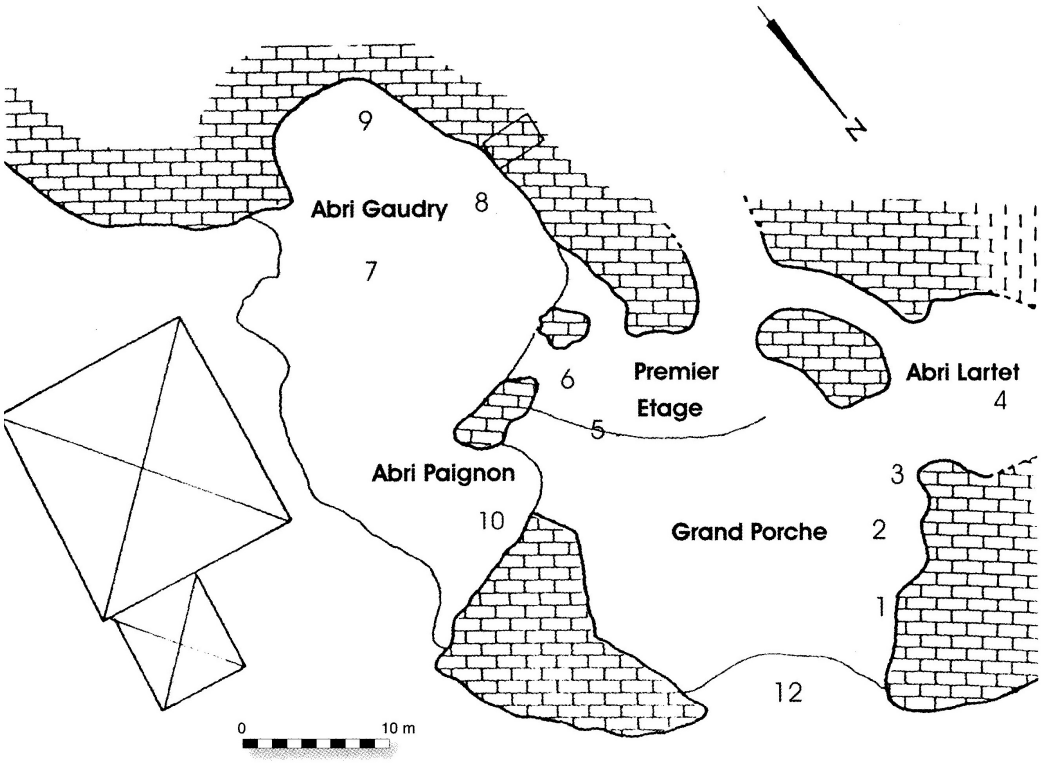

Figura 1: Montgaudier - Plan of site (from Debénath, 2010).

pearing within these layers. The upper set, bearing little differencews with the lower, is characterized by the presence of large blocks, result of collapses. It seems that part of the filling of the Grand Porche comes from the collapse of part of the filling of the contiguous Abri Lartet (Debénath, 2010:261).

Located above the Premier Etage and to the west of the Grand Porche, the Abri Lartet has been partly excavated and is of paleoethnological interest: it is, in fact, the only location in Montgaudier in which the Mousterian is present.The stratigraphy (see Figure 2) is best preserved in its West portion (where it reaches a thickness of 2m) consists of an initial layer of topsoil (1), reworking the upper part of the underlaying, brecciated layer (2) red-coloured and containing some calcareous blocks; underneath is a brown sandy clay layer(3) followed by a brecciated layer (4) yellow, with fragments of stalagmites and limestone blocks and by a yellow sandy-clayey

layer (5) containing many small calcareous screes; the subsequent layer of very hard breccia (6) proved to be rich in fauna and followed by a sandy layer(7) and by a thinner layer (8) visible on a maximum thickness of 70cm - a deposit with numerous calcareous pebbles packed in a sandy matrix and concreted in the lower part; finally,the lowermost layer (9) visible in the southern part of the section and composed composed of a sediment of sandy-clay-silty texture containing some pebbles of small and medium dimensions (Debénath, 2010:262).

Located behind the Grand Porche and geographically contiguous to it and the Abri Lartet, the Premier Etage was artificially created during the first excavations. It presents fluvial bedded deposits overlying sandy-clayey layers containing large collapsed blocks as well as resulting elements from a pre-existent stalagmitic floor. Above this Premier Etage are found smaller shelters excavated during earlier explorations, while in the northwestern part of the site is located a small cave a few meters deep with strong stalagmitic concretions and returning faunal remains of hyenas and bears (Debénath, 2010:260).

The eastern embankment or "Partie Tardoire" - extending over approx. 20m in length and subject of surveys in 1959 and 1966 - includes the Abri Gaudry and the Abri Paignon; of these two, the Abri Gaudry presents an articulated stratigraphy reaching a depth of approx. 3.5m (see Figure 3). After a first layer (0) composed of heavily brecciated collapse blocks and stalagmitic fragments, lies a yellow-orange compact layerof sandy-clayey consistency (1) containing some small calcareous elements with at its base blocks reaching 30cm in diameter and dating to the Upper Magdalenian, materials for which are found also in the subsequent layer (2) similar in nature to the previous one but more compact in its consistency; following is a light yellow layer(2') loosely structured and slightly layered, containing small calcareous elements; the subsequent (2bis) is a red, compact clayey layer with a well-developed polyhedral structure followed in turn by a red, sterile clay layer (3); finally, the lowermost layer (4) of cryoclastic scree presenting evident signs of cryoturbation, followed by a further scree sublayer (4bis) breccia-

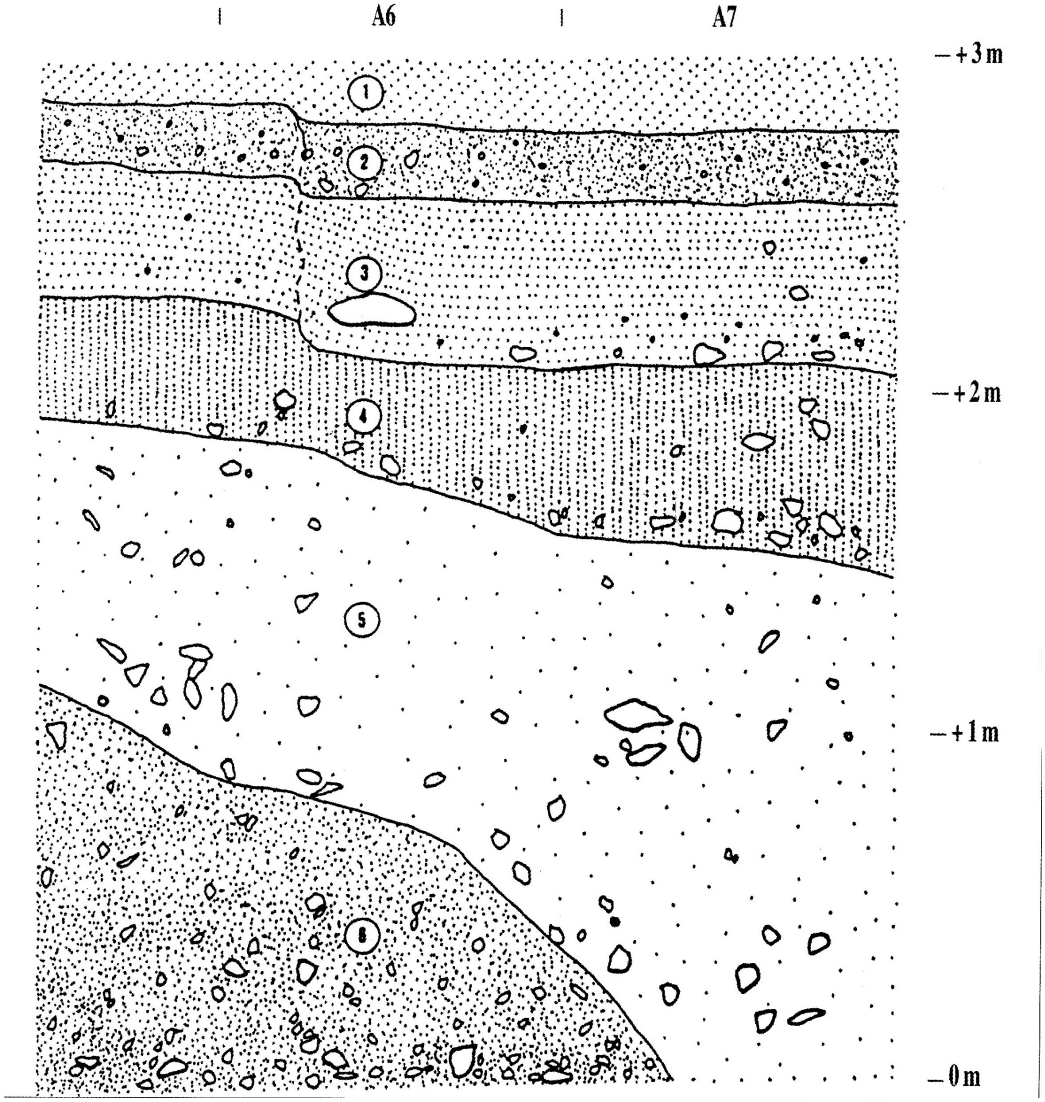

Figura 2: Montgaudier - Stratigraphic chart of the Abri Lartet (from Debénath, 2010).

ted in its lower part, differing from the previous one by the small size of the limestone elements (Debénath, 2010:260).

- **Taillis-des-Coteaux (Antigny)** - as the discoverers admit themselves, it is difficult to dran final conclusions on this site, given its recent discovery (1998) and that its exploration is far from concluded - and the prospected surface to be explored has been estimated at 500m^2. This notwithstanding,

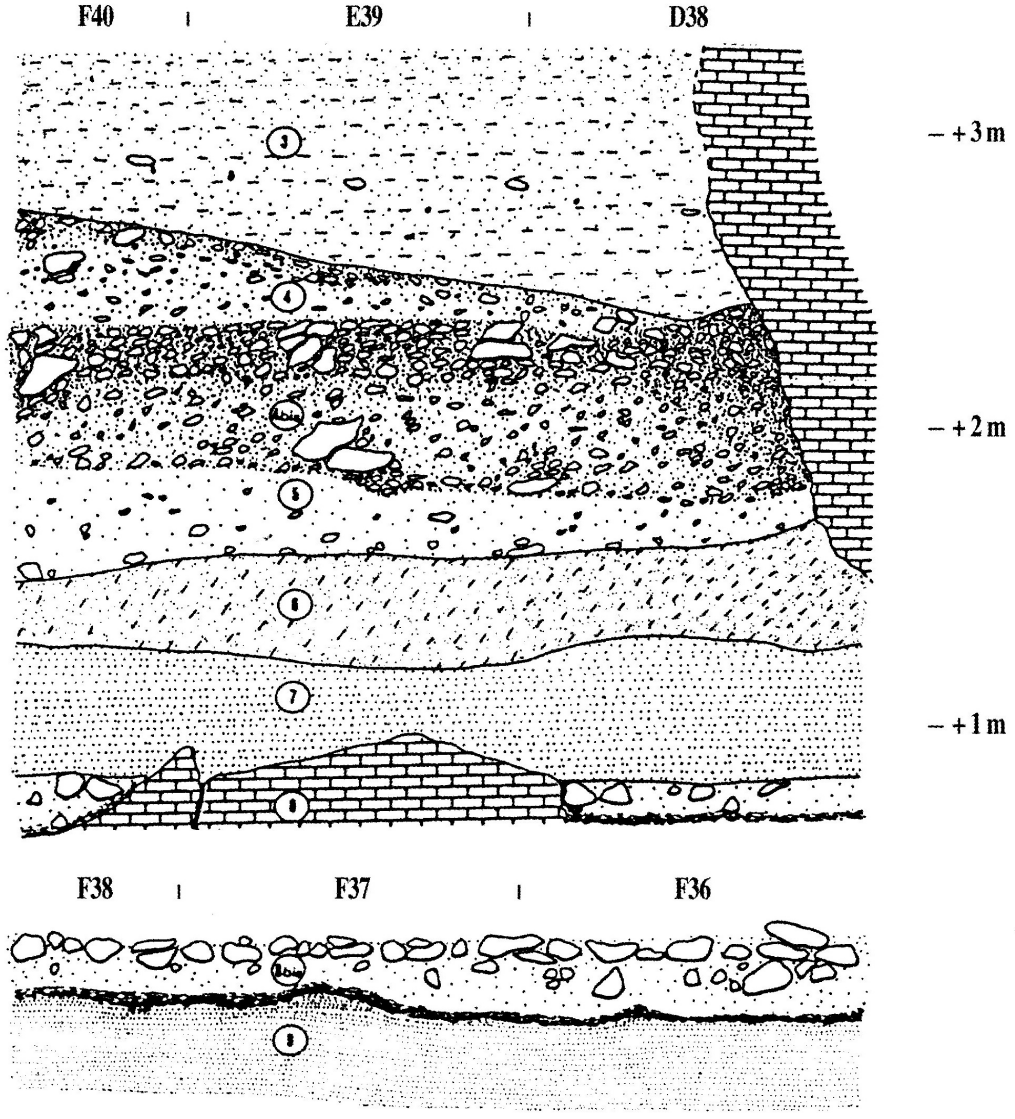

Figura 3: Montgaudier - Stratigraphic chart of the Abri Gaudry (from Debénath, 2010).

it is already possible to provide a substantial description of the stratigraphy explored this far, which currently develops over approximately 5m in thickness. Eight stratigraphic sets have been singled out and grouped into three major geological units, each corresponding to the different stages of sedimentary deposits construction and affected by various post-depositional phenomena. The site itself has been divided into two sectors, a Northern

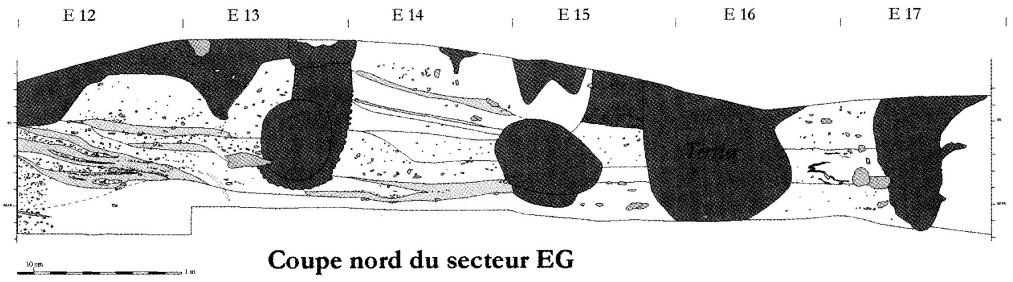

Figura 4: Taillis-des-Coteaux - Stratigraphic chart of the Northern sector (from Primault, 2010).

one (Sector EG) and a Southern one (Sector AG) (Primault, 2010:273).

For Sector EG, the sedimentation results mainly from the slow desquamation of the limestone wall, thus enriching the levels of numerous small angular silico-calcareous blocks included in a brown to yellow sandy-loamy matrix (set EG-II). The sediment of this sector is more or less strongly marked by phenomena related to periglacial conditions; consequently, the deformation of the levels of the base of set EG-II and the top of set EG-III results directly from the repeated alternation of freeze/thaw which has, of course, led to a certain vertical redistribution of the archaerological evidences (Primault, 2010:274).

Sector AG can, in turn, be subdivided into two distinct subsections. The upper part of the stratigraphy (comprising sets II-V) is characterized by a yellow sandy-silty matrix, poor in clay and somewhat rich in silico-calcareous blocks mainly resulting from the erosion of the cave and the slope. The rudimentary stratification observed, alternating sandy-silty levels with levels richer in calcareous pebbles, is similar to pellicular solifluction facies and the first analyses also confirm that the archaeological material contained in this part of the sequence has been locally affected by these debris flows (Primault, 2010:274). The lower part of the stratigraphy (comprising sets VI-VII) most certainly corresponds to fluvial sand deposits somewhat rich in pebbles. Still too inaccessible, this part of the stratigraphy has only observed in a preliminary way (Primault, 2010:276).

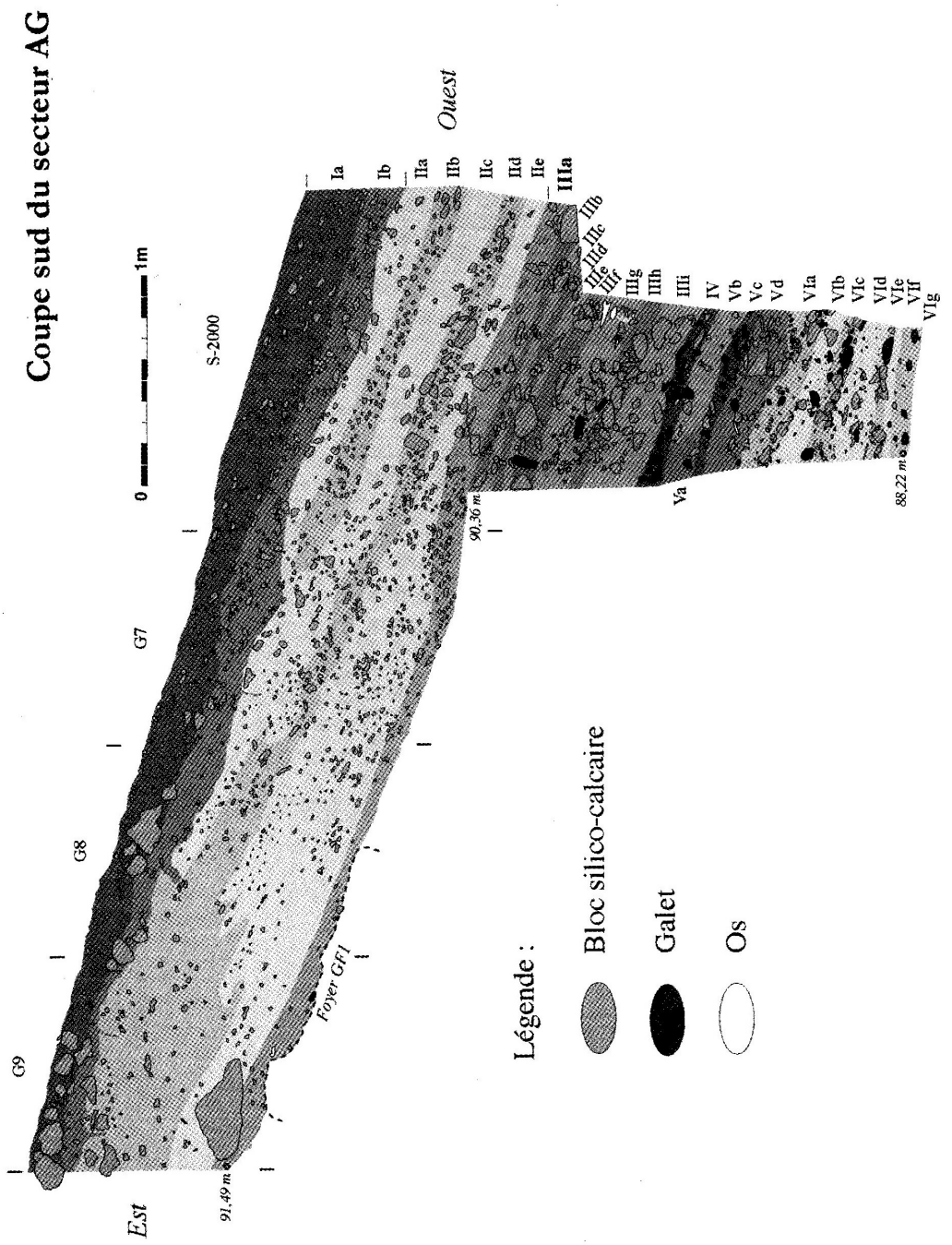

Figura 5: Taillis-des-Coteaux - Stratigraphic chart of the Southern sector (from Primault, 2010).

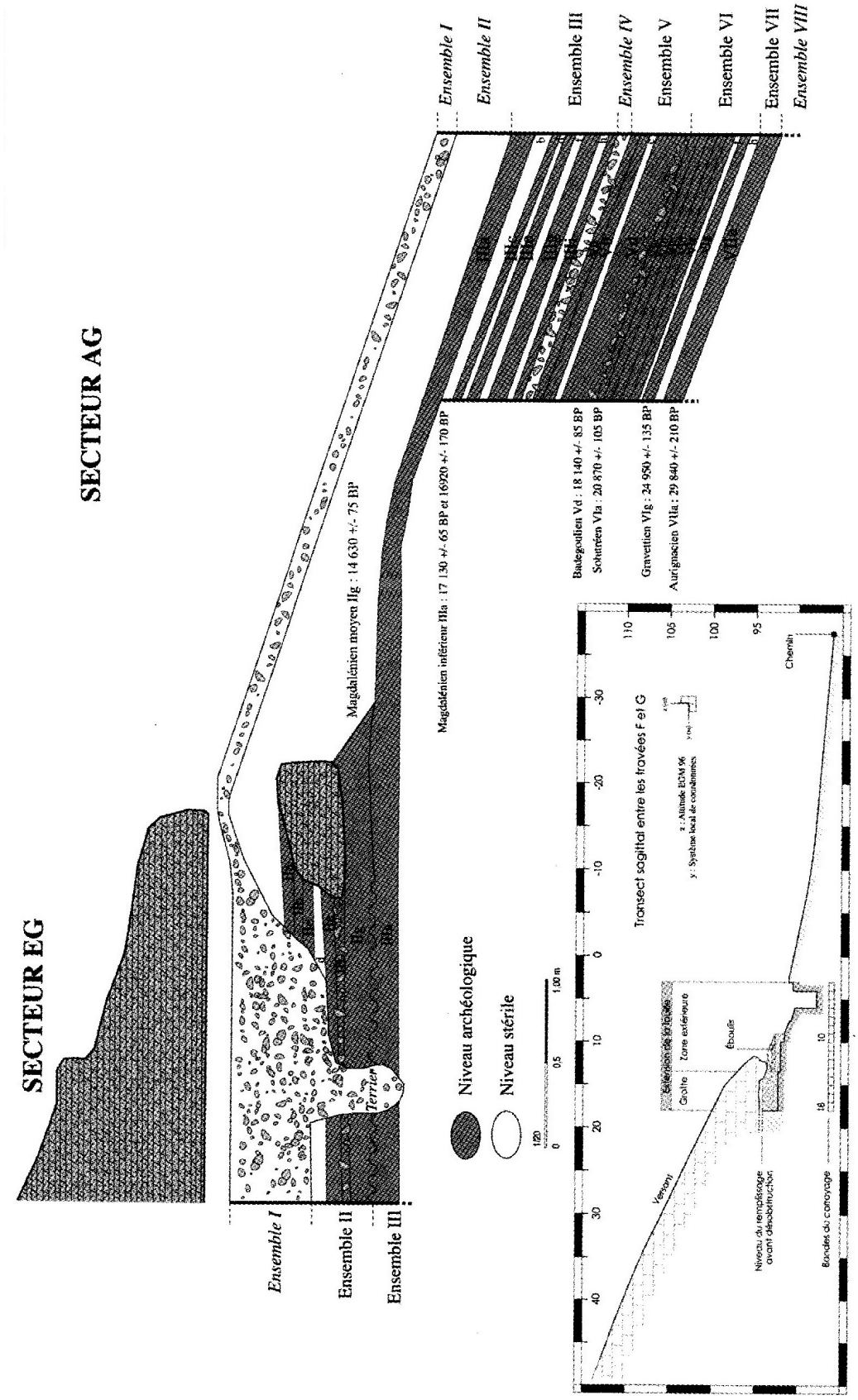

Figura 6: Taillis-des-Coteaux - Chrono-cultural sequence of the site (from Primault, 2010).

The sedimentary relationships between the two areas of the excavation have not yet been clearly established du,e in particular, to the presence of a large block of collapse directly above the porch. However, in a general way, it is possible to notice in the slope a decreasing influence of the alluvial conditions ascending through the stratigraphy, with a well-marked rupture between sets V and VI. This rupture is supposed to have taken place between the Middle Gravettian (set VI) and the Badegoulian (set V) and seems to correspond to the last glacial maximum (around 20k BP)(Primault, 2010:276).

- **Le Bois-Ragot (Gouex)** - discovered in the late 1960s and excavated systematically over the course of twenty years (1969-89)

  The stratigraphy of the cave, reaching between 2m and 3m of depth in its excavated part, is basically made up of beds alternating with sands and gravels of fluviatile origin and at the top by clays more or less sandy or loaded with gravel. This material, torn from the top cover, entered through an open chimney at the bottom of the cave probably during a vast vault collapse which occurred shortly long after the cessation of riverine inputs. From top to bottom, the succession of levels is as follows: humus passing to dusty soil at the interior of the cave; dark brown clay with many screes limestone and pebbles. Rare protohistorical and medieval remains; light brown clay with small pebbles and small scree. The living area Azilian occupies the base of this level; dark brown clay with voluminous scree from the vault. Sterile; strongly clayey habitat surface concretized. Azilian industry; sterile brown clay. This level is not present only in a few places in the cave; very fine fluvial sand. Sterile; coarser sand containing a rich Late Magdalenian industry; very fine fluvial sand. Sterile; fluvial sand with pebbles surmounted by a black sheet due to human activity. Industry from the final Magdalenian; small limestone scree packed in a sterile sandy matrix. (Dujardin, 2010:300; Chollet et al., 1974:285).

  The deepest level currently reached by the excavations (Level 6) appears as a very carbonaceous habitat surface, made up of sand mixed with river pebbles, the arrangement of which shows that they could have been anth-

ropically placed to form a kind of paving; covered with a very fine and very homogeneous sand, it suddenly appears under the excavator's tool like a perfectly black sheet sometimes passing to dark red brown. The stripping of this low level, almost at the level of the stream, is made difficult by the humidity that permeates it (Dujardin, 2010: 300 ; Chollet et al., 1974:287-8).

Level 5 – separated from the previous one by a sterile layer of fine sand practically free of pebbles – appears as coarse sand, sometimes mutating into gravel with pockets of ferruginous deposits. This level is surmounted in places by a further low sterile clay level which separates it from the surfaces resulting from the first collapse of the vault of the cave, which in turn occurred shortly after the last Magdalenian occupation; the entire front part of the canopy fell flat on the ground, marking the strong dip of the levels on it (Chollet et al., 1974:288). The remnants of this geological event are vast surfaces of 30 to 50 cm in thickness, almost contiguous, formed of a very hard limestone with many nodules of black flint. After this collapse, there was no more fluvial input but sedimentation from the chimney has continued to the present day. It is on this clay that the first post Magdalenian occupation was established, as it is indicated, at the base of the sequence of clayey sediments, by a brown line of irregular shape and sometimes absent. Humans occupied the cluttered surface of the cave by settling in the available spaces without attempting any "development" as it happened in Level 6 and there was no contribution of pebbles, as on the Magdalenian habitat areas. Hearths were lit, but these were only small, short-lived fires, the remains of which have been scattered by the passage of people, as only charcoal fragments and scattered burnt pebbles are found (Chollet et al., 1974:289).

For most of its extent, level 4 is topped by a thin stratum of barren brown clay, which separates it from level 3, the level marking the last prehistoric occupation of the cave. It is made up of a clayey sediment that is much lighter in color than level 4 and contains many generally small pebbles, its thickness varying from 1 to 5 cm. Strongly concretized, the surface of the layer is dotted with large collpase blocks, which suugests the humans inhabiting

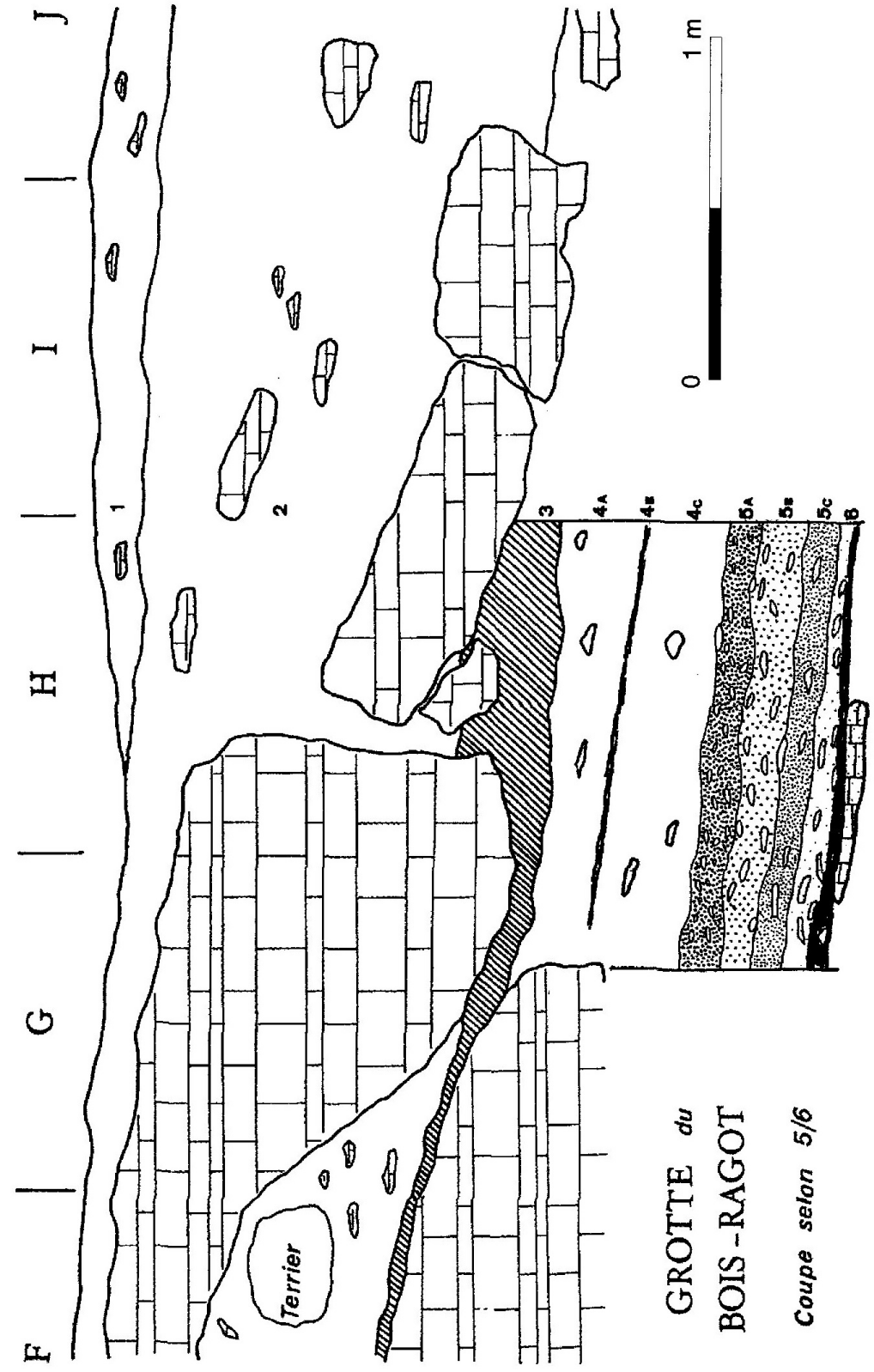

Figura 7: Le Bois-Ragot - Stratigraphic section of the site (from Dujardin, 2010 after Chollet et al., 1974).

> the cave at the time lived on a kind of floor of blocks, creating a place of residence in the front part of the cave, where the dip was the least consistent (Chollet et al., 1974:290).

It appears clear, from this stratigraphic review of the main Magdalenian sites in the region, how the geology of the area affects the formation and the preservation of the archaeological layers: as highlighted *supra*, contamination between layers is frequent due to natural phenomena, including flooding and collapse of surfaces. THis notwithstanding, the stratigraphic panorama for the Magdalenian is readable and, what is important, it help understanding the potential characteristics assumed by now-lost stratigraphies, as it is the case for La Marche (see *infra*, Ch. IV, §2.i).

ii. Site review

The latest stage of the Upper Palaeolithic has been investigated in this region at least since 1834, when the first engraved plaquettes were discovered at Chiffaud cave (Vienne). Since those first investigations, the region of Poitou-Charentes has returned a rich and articulated Magdalenian documentation, including but not limited to a generous artistic production, so much so to grant an in-depth review of the major sites in the region not just from a merely stratigraphic point of view (as I have done *supra*:

- **Montgaudier (Montbron)** - One of the earliest sites in the region to be investigated (the first excavation by E. Lartet dating to 1850, followed by further explorations in 1886, 1892 by G. Chauvet, 1961 and 1967), Montgaudier is located in the department of Charente in a territory characterised by Bathonian-Bajocian limestone and karstic phenomena. Although commonly referred to as a "cave" in the literature, it is in reality a system of at least five rockshelters: the Grand Porche, the Premier Etage, the Abri Lartet, the Abri Paignon and the Abri Gaudry (Debénath, 2010:259-60). Despite the sparse documentation for the earliest investigations, the stratigraphy is reasonably well preserved across all of the rockshelters and has allowed to trace the human occupation all the way back to the Middle Palaeolithic, with Mousterian levels (type "Quina") dated to the isotopic

stage 3 of the ancient Wurm (Debénath, 2010:266). It is however the Magdalenian level that are best documented and that reveal the longest human occupation of the site, with the first systematic excavation of Gaudry in 1887 returning several decorated objects, *pointes de sagaie* and flint blade cores. The lithic industry relies heavily on locally sourced flint and other types of rock sourced from the nearby Tardoire river; the main body of the tools is dominated by burins in various shapes (in decreasing order diagonal, truncated and transverse), followed in number by scrapers (mainly simple), small flat-back blades and a series of isolated tools, among which Gravette-type points and blades showing an Aurignacian-style retouch, with notable absences of parrot-beak burins or full lithic armouries (Debénath, 2010:267).

From the point of view of bone and antler industries, the main evidence comes from a *pointe de sagaie* in reindeer antler, similar to the ones discovered at the nearby site of Angles-sur-l'Anglin, together with a triangular-based pyramidal point and a double-barbel harpoon; other fragments of heavily modified bones have been discovered, however their fragmentary condition has not allowed a specific tool identification. Taken together, the industries present in the Magdalenian layers of Montgaudier indicate an occupational period stretching from the final stages of Middle Magdalenian to the earlier stages of Upper Magdalenian; it has to be noted, however, that no absolute dates have been obtained to this day for the site. Finally, the Premier Etage shelter has revealed the presence of several hearths marked by circles of large boulders and blocks of locally-sourced stone, associated with faunal remains of reindeer, horse and antelope (Debénath, 2020:267-8).

- **Taillis-des-Coteaux (Antigny)** - The site is one of the newest discoveries in Poitou-Charentes, encountered during prospection investigations in 1998 and excavated systematically from 2000 onward; the almost undisturbed stratigraphy has returned a complete sequence for the Upper Palaeolithic, from the Aurignacian to the Magdalenian, with the latter being represented by two consistent layers belonging to the Lower Magdalenian

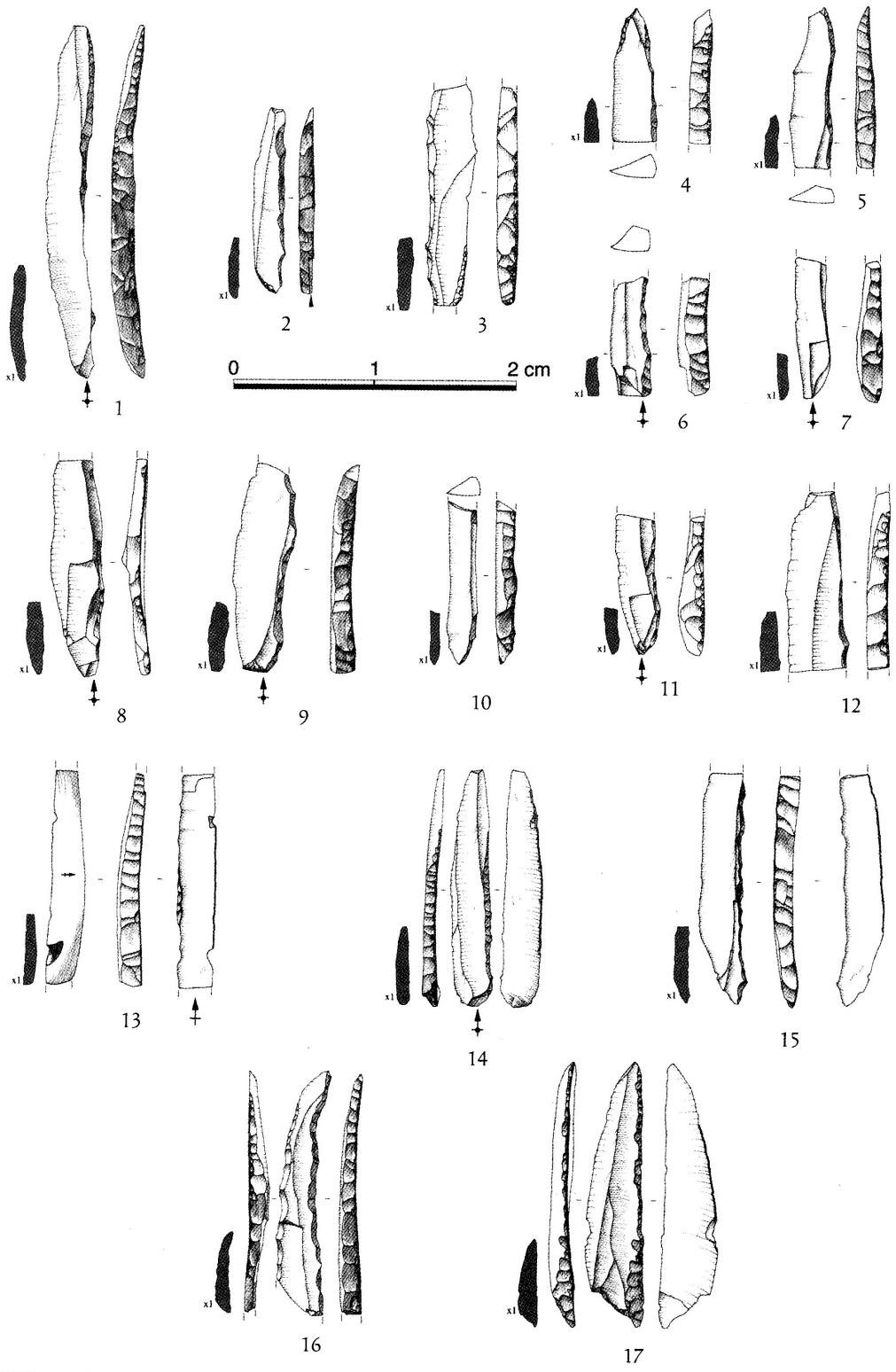

Figura 8: Taillis-des-Coteaux - Lithic industries from the Lower Magdalenian levels (from Primault, 2010).

(17,130 ± 65/16,920 ± 170 years BP) and the Middle Magdalenian (14,630 ± 75 years BP) (Primault, 2010:276).

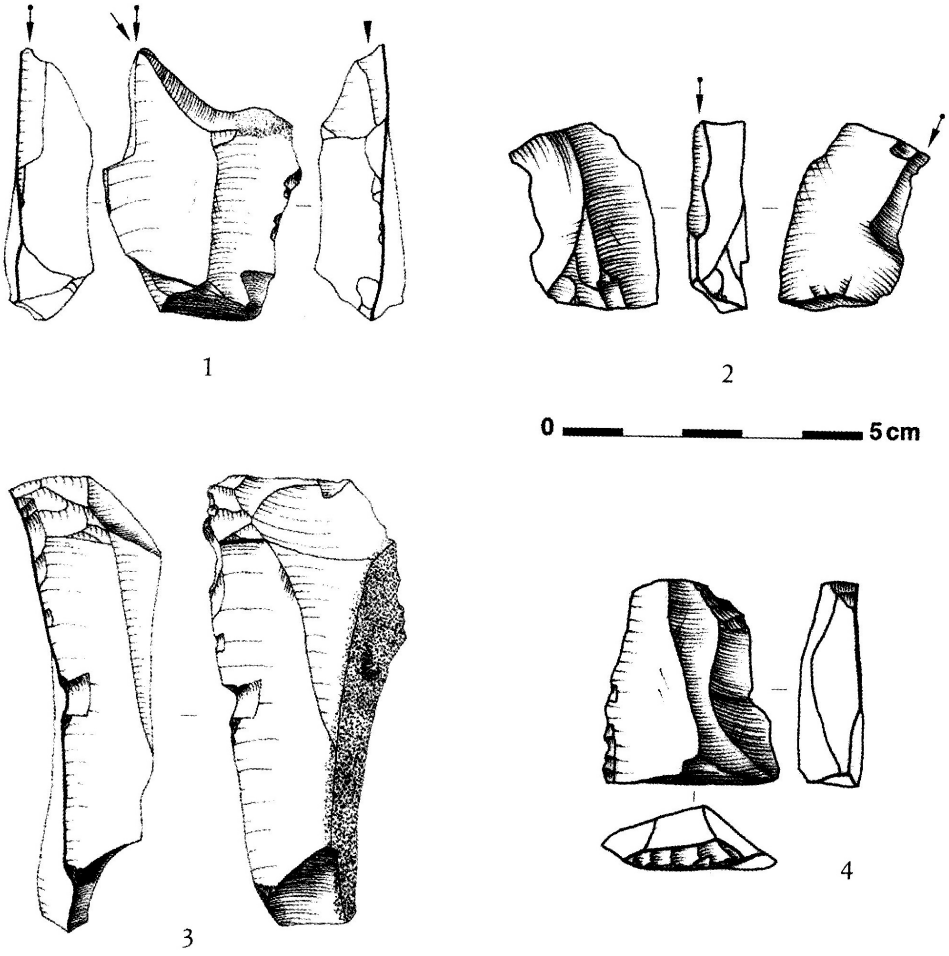

Figura 9: Taillis-des-Coteaux - Lithic industries from the Lower Magdalenian levels (from Primault, 2010).

For the Lower Magdalenian, in addition to its very particular lithic industry - almost solely oriented towards the production of backed micro-bladelets and oriented to the abandonment of small keeled cores - the layers show a certain spatial organization marked by the presence of at least three large hearths and small clusters of lamellar *debitage*. The lithic industry is dominated by the production of small backed bladelets (more than 140) whose blanks are preferentially obtained by debiting the edge of flakes, somewhat

like a thick burin. The rest of the retouched tools are of much lower quality and produced off stubby flakes detached with a hard hammerstone directly on the site - mainly scrapers and angle burins. A few portions of more regular blades, always with a cortical side, testify to a more elaborate blade know-how but carried out outside the site (Primault, 2010:280-2). The bone and antler industry mainly comprises fragments of spears made of thick sections of reindeer antler, as well as small holed needles made in bone, the presence of debitage waste indicating their production on site; the spears are generally quite slender in appearance, with a tapered point and a round or ovular cross-section and two of them showing short, shallow grooves arranged in staggered rows (Primault, 2010:284). These particular industries - and the faunal remains to them associated, mainly ascribed to reindeer - lead to the conclusion that the site, in this particular stage, was utilised mainly as a specialised hunting station, with seasonal longer occupations taking place during the warmer periods of the year (Primault, 2010:285-7).

Figura 10: Taillis-des-Coteaux - Industries in bone and antler from the Lower Magdalenian levels (from Primault, 2010).

The layers relative to the Middle Magdalenian, although not as perfectly preserved as Lower Magdalenian ones, remains nonetheless sufficiently preserved to grant a thorough investigation. One of the most striking points of the lithic industry of these levels is the remarkable predominance of non-local materials, particularly flint from the Grand-Pressigny region and the valleys of the Indre and the Cher, which outcrop about 30km north of Antigny and, for certain parts of the Cher valley, more than a 100km away. Utilised mainly for the fashioning of blades and bladelets (the entire *chain operatoire* is represented), these materials were largely detached in the cave, with the exception of the largest blades which were probably brought in raw or already slightly retouched (Primault, 2010:287). Bladelet debitage is represented exclusively in the production of backed bladelets with very little morphological variability: a clearly straight profile, with a steep back and a truncated extremity opposed to a point, all of them within a length range of 20-50mm. Laminar debitage, on the other hand, is deployed for the production of at least two types of blades: short blades (less than 8cm in length, mainly retouched on site) and large blades, some of which exceed 18cm in length, brought from production areas probably located near flint deposits. These blades generally have fairly long operational lives and were successively re-fashioned as burins - often diagonal - scrapers and sometimes even both (Primault, 2010:288). Finally, the bone and antler industry is quite diversified, with many fragments of spears. With the exception of a Lussac-Angles type spear and two fragments of spear bases with a quadrangular section and bevelled, ridged base the other spears are round in section, with a fairly tapered point and have one, sometimes two grooves along their full length; they are preferentially produced out of large diameter sections of reindeer antler. There are also a few bone spatulas and *lissoirs* - some of which are decorated - with split sides and pointed ends; production waste found within the layer indicates that some of these tools were made and/or restored on the site. In this regard, ochre, found in the form of small lumps with a striated surface, was certainly involved in certain stages of the production of these tools (Primault, 2010:288-9).

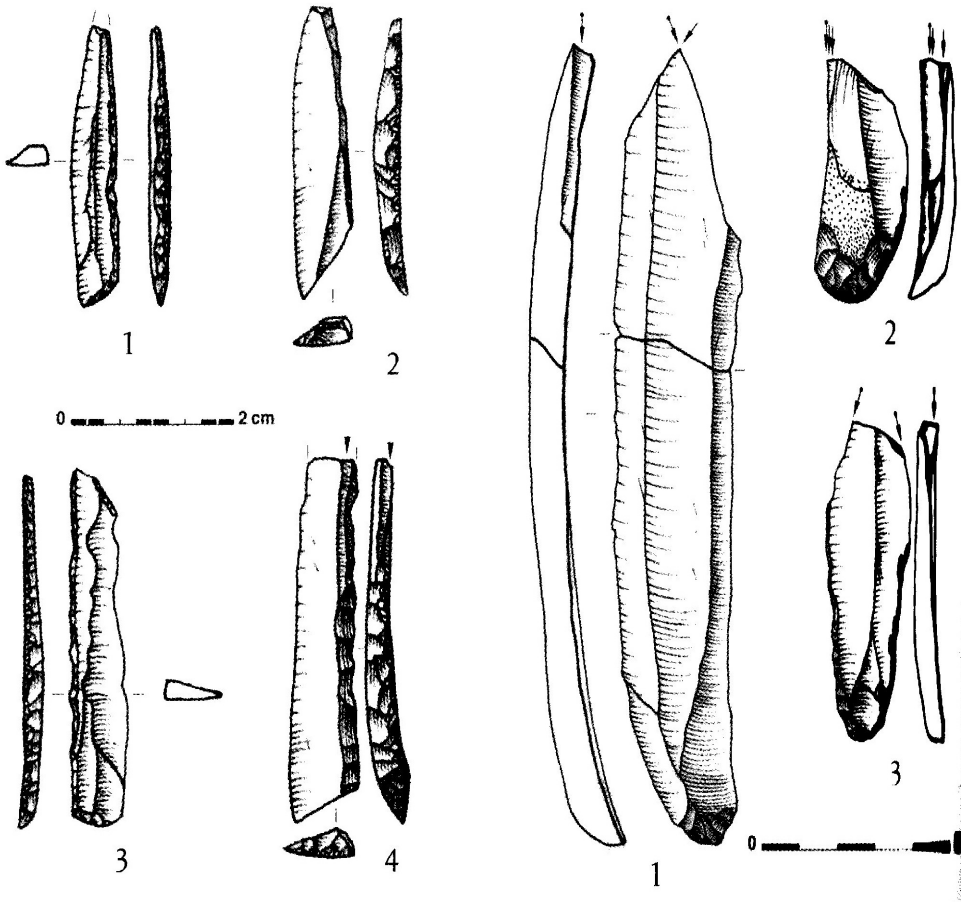

Figura 11: Taillis-des-Coteaux - Lithic industries from the Middle Magdalenian levels (from Primault, 2010).

- **Le Bois-Ragot (Gouex)** - Discovered in 1968 during a survey campaign and excavated systematically during two decades (1969-89), the site of Bois-Ragot has returned a fairly complete stratigraphy for the final Magdalenian and Azilian, together with two smaller Mesolithic and Neolithic layers - although, as it is the case for the sites discussed *supra* and for other sites in the region, disturbances have been frequent over time (Dujardin, 2010:299-300). Located on the left bank of the river Vienne - as opposed to most of the sites in the Lussac-Les-Châteaux area which are located in small valleys adjacent to the river - the site is located at an altitude of approximately 74m and east-facing, right at the base of a woodland-covered crag, the only part

Figura 12: Taillis-des-Coteaux - Industries in bone and antler from the Middle Magdalenian levels (from Primault, 2010).

Figura 13: Taillis-des-Coteaux - Industries in bone and antler from the Middle Magdalenian levels (from Primault, 2010).

still accessible of an otherwise obstructed karstic complex. The stratigraphy extacated to date has a height of 2-3m and sits on a somewhat disturbed Jurassic chalk level; the Magdalenian levels - two in total - occupy 1m of the entire stratigraphy (Dujardin, 2010:300).

The first inhabitants of the cave settled on the rocky floor of the cave, leaving a reddish to blackish archaeological level very rich in remains characteristic of the Upper Magdalenian; the stones bearing burnt marks are numerous, however it was not possible to identify organized hearths. The most common lithic industry is made on blades, characterized by the abundance of burins, especially diagonal ones; other forms of burins are rare but often very typical, in particular the "parrot's beak" burins, made exclusively on wide and thin flank flakes. Flat-backed bladelets make up more than half of the tool assemblage, fashioned out of very uniform-sized bladelets and obtained by different methods, either following standard laminar production, or off independently produced thick flakes or small blocks . More than 80 tools made of hard animal-origin material were found: a pierced stick, *sagaies*, harpoons and eye needles. From the point of view of faunal remains, the first Magdalenian level is dominated by Arctic species - including reindeer - corresponding to a tundra-type environment; the cold climate is confirmed by the presence of other, smaller animals such as the Meadow Vole, the Northern Vole and the Collared Lemming (Dujardin, 2010:301).

Separated from the earlier Magdalenian levels by a sterile, mixed layer of gravel and sand, the later Magdalenian level is equally rich in archaeological remains, several of them of artistic value - it has in fact returned several engravings on both stone and bone (Dujardin, 2010:301). a large pile of bony remains - consisting primarily of mountain hare bones for over 15,000 examples - was found approximately in the center of the layer, along with the remains of snowy owls, large mammals and fish; human groups of the later level exploited the hare for its flesh, its fat and as a source of raw material for the bone industry - exploitation of the tibias for the production of needles and the making of ornaments; use of an ulna to make a borer - however, the use of fur could not be demonstrated. The snowy owl was

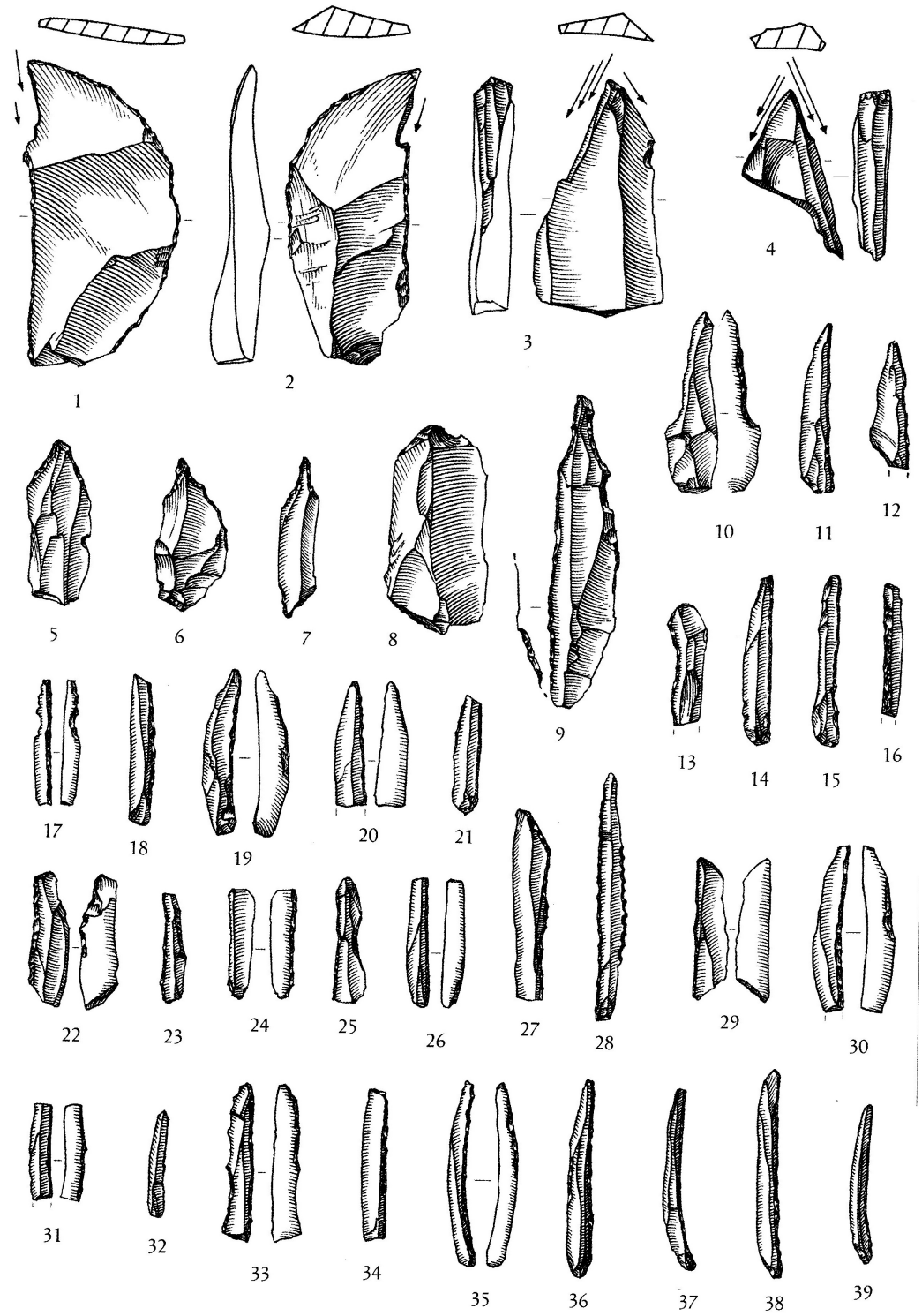

Figura 14: Le Bois-Ragot - Lithic industries from Level 6 (Late Magdalenian) (from Dujardin, 2010).

also consumed and some of its bones (notably the ulnas, the phalanges and the claws) were used as raw material as well as perhaps its feathers (Dujardin, 2010:301; Laroulandie, 2010:312). From the point of view of the lithic industry, the 1,700 bladelets with backed edges retrieved represent two-thirds of the lithic tools of this level - they have been fashioned out of regular length supports; the blades, on the other hand, were flaked with a soft hammer of animal origin, from cores with a preferential - or even unique - striking platform. These blades were used as the starting point for most of the tools, and in particular for end scrapers, the utilised edges of which frequently include the original, lateral cutting edge and are not limited to the retouched faces (Dujardin, 2010:301). From the point of view of the industries on animal-origin materials, the layer returned nearly 200 tools: harpoons, at least 29 examples from 69 fragments, mostly with two rows of barbs and intensively used; eye needles after refittings, are equally numerous; finally *sagaies*, borers, *lissoirs*, straight double-pointed elements, pierced stick (one fragment) and two-headed points complete this rich assemblage of bone tools. It is also worth noting that this level has returned the largest amount of colouring blocks, in particular used blocks and "pastels", thus testifying to a fairly homogeneous distribution of activities using these coloring materials (Dujardin, 2010:304).

The spatial distribution of the various objects made it possible to single out various zones for the execution of different activities around the vast hearth (approximately 1.5m in diameter), in particular the treatment of skin, flint and bone (manufacturing of eye needles). The hare exploitation sequences - which involve great meticulousness and a high level of technicality - took place on a smaller area, located around ten square meters to the south of the hearth. Climate changes are perceptible from this level: the large fauna essentially still belongs to the arctic group (reindeer, mountain hare and snowy owl), but to a rather less arid climate than in the earlier level, even if the species of fish present still indicate a fairly dry climate (Dujardin, 2010:304).

It appears clear, even by a cursory examination of the evidence presented

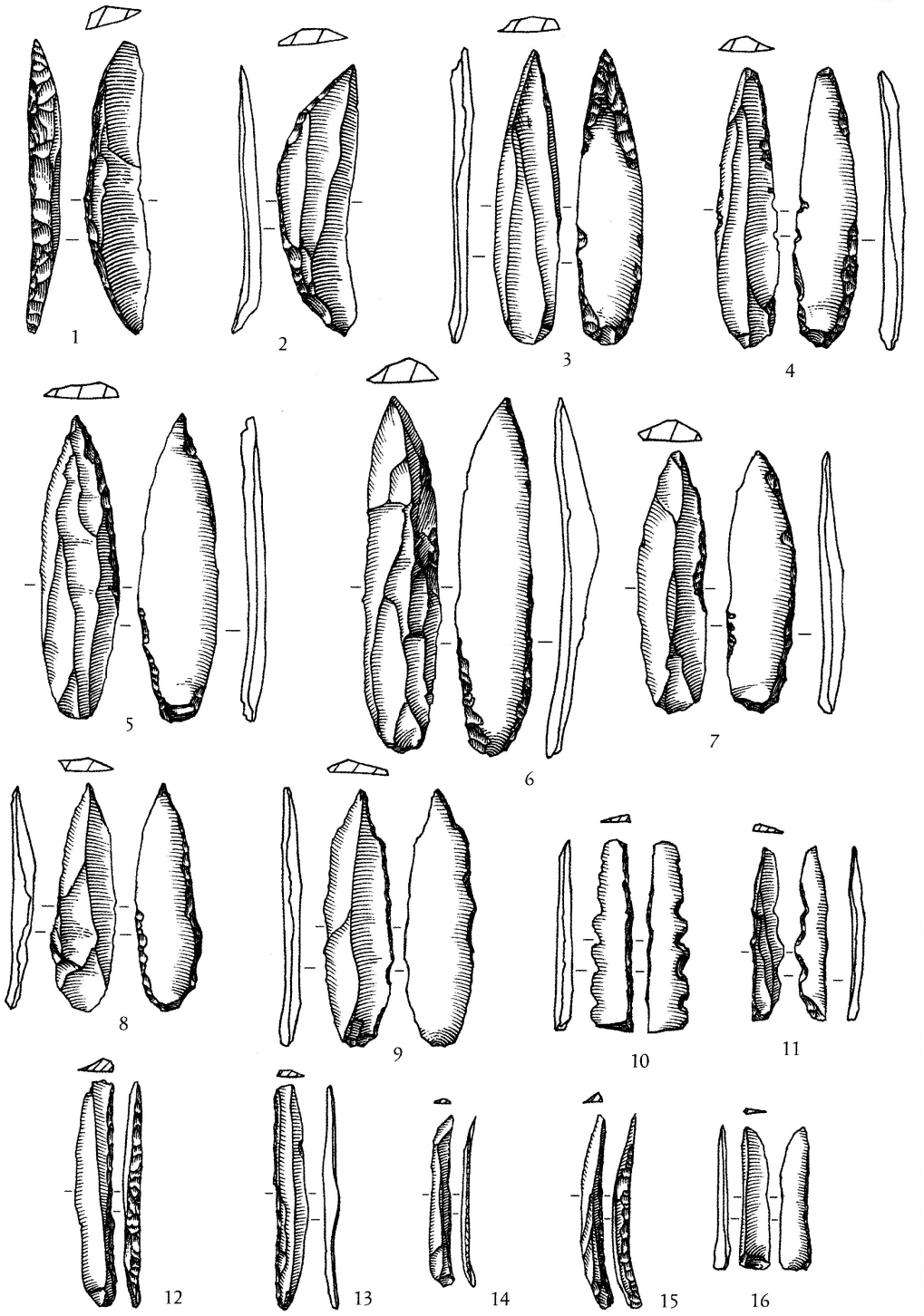

Figura 15: Le Bois-Ragot - Lithic industries from Level 5 (Late Magdalenian) (from Dujardin, 2010).

supra, how the Poitou-Charentes presents an uncommonly rich Magdalenian documentation, remarkable even for the South-West of France which shows a more consistent presence of Magdalenian settlements. It should not come as a surprise, therefore, that it is within this *milieu* - demonstrably advanced in the exploitation of local resources and in the technical skills necessary for their transformation - that a site such as La Marche has emerged for its artistic relevance. At the same time, the reader should not be induced to consider La Marche an isolated episode, a *unicum*: as we will see in the next section, La Marche sits at the centre of a vast complex of regional artistic evidence, covering all the aspects of prehistoric art.

4. Visual representations in Magdalenian Poitou-Charentes

The richness of archaeological remains from the Magdalenian in Poitou-Charentes, abundantly testified by the sites examined *supra*, is accompanied by an equally impressive series of artistic remains. Although the engraving assemblage of La Marche alone would make the region stand out in the European panorama of the Magdalenian, many more evidences have emerged during the nearly two centuries of investigations. This section will present this evidence, first examining the parietal art testimonies, followed by portable art and finally focusing on human representations. It is worth noting that this section will only cursorily include La Marche, to which a separate chapter is dedicated (see *infra*, Ch. IV).

i. Parietal art

Although the archaeological record has returned evidence for the use of colours and paint in the context of parietal art in Magdalenian Poitou-Charentes, there is no margin, in this region, to speak of cave paintings *stricto sensu*: ochre-based pigmentation, in fact, is deployed more for the purpose of giving accent to parietal artworks already created via engraving or sculpture, rather than for creations *ex novo* (Clottes et al., 2010:354; Abgrall, 2010). The parsimonious usage of colour,

however, does not subtract from the monumental character of the parietal art from this region, expressed electively via engraving and scuplture, both techniques that will be deployed for the creation of portable art as well (see *infra*). Together with the important site of Le Placard (Vilhonneur) that returned monumental engraved panels from the Solutrean, two main sites have returned parietal art from this region dated to the Magdalenian, specifically two caves: Roc-aux-Sorciers (Angles-sur-l'Anglin) and Chaire-à-Calvin (Mouthiers-sur-Boëme).

- **Roc-aux-Sorciers (Angles-sur-l'Anglin)** - Discovered in 1927 and repeatedly investigated over time (the most important campaign being the 1946-56 conducted by S. de Saint-Mathurin), this site is characterized by several Magdalenian occupations, the longest of which is associated with monumental sculpted parietal works. Roc-aux-Sorciers belongs, therefore, to that category of decorated rock shelters that, as opposed to deep caves, associates the artistic production with the remains of human occupation; the study of these rare sites allows, therefore, to better understand the relationship between Magdalenian human groups and their parietal art and, at the same time, to cast further light on the nature of sites of this kind - whether to be ascribed amongs the sanctuaries or simple dwellings (Pinçon, 2010a:411). Fully south-facing and sitting at the bottom of the Drousse cliffs, the site is routinely described as a "cave" in the scientific literature; as it is the case for many sites in the area (including La Marche), however, Roc-aux-Sorciers is in fact a long rock shelter, stretching over approximately 50m and including, upstream, the Taillebourg cellar (or Lucien Jacob cellar) which corresponds to a typical vestibule and, downstream, the Bourdois rock shelter. These two entities are separated by an area where the excavations were quickly abandoned for security reasons and which, to this day, constitutes an archaeological reserve still to be fully explored (Pinçon, 2010a:412). Alongside an ample collection of portable art on stone blocks, boulders, plaquettes, bone and ivory which will be discussed *infra*, the original feature of the site is the monumental sculpted frieze of the Abri Bourdois, constituted by two distinct orders: a lower order, formed mainly by engravings in low relief; an upper order, where most of the high-relief

sculptures are located.

Figura 16: Roc-aux-Sorciers - The monumental frieze from the Abri Bourdois (from Pinçon, 2010a).

The lower level of low-relief engravings is currently visible at the foot of the sculpted works, the same technique also observable on many blocks. Those at the bottom of the shelter were partially destroyed by the creation of the sculptures above, thus indicating a recurrent use of the wall that could correspond to different periods of Magdalenian occupation - for example, the clearance of the legs of a female figure with rough edges, no polishing and an unprepared surface, upon which other engravings are superimposed, including a herbivore leg with a detailed hoof. The low-relief engravings represent partial figures and are kept accurately distinct from the monumental scupltures above - for example, at the level of the most upstream ibexes,

Figura 17: Roc-aux-Sorciers - The monumental frieze from the Abri Bourdois (from Pinçon, 2010a).

the sculpted upper register is clearly separated from the lower, light reliefs register, with the area of engravings very distinctly stopped and delimited during the carving of the sculptures (Pinçon, 2010a:415). In the lower register, several partial subjects can be singled out among the multiple fine incisions: a horse's head in left profile; an acephalous body in left profile with short and slender limbs and a short tail, depicting an antelope; a young deer and a canid with a thin, elongated muzzle; a reindeer forequarters in straight profile and, superimposed, an ibex head with its two large horns in a three-quarter arch, turned to the right. Many body segments can be discerned, in particular a whole series of legs with hooves in the lower part of the panel. These parietal engravings observed at Roc-aux-Sorciers are found on a surface that is now eroded, very likely corresponding to

the original wall, which reveals their vestigial nature and testifies to a more extensive set than what we can observe today (Pinçon, 2010a:416). The engraved parietal figures are clearly reduced in size compared to the monumentality of the sculptures; the approach to the act of engraving, therefore, seems very different from that related to sculpture. The result is also very different, because the engraving at Roc-aux-Sorciers gives way to a discreet art, traced by a gesture carrying a particular meaning. In addition, species engraved with realism are found in those carved, but beyond the horse, the ibex, the bovine, the bear, the anthropomorph, the feline, are added specific themes such as the mammoth, the antelope, the canid and the deer. Parietal engraving intervenes as an ancient technique, prior to sculpture, and produces a specific parietal register, essentially preserved at the foot of the shelter. Engraving was also able to take part in the outline of the sculptures and often brought the definition of the anatomical details on the sculpted works (Pinçon, 2010a:416). Finally, juxtaposed with the fine engravings at the foot of the ibexes, deeper engravings and "engraved reliefs" - between low-relief engravings and sculptures - are also present. The absence of superimposition does not call into question the chronological evolution of the techniques established for the Roc-aux-Sorciers frieze, with the abandonment of low-relief engraving in favor of deep engraving and engraved relief as the main technique of execution. Among the engraved animal reliefs, there are two animal profiles in left profile, a grazing horse seen from the left, a feline in right profile and a bear's head (Pinçon, 2010a:418).

In the Abri Bourdois, the Magdalenian frieze sculpted at the back of the shelter - the excavation of which has not yet been completed - currently presents itself as a succession of thematic panels unfolding over more than 18m in length and 2.5m in height. The frieze, well preserved as a whole, appears in full light and appears as a visual unitarian composition; this unity is linked to the geomorphology of the shelter, but also to the spatial configuration of the subjects who follow one another in line. The figures represented - almost all shown in their right profile - underline the direction of their distribution in particular along the upper register; the breaks

Figura 18: Roc-aux-Sorciers - Profile of feline from the Abri Bourdois (from Pinçon, 2010a).

formed by the natural vertical edges give rhythm to the frieze and its overall composition is then organized panel by panel, according to very precise rules. Each sculpted composition - or panel - has been delimited, on the one hand, according to the topography of the site and, on the other hand, according to the figurative themes represented in each panel. Indeed, the frieze follows the rhythm of the natural shapes of the wall, namely the vertical edges formed by natural angular reliefs, marked by prehistoric sculptors with rink marks. Among the figurative areas, eight panels currently present figurative elements, so distributed from downstream to upstream: a couple of bison, a horse turning its head, a horse tilting its head, a lying bison, three women associated with two bison and a set of ibexes spread over two registers and three panels. The coherence of each of the panels is reinforced by the treatment and the proportions of the subjects it brings together: for example, the bisons are all depicted in low-relief and smaller than life-size,

while the ibexes are depicted in life-size high-relief (Pinçon, 2010a:419-22). This monumental naturalistic art offers subjects with respected proportions, precise details and animated attitudes. The figures also show stylistic elements such as the geometry of anatomical details, as the eyes of the horses sculpted in a triangular relief and associated with the ear, also in relief; several of the subjects' attitudes are recurring throughout the frieze, such as the inclination of the horses head towards their foreleg or the "folded legs" position for other subjects. The positioning of the figures on natural elements of the wall is also recurrent, as is the case for the bisons whose heads rests systematically on a natural edge. Furthermore, technical solutions reinforce the homogeneity of the figures, as in the slight twist applied to the muzzles of horses or ibexes highlighting the two nostrils seen from the front, while the rest of the head is in profile (Pinçon, 2010a:423).

In the Taillebourg cellar, cleared of its filling of blocks which covered the surface of the archaeological layer, a bison relief on the vault has been uncovered. Completely exposed, the animal is shown in left profile, sculpted in rough-edged bas-relief, with ample detachments of material around the head and the rump; the shoulder and cheek are particularly well rendered and several figurative details are treated with care such as the ear, the horns, the eye for the head, or the hooves and the ergot for the legs. A geometric decoration - a recurring style element on the site and in the area - is used as filling of the hump, enlarged in the form of a vertical rectangular relief. The fold of the chest is in the shape of a drop, another feature of geometrisation also noticeable on the ibexes of the Abri Bourdois and on the bison of the collapsed ceiling of the Taillebourg cellar. Three rings, one of which is fractured, respectively overlap the head, the rump and hind legs of the bison. At the limit of the tearing zone on the hump of the back, points of red colours are still visible in several places on this animal: the black is distributed on the hoof and the genitalia, and the red on the hump of the animal's back (Pinçon, 2010a:423).

In several places on the frieze in place and on the collapsed blocks of the Taillebourg cellar, remains of other figures can be spotted. On the one hand,

Figura 19: Roc-aux-Sorciers - Bisons from the Abri Bourdois (from Pinçon, 2010a).

Figura 20: Roc-aux-Sorciers - Group of goats from the Abri Bourdois (from Pinçon, 2010a).

Figura 21: Roc-aux-Sorciers - Horse's head (now detached) from the Abri Bourdois (from Pinçon, 2010a).

Figura 22: Roc-aux-Sorciers - The bison's head from the Taillebourg cellar (from Pinçon, 2010a).

these are remants of destruction of figures whose vestiges are still visible and interpretable - as for example two grips of horse legs with their round hooves located just above one of the ibexes, or the croup and the hoof of a partial bison in front of a female ibex; on the other hand, the subject may have been partially taken over to integrate into a new figure, such as the bison re-shaped into an ibex in which the image of a horse is still evoked by its line of belly which is difficult to erase, or even the head of a bison whose hooked forehead was hollowed out so as to make explicit the head of an old ibex (Pinçon, 2010a:425). The analysis and observation of these recuts make it possible to specify the order of introduction of the different themes on the wall, thus first come the bisons, followed suit by women, horses and then the ibexes last. The introduction of the ibex theme is done to the detriment of bison figures but not in a systematic way: despite everything, the bison and the associated bison-woman theme is maintained in certain sectors of the frieze, thus leading to the conclusion that the human groups creating art at the site, while innovating with the introduction of ibexes, remained nonetheless within the tradition. Unfortunately, to this day the lapse of time that separates these different interventions remains unknown, but the respect of the old figures and their organization marks a cultural continuity of the group even though it evolved (Pinçon, 2010a:425).

Finally, upstream of the Abri Bourdois, several remains of anthropic traces can be distinguished, the most complete of which was a bison destroyed in prehistoric times by the occupiers of the site themselves, for which the outline of the muzzle, nose and the trace of his eye are still visible; the contour of the back, even if it can be guessed by the bottom of the sculpture trace, is badly damaged. Other elements such as a series of hatches and the leg end are also discernible.

The composite image that the frieze offers us today is the result of the various interventions of the men of the Magdalenian who engraved, sculpted, recut and destroyed sculptures of which only vestiges are still visible today on the wall (Pinçon, 2010a:425).

- **Chaire-à-Calvin (Mouthiers-sur-Boëme)** - The site is one of the ear-

liest discoveries in Poitou-Charentes, dating back to 1865 and excavated systematically over several campaigns during the 1900s - 1924-33, 1947-59 and finally 1966-69, with a special campaign in 2005 devoted entirely to the study of its parietal art evidence. The Chaire-à-Calvin rock shelter opens near the buildings of the old paper mill, at the foot of a limestone cliff facing south-east parallel to the Gersac, a small tributary of the river Boëme. The shelter, similarly to what has been described for the site of Roc-aux-Sorciers *supra*, presents a frieze of much more modest size comprising four graphic units, on the right wall of the shelter at a height which varies between 0.70m and 1.30m above the current ground level. Unlike Roc-aux-Sorciers, the degraded appearance of the sculptures underlines the serious conservation problems they have faced since their discovery. The frieze was masked by the archaeological layers but is however not dated with precision. The excavations have certainly yielded a lot of artifacts given the scale of the excavations. The main occupations of the site have been brought back, for the most part, to the Upper Magdalenian - although several of the researchers involved in the site investigation tend to assign the site, after stylistic comparisons, to the Upper Magdalenian (Pinçon, 2010b:461-4).

The parietal art of the site includes sculpted animal figures to which are added isolated elements sculpted on the wall or on a block. The main graphic assemblage begins 1m from the entrance and extends over almost 3m; it comprises three associated graphic units, with no empty space between them, and represented on the same register, a fourth graphic unit is further to the left. In the center of the frieze, the most legible subject is an animal in left profile interpreted, until now, unanimously by all authors as a horse (Pinçon, 2010b:465). The exposure of this sculpture was difficult because it was covered with saltpetre, lichens, calcareous deposits and stalagmite deposits. Different metal tools were used to clear the sculptures and the impacts of these techniques are still very visible on the wall. The authors described the sculpture as a horse at rest, the tail drooping, the head quite small in proportion to the neck and the belly gravitated; this opinion, howe-

Figura 23: Chaire-à-Calvin - The scuplted frieze from the shelter (from Pinçon, 2010b).

ver, is not as unanimous anymore. In fact, as G. Pinçon explains, the analysis of the old carved part allows today to discern on the wall the volume of an animal body seen from the left profile. Two lines can support the neck of this animal: one tending to the horizontal and whose trace is noted in the neck, the other starting more vertically; the determination of the quadruped - for which no tail has been isolated with certainty - becomes more uncertain, especially since it bears on the chest a stylistic detail typical of the bison and ibex of Roc-aux-Sorciers (fold in the shape of a drop). The attachment of the front part is presented with the same configuration as on the subjects of the Roc-aux-Sorciers (horses and ibexes) and the general attitude of this animal, its imposing chest underlined by this fold in the shape of a drop as well as the rounded volume of the body encourages it to be closer to caprids (Pinçon, 2010b:470).

To the left of this figure a headless subject can be seen, which has been interpreted so far as a bovine or a horse according to the authors. This animal sculpted in rectilinear profile presents an intact old surface in all its posterior and lower part, only altered by some minor flaking: indeed, the rump of the animal as well as its belly and the front legs - in particular from the shoulder - constitute well-preserved elements of ancient sculpture; on the other hand, the chest and the line of the neckline are affected by a relatively recent alteration and it cannot therefore be said that this subject was originally acephalous. The relatively angular outline of the rump recalls that of a caprid or bovine, as several authors suggest. A carved detail on the rear quarters of the animal suggests a vulva, a relatively rare representation in Paleolithic parietal art and reported since the very first surveys. Given their morphological similarities, the headless animal of the Chaire-à-Calvin has also been compared to the resembling ones from Roc-aux-Sorciers: both animals have, in fact, a wide body, thin and short limbs, represented in pairs, and above all the representation of the same anatomical detail, the vulva; furthermore, no tail pattern could be identified for the headless animal. the resemblance between the animal representations of the two sites was also confirmed by the application of the digital model of the animal

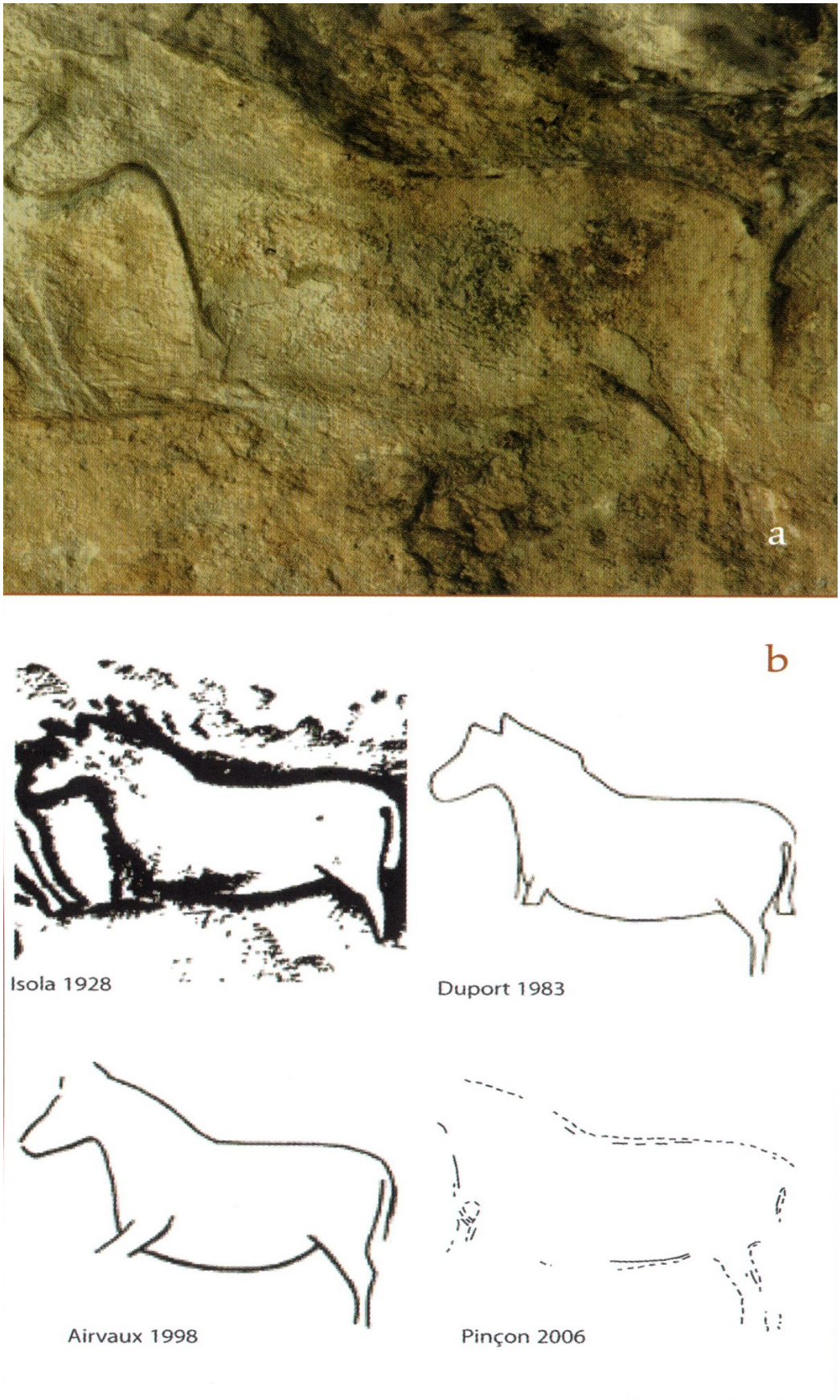

Figura 24: Chaire-à-Calvin - The central horse of the frieze (from Pinçon, 2010b).

from Roc-aux-Sorciers on the headless animal in the 3D database of the Chaire-a-Calvin , without modifying the dimensions: the volumes of the flank, the front limbs and the chest correspond (Pinçon, 2010b:472).

Figura 25: Chaire-à-Calvin - The "headless subject" of the frieze (from Pinçon, 2010b).

As the testimonies presented *supra* have shown, parietal art in Poitou-Charentes shows a remarkable preference for scuplture and engraving as their main means of expression: the abandoning of caves - utilised during the Solutrean - for rock shelters as the preferential dwelling typology for art production in the Magdalenian seem to indicate a shift in the perception of art as not something relegated to "ritual" functions but rather as an integral part of the daily life of the human group(s) inhabiting those dwellings; furthermore, the choice of parietal scupltu-

re and engraving in dwellings that are normally occupied over time by different groups (as the archaeological record at the sites shows) could suggest an intention for these prehistoric artist to convey messages in physical form across not just different groups through space, but also across different groups through time.

ii. Portable art

Alongside the remarkable contexts of parietal art, the Poitou-Charentes has returned a conspicuous tradition of portable art on stone and animal-origin materials, represented in several collections from numerous sites in the region. From a strictly numerical point of view, it would be possible to say that portable art far outnumbers parietal art not just in the number of assemblages, but also in the number of items available to researchers. Although, as it shall appear clear *infra*, there might seem to be a difference in distribution of artistic forms - that is, sites with exclusively parietal art as opposed to sites with exclusively portable art - the major parietal art sites have returned generous collections of portable art as well. I will review the portable art from those sites first, before moving further to investigate portable art from other sites. I will include La Marche in this review, with the exception of the engraved plaquettes.

- **Roc-aux-Sorciers (Angles-sur-l'Anglin)** - The Middle Magdalenian layers from the site yielded La Marche-type engraved slabs as well as several round boulders. Coming from the Magdalenian strata, the portable art of Roc-aux-Sorciers presents some peculiarities such as a whole set of small limestone blocks (4-5cm) roughly fashioned and shaped, marking the interest that the Magdalenians of the Angles region had for this particular artistic form; this is the case, for example, of a small block naturally evoking an animal figure, for which the artistic attention is reflected in the addition of red and white colour. Beyond simple evocations, real sculpted round boulders have been unearthed: a small herbivore head whose shaping has been undertaken with care and the detail of the ear in relief rendered in a very diligent way constitutes a fine example. These small round boulders are comparable to those, mainly in sandstone, from the Pyrenean Magdalenian site

of Isturitz (Pinçon, 2010a:428). From the point of view of portable art in animal-origin materials, Roc-aux-Sorciers stands out for the presence of a particular type of beads, usually fashioned out of bone or ivory and denominated by S. de Saint-Mathurin "stomach beads": these beads appear to be in the shape of a drop and with a perforation at the top, presenting a flat profile on one side and a visibly bulging bottom profile on the other side. These particular beads - which have been associated in their silhouette to the most typical prehistoric feminine representations and to the contemporary tradition of claviform marks in Pyrenean Magdalenian (Bourdier, 2010:370) - often appear associated with more common examples of personal ornamentation such as perforated teeth and shells; in the specific case of Roc-aux-Sorciers, the beads are associated with perforated and notched hyoid bones (Bourdier, 2010:370). The specific area of retrieval from the site (the Taillebourg cellar) and the fact that the beads have been found therewith at different stages of production suggests that a dedicated area of the site had been devoted specifically to the preparation of personal ornaments (Pinçon, 2010a:429).

Figura 26: Roc-aux-Sorciers - The "stomach beads" from the Taillebourg cellar (from Pinçon, 2010a).

- **Chaire-à-Calvin (Mouthiers-sur-Boëme)** - A very small number of pieces have reached us from this site, mainly due to the fact that several excavations have been "unofficial" and much of the materials retrieve during them has remained unknown and held in private collections - a circumstance common to other sites in the area, such as La Marche (see *infra*, Ch. IV,

§2.ii). Only the excavations from the 1920s onwards have been properly published and the materials held in museum collections accessible to researchers. Among them, four engraved plaques and a few small supports in hard animal material incised with simple geometric patterns (notches, rectilinear traces), a few pierced teeth (deer crook, deer incisor, bovine incisor) and perforated shells, a notched tube, which all belong to the common repertoire of Magdalenian portable art and personal ornamentation (Bourdier, 2010:374).

One element is particularly interesting: a small antler rod fragment bearing a schematic representation of a human face. Coming from the first excavations of the 1920s, it is not located strigraphically: two cupules alongside the lateral edges represent the eyes; they are arranged symmetrically on either side of a central longitudinal groove which suggests the nasal bridge, and which is interrupted to give way to a deeply incised reverse chevron which indicates the mouth. This type of representation - schematized and geometric - is specific to the portable art of the Magdalenian *a navettes* and contrasts sharply with the realistic figurative art of the group of sites east of the Vienne river. Two similar human faces have been unearthed in the sites of La Peyzie (Dordogne), about forty kilometers away, and the Fees cave (Prignac-et-Marcamps, Gironde) in the Garonne estuary, about a hundred kilometers away (Bourdier, 2010:374).

The material from the site also contains a set of soapstone beads: 17 unperforated beads (possibly in the process of being shaped) and 3 perforated beads, mainly unearthed in levels associated with the Middle Magdalenian. Although rare, soapstone was used to fashion personal ornaments throughout the Upper Paleolithic, particularly in the Magdalenian; soapstone beads are thus regularly found in Magdalenian sites, although in small quantities. Unperforated beads are mostly partial, with a variable degree of fragmentation; they appear uniform, almost standardized and their dimensions are substantially reflective of this uniformity (on average 13mm long and 4mm wide), elements that make these beads akin to a group of small elongated pearls frequent in Perigord. One of the perforated beads

Figura 27: Chaire-à-Calvin - The anthropomorphic antler rod (from Bourdier, 2010).

is thin and elongated, in the shape of an elongated cylinder, reminiscent of the "grain of rice" examples from Aveyron. The last two perforated beads take the form so typical of deer hooks, very sought-after teeth and regularly imitated throughout the Paleolithic, in particular in the Magdalenian,

Figura 28: Chaire-à-Calvin - Set of soapstone beads (from Bourdier, 2010).

perhaps due to the scarcity of deer at this rather cold period (Bourdier, 2010:375).

- **La Marche (Lussac-Les-Châteaux)** - Alongside the monumental collection of engraved plaquettes, slabs and boulders, La Marche has returned an equally important collections of engraved materials in bone, antler and, for the most part, horse tooth. Among these materials there are two perched sticks, one of which, engraved with fine geometric incisions, attests that the former occupants of La Marche, famous for their art of stone engraving, also mastered that of bone. This is also proven by the abundance and quality of ornamental objects made of bone material: pendants, beads, perforated teeth (incisors of cattle and deer, canines of wolves and foxes often with lateral incisions); these elements constitute, with the pierced shells, a whole range of ornaments whose overall view of the human body remains elusive, except perhaps by the reconstruction suggested by a few engraved plaquettes (Mazière and Buret, 2010:399).

  Within a series of 44 teeth from foals and adult horses, 32 teeth show engravings on the lingual surface. The graphic units are counted in triangles (17) hatched or not, in trapezoids (9) all cross-hatched and in indeterminate figures (6); in addition, some of these pieces have more or less deep incisions both on the edges (mesial, distal or proximal part) and on the lingual side. Two pieces have only lateral incisions, the lingual and labial faces remaining free of any decoration. The geometric figures engraved on the lingual side are decorated with a fine cross-hatch made in a meticulous way by lines forming a kind of very tight weave; indeed, on some pieces nearly 40 intersecting lines can be counted, some of which are partly degraded in the crushing surface of the tooth. It has to be noted that the sides of the figure, triangular or trapezoid, are incised more deeply, probably to clearly delimit and enhance its filling - while the upper part is never highlighted by a line, the grid serving as a delimitation - and that the tip of the triangle or the small base of the trapezium are often lost in the dental sulcus; furthermore, it should be noted also that there are still traces of red ochre or manganese coloring matter in the grid of certain pieces. The decoration does not

extend to cover the whole surface of the pieces, only the two sides of the triangle or the trapeze are always very clear, others have anarchic features. However, there remains the will, on the part of the prehistoric artists, to "mark" these pieces (Mazière and Buret, 2010:401-2). More details on this assemblage will be provided *infra* (Ch. IV).

- **Le Placard (Vilhonneur)** - Alongside the important complex of Solutrean parietal art, the site of Le Placard has returned layers of mixed spears and shuttles of the Lussac-Angles type, thus indicating Magdalenian levels of occupation. Alongside these objects, the influence of the Magdalenian *a navettes* is strongly felt in portable art, especially in the schematized representations of the human face, with geometric anatomical details; it relates, among other things, to the famous human head engraved on a fragment of a reindeer pole, which P. Laurent compares to a smoother from the Fees cave in Gironde. The elements of personal ornamentation reveal deep affinities with the Pyrenean space and more precisely with the Isturitz site, both in terms of the choice of supports (animal teeth, shells) and the technique of shaping the teeth, consisting of flattening the root by lateral abrasion (Bourdier, 2010:376). A specific symbolic expression is also visible at Le Placard, in particular through the pierced sticks. Some wear specific ornamentation at the level of their head with twisted branches, or transformed into the heads of rabbits or foxes, unusual themes. Doubt remains, however, about the chrono-cultural attribution (Middle or Upper Magdalenian) of these pieces which are linked, for supports with figurative decoration, to the Upper Magdalenian (Bourdier, 2010:377).

- **Montgaudier (Montbron)** - Several elements in this site evoke links with the East Vienne group. Abri Gaudry delivered two horse incisors, respectively engraved with a triangle and a quadrilateral. In this same shelter, L. Duport discovered a sandstone plate bearing animal engravings on both sides and fractured into two pieces about fifty centimeters apart. Despite the disturbed context of the room, which was probably reused after its decor, the graphic treatment of the figures is similar to the realistic figurative

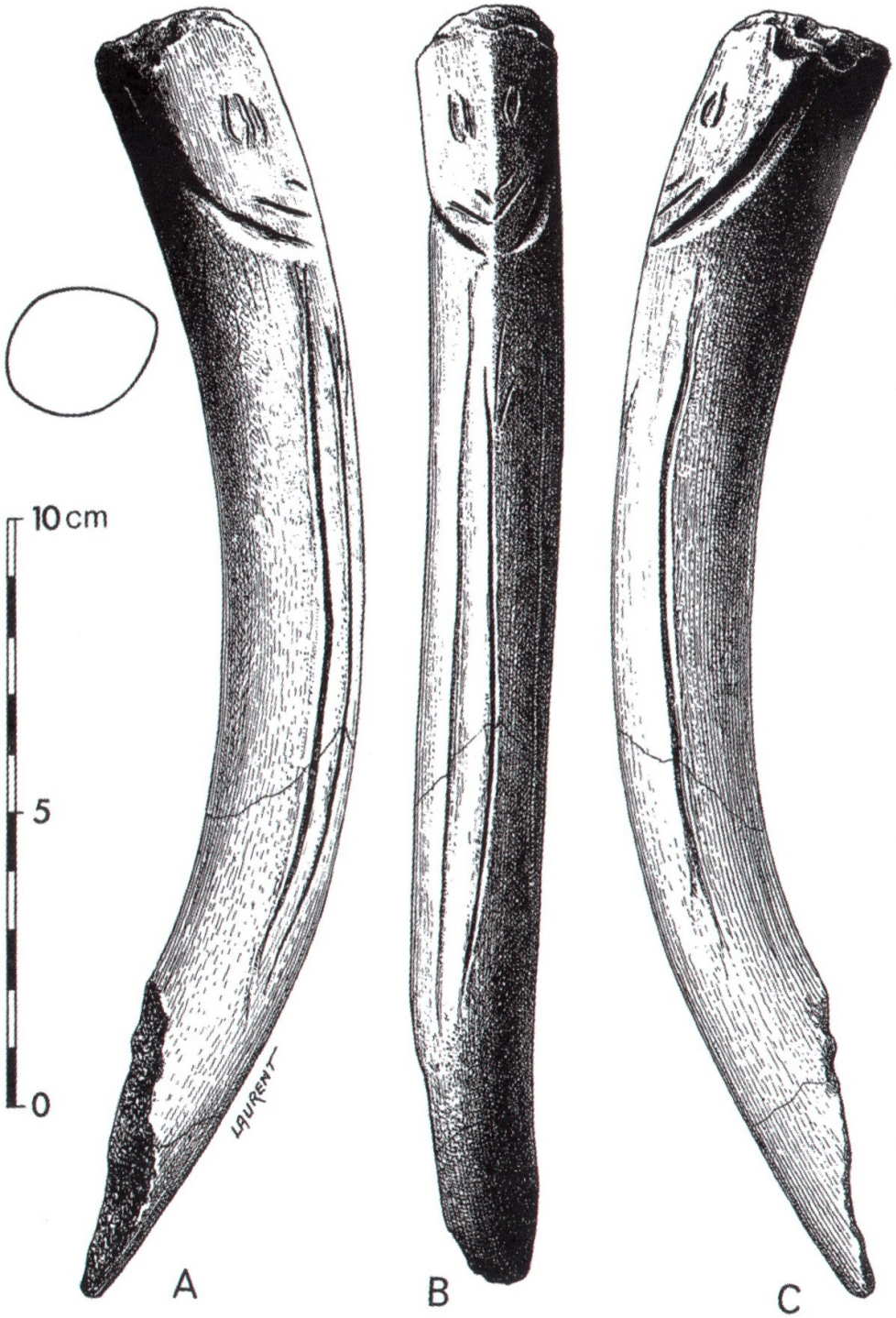

Fig. 2. — Tête humaine gravée sur bois de renne de la Grotte du Placard. A, profil droit ; B, face ; C, profil gauche.

Figura 29: Le Placard - Human head engraved on a deer antler pole (from Bourdier, 2010).

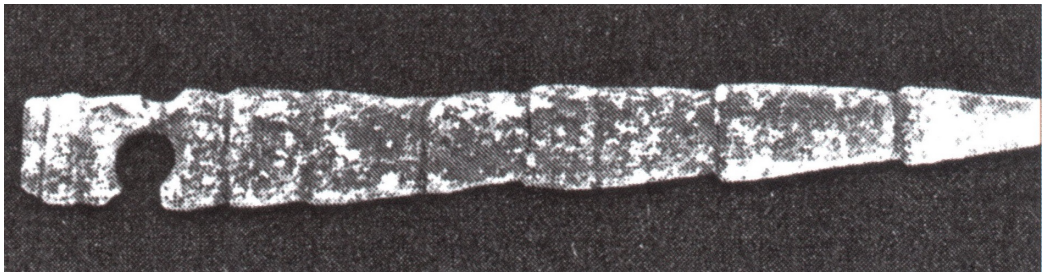

Figura 30: Montgaudier - perforated "interlocking cones" rod in deer antler (from Bourdier, 2010).

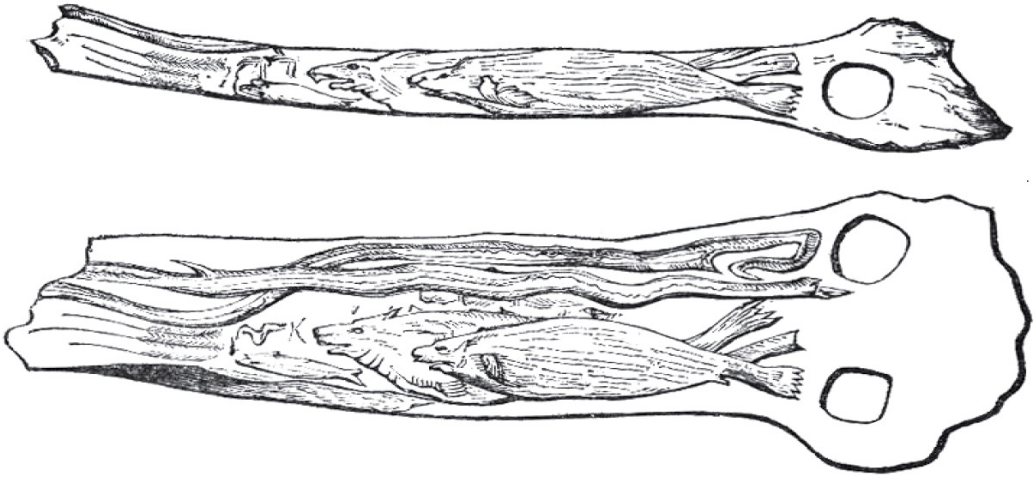

Figura 31: Montgaudier - Sandstone plate with animal engravings (from Nadaillac, 1887).

art of eastern Vienna. The feline head is thus close to those of La Marche (Bourdier, 2010:377).

The Middle Magdalenian of Montgaudier also has specific pieces, such as this rod also discovered in the spear level of Lussac-Angles at the Paignon shelter. Perforated at one end, it is composed of seven interlocking cones and bears a few incisions including an isolated diamond (Bourdier, 2010:377).

iii. Human representations

The testimonies presented *supra* would be sufficient to make the region of Poitou-Charentes stand out among the artistic regions of Magdalenian Europe;

the peculiarity of its art has led scholars to consider the region as having an almost autonomous artistic tradition, within the variegated panorama of Upper Palaeolithic art (Bourdier, 2010:364). However, there is another element of this vivacious artistic tradition that deserves further consideration: among this wealth of Magdalenian archaeological evidence and the great variety of sites that contains them, the Poitou-Charentes region is strongly characterized by a remarkable artistic theme formed by the numerous human representations. These profiles, complete or incomplete, from the front as well as from the side, are characterized for the most part by a realistic rendering of the anatomical forms. Sites like Les Fadets, Roc-aux-Sorciers and, naturally, La Marche have provided a large quantity of parietal and portable elements on which are figured human representations marked by a clear search for realism in the profile. The recent discoveries (Airvaux, 2001; Airvaux and Pradel, 1984; Airvaux and Chollet, 1985) added to the figures already known, raise the question of the issue of these human representations which, relatively rare in Paleolithic art, are very present in the Magdalenian in Poitou-Charentes (Fuentes, 2010:383).

A rapid inventory of human profiles counts about 130 figures spread over 5 sites. Of this set, 110 come from the site of La Marche; Roc-aux-Sorciers has so far delivered 17 human representations, Les Fadets 3. To this are added a very stylized human face at the Chaffaud, typical of the human figures of the Garenne, and two human heads from the Placard, also close of the very stylized style of the face type Garenne (Fuentes, 2010:386). For a large part of these representations, we can speak of a ”realistic” style for the rendering of forms. The term ”realism” must however be precise and defined when it is evoked for prehistoric art: apart from a few animal representations, there is no realism in the “photographic” sense for Paleolithic human representations; rather, realism can be expressed by a desire to depict an individual (portrait) by means of detailed, simple forms; the notion of realism, therefore, does not necessarily refer to a perfect image in iconographic terms. In this sense, the care taken over a large majority of the representations at the level of anatomical details leads, in this region, to the creation of “portrait/caricature” or ”loaded portrait”, a tendency very much unlike what can be observed in the other large Magdalenian territories - the Perigord or the Pyrenees - where the human portrait is more imaginary; in fact, both the “composite” type

of Magdalenian figure and the imaginary profile (associating indeterminable features with the human) are very little represented in Poitou-Charentes (Fuentes, 2010:387).

Taking as a term of comparison for "realistic" representations (as defined *supra*) those of La Marche - where the artists have accurately represented the anatomical and clothing details in their proper place within the figure and given it expressivity and personality - it is possible to build a comparison with the other human representations from the other sites in the region, so to observe the full panoply of the "realistic" style of Magdalenian Representations. One of the most important pieces comes from Roc-aux-Sorciers, a limestone block carrying an incomplete human left profile (Fuentes, 2010:387). The block is 27cm long, 15cm wide and 7cm thick and it presents on the surface fine symmetrical V incisions with several negative points. The figure occupies the entire surface in its height, a human silhouette in left profile, arched, with both arms represented in motion: one is in the foreground, the other in the background; the figure seems leaning and this movement is well rendered by the use of the support to represent one of the legs, the artist probably wishing to use the aspect of the fractured plate to represent this human silhouette, especially at the level of the leg in the foreground. The figure has no head - it could possibly have been erased, as is suggested by the numerous traces of picketing on the surface. Despite the absence of a head, it is a very realistic and detailed rendered silhouette; indeed, the artist has gone so far as to represent the two knees by an arc of a circle engraved at the level of the joint between the calf and the thigh (Fuentes, 2010:388). To this same "realistic" current belong the human representations discovered at Les Fadets, such as the right-facing headless profile on limestone plaquette described *infra* (Ch. IV) and, of more recent discovery, the plaquette currently held at the Musée Raymond Touchard of Lussac-Les-Châteaux. The plaquette measures 9.3cm long and 6.2cm wide, a human profile oriented to the left has been identified in the middle of a maze of engraved lines; although the contour lines are much more simplified, they are nonetheless described with a realistic accuracy recalling very closely the engravings of La Marche. The plaquette, with a light beige appearance, presents fractured pores (in antiquity) and the profile is made up of a wavy fronto-nasal curvature, a flattened nose, an orthognathic face and a small mouth; the bicon-

Figura 32: Roc-aux-Sorciers - Sculpted vulvas from the Abri Bourdois (from Pinçon, 2010a).

vex eye is perfectly represented and the curvature of the skull is well marked as well as the neck. This profile fits perfectly into the series of realistic type profiles despite a marked simplification of the outline (Fuentes, 2010:389).

Many other human representations present a much more schematic and simplified aspect of the outline akin to the one just described for Les Fadets. This schematization of human representation announces another iconographic tendency: just like some animal figures, some humans are barely sketched, as if a part of the human was enough to represent the whole. This series is well known at La Marche (Pales and Tassin de Saint-Péreuse, 1976) and is also present at the Roc-aux-Sorciers. From the front as from the side, these human profiles, especially isolated heads, present a minimum of anatomical criteria, the figure thus being reduced to the strict minimum to represent the human. This is particularly the case for the figures raised on a collapsed block of the ceiling of the Taillebourg cellar: it is a block fractured on all its edges, bearing the sculpture of an incomplete animal, probably the body of an ibex; the traces are sure and represent facial contours for the most part; devoid of anatomical details, some human heads are satisfied with the minimum to represent the human. This tendency to simplify features is confirmed by reading the unpublished human heads from Roc-aux-Sorciers, offering a realistic style but simple in its forms. This other way of representing the human makes it possible to see several stylistic tendencies perhaps reflecting different influences (Fuentes, 2010:389).

5. Beyond Poitou-Charentes: scholarly views on Magdalenian art

It would be difficult, after this summary description of their art and archaeology, to underestimate the keen interest Magdalenian populations of Poitou-Charentes had for artistic expressions; it would therefore not surprise how an assemblage like that of La Marche emerged in such a fertile artistic context, fertile also in its interest for the human figure. As C. Bourdier points out, the artistic tradition of this region, although not impenetrable to external influences, has developed along directional lines and with iconographic interests so peculiar it could be classified as

a sub-tradition within the broadest field of Magdalenian art (Bourdier, 2010:379). It is exactly this broader artistic tradition - and its copiousness in terms of number of artifacts returned by the archaeological record - that characterizes the Magdalenian period, greatly expanded from the previous stages of the Upper Palaeolithic in consequence of the demographic growth experienced after the slow but steady climatic improvements (Fuentes et al., 2019:233). Given such a treasure trove, it is worth examining in some detail the scholarly views on Magdalenian art and how this has been instrumental in giving a better understanding of Magdalenian society as a whole. I have already given a summary historical description of how scholarly views and theories on prehistoric art have changed over time in Ch. I; in this section, I will focus closely on the contemporary debate on the subject, adopting a more thematic division of the work. I think we can recognize three main trajectories in the discourse on Magdalenian art: one the one hand, the debate about Magdalenian art as a functional tool for social and economic phenomena such as "symbolic territories" and "exchange networks"; on the other hand, two more "traditional" research trajectories investigating, respectively, the symbolic and the technological/stylistic aspects of Magdalenian art.

i. "Symbolic territories" and "exchange networks"

The year 2019 has seen the publication, in one volume of *Quaternary International* (Issue 503) a series of papers around the theme of "symbolic territories" in prehisoric societies; of these, three papers (Fuentes et al., 2019; Sauvet, 2019; Man-Estier and Paillet, 2019) explore the topic with reference to Magdalenian Europe, reaching very different conclusions on the subject. Before proceeding any further, however, it is the case of providing a definition of what is meant for "symbolic territory". According to Honoré et al., editors of the volume, the meaning of "territory" as a mere geographic expression does not include the perception of a particular space, landscape of region by a human group or population, the investigation of which by prehistorians can only pursue by the study of the spread of symbolic behaviour (artifacts, symbolic practices *et alia huiusmodi*) over a particular region of land or part thereof; in other words, the making of parietal art, portable art and personal ornaments and their distribution is taken as a testimony

for the symbolic appropriation of a space by a human group, therefore allowing for the mapping of cultural areas or territories (Honoré et al., 2019:189). The authors themselves recognize that this concept is not without problematic aspects, but it is worth observing its treatment by the authors who applied it to the Magdalenian.

Moving from this very definition of symbolic territory and by the principle that mobility of hunter-gatherer human groups is the key to understand spatial occupation in prehistory, Fuentes et al. (2019:234) examine the spread of different kinds of symbolic artifacts across Magdalenian Europe and come to the definition of three areas, reflective of their circulation breadth: Broad diffusion, intermediate diffusion and regional circulation (Fuentes et al., 2019:235). Broad diffusion is represented by the objects with the broadest circulations, such as very portable artefacts with simple yet distinctive geometric decoration (e.g. perforated bone discs with radiating decorations, spread for more than 1200km), projectile points and half-round rods (both presenting an equally simple yet striking geometric decoration and an equally broad spatial distribution). The similarities in distribution of these two objects leads the author to suggest - in this supported by ethnographic evidence - their possible role as emblematic objects of Magdalenian culture and, as such, subject to spreading via exchange, a peculiar mode of circulation that could explain the adoption across several human groups and their recognition as part of the shared "collective consciousness" of Magdalenian groups (Fuentes et al., 2019:235-7). Intermediate diffusion, on the other hand, involves different types of objects (such as smoothing tools decorated with sinuous hatched patterns) that travel along much shorter distances, probably due to the relative difficulty for them to travel via exchange networks; this seems to point in the direction of more localized identities, an aspect made even more evident by observing the regional recurrence of geometric signs in parietal art and of composite beings (i.e. "teriomorphs"), in turn revealing the high level of permeability of regional traditions (Fuentes et al., 2019:238-40), something that can be also observed in Poitou-Charente's portable art (see *supra*, §4.ii and 4.iii). Finally, regional (or restricted) circulation is reflective of the closest socio-economic ties of a human group and is represented by those symbolic objects that present the narrowest spatial districution, such as realistic portraits (as is the case in the Vienne region of Poitou-Charentes) and spiraliform decorations (Fuentes et al, 2019:2413). These

dynamics, the authors conclude, could constitute a first framework towards an explanation of exchange dynamics between Magdalenian groups, dynamics that require, nonetheless, the integrated investigation of technological processes and raw material availability; even if taken alone, however, this approach could still constitute a key to undertand the relationship between images and societies in prehistory (Fuentes et al., 2019:245).

Although in agreement with Fuentes et al. on the complicated and complex relationship between prehistoric people and their living space but strongly critical of the notion of symbolic territory, Sauvet (2019) offers an alternative approach to the problem by proposing the notion of "exchange network" for understanding Upper Palaeolithic societies."Territory" does not mean the same for every human group: it is an abstract concept with heavy cultural encoding and subject to mutation from nomadic to sedentary populations; the application of the classic materialistic approaches such as "site catchment analysis" and "site exploitation territory" does not clarify what idea of territory these population might have identified with and how they would relate to it, a task further complicated by the tentative knowledge archaeologists have of prehistoric social organizations. If territory was not a concept already gravid of historical meanings, that of symbolic territory poses further problems still, postulating the possibility to correlate a human group, a specific place and cultural markers peculiar to it, discarding any form of "contamination" such as diffusion and borrowing (Sauvet, 2019:191). Moving away from this theoretical framework, the author proposes an alternative model he calls "exchange network": moving from the basic definition of territory as a geographic area a human group uses to draw resources and subsistence, and from the mutability of this "supply territory" consequent to the nomadic nature of hunter-gatherer populations, the author postulates the need for human groups to communicate with their immediate neighbours, not just by an exchange relationship restricted to material resources but also extended to cultural groups, thus making the relationship amongs groups valuable down to the individual level and creating a "network", the functioning of which is regulated by conventions on the exchange of goods, skills and knowledge and a varying number of concerned groups fluctuating over the course of time. Furthermore, this particular notion shifts the emphasis from the geographical element to the human one, thus

taking into account the nomadic nature of hunter-gatherer populations (Sauvet, 2019:192). From these definitions and after describing different models of hunter-gatherer organizations as offered by ethnography, the author in turn defines three different scales of exchange networks: a local scale, formed mainly by residential bands with close (often kinship) ties, direct involvements between individuals and a strong transmission of knowledge; a regional scale, where the loosening of inter-group connections and reduction of knowledge transmission disrupt the personal, 1-to-1 involvement and transfers it to group-to-group dynamics operating via periodic group gatherings, during which exchanges of information, skills, resources but also cultural artifacts and practices take place, thus further strengthening the bonds between groups; finally a much larger, supra-regional scale in which connections are so loose contacts among groups in the nettwork happen on a very rare, sporadic scale but are nonetheless fundamental to maintain open the flux of knowledge between said groups, especially during harsh climatic events (Sauvet, 2019:193-4). However, how can this apply to the Upper Palaeolithic? To begin with, the author brings two examples from the Franco-Cantabrian region during the Middle Magdalenian: the engraved horse teeth with triangular cross-hatched motifs from Roc-aux-Sorciers and La Marche, returned also from Montgaudier (Charente) and Laugerie-Basse (Dordogne), within a radius of 150km and evidence of cultural artefacts from sites up to 200km away in sites from Vienne, thus showing a local network; the graphic sign made by"two partially stacked diamonds, surrounded by angular signs at the ends and two longitudinal lines" spread over a radius of 250km in seven sites, including Perigord (La Madeleine), Quercy (Le Courbet), Languedoc (Brize) and the pyrenees (Lespugue, Lortet, Gourdan, Mas d'Azil), pointing in the direction of a regional network (Sauvet, 2019:194). The diffusion of decorative motifs and portable art objects are then brought as an example of the wider, supra-regional networks; in particular, the author mentions *contours découpés*, originally considered a Pyrenean marker but whose area of diffusion reaches further west (Asturias) and north (Dordogne); "clover" and "claviform" signs, showing a similar expansion (Sauvet, 2019:195); bison morphotypes in parietal art, with particular attention to the morphotypes originating from Niaux (Ariège) and Font-de-Gaume (Dordogne), the former spreading northwards into Dordogne and the latter southwards into the Pyrenees, before re-

surfacing together in the same caves across Asturias; finally, the author mentions the recurrent exploitation of high-quality flint outcrops, whose produce is found in sites vastly distant from the point of quarry, thus suggesting the spread of information amongst groups with regards to where high-quality raw materials could be retrieved (Sauvet, 2019:196-7). This way of examining human relations of the Upper Palaeolithic in terms of exchange networks rather than in terms of territories has an undeniable heuristic power, because it allows us to explain the diffusion and distribution of symbolic motifs at various scales; in particular, the exchange networks account for the existential contradiction that humans have to solve permanently in their relations with their fellow people (Sauvet, 2019:198).

Less critical than Sauvet but nonetheless not fully in support of Fuentes' symbolic territories hypothesis, the paper by Man-Estier and Paillet (2019) tries to put the concept to the test by investigating two examples of symbolic behaviour from the Upper Magdalenian: the macrocephalic horse figures from Perigord and the complex patterns from Rochereil (Dordogne) (Man-Estier and Paillet, 2019:250-1). They approach the problem from a semantic point of view focusing on the notion of "symbol", linguistically defined as the association of signifier (form) and signified (meaning) and expanded upon by semiotic as an association of a signifier, an object or "referee" coming from the real or imaginary world (the model) and the signified (the meaning); applied to prehistoric art, this translates into a relationship between an object (whether coming from the real world or part of the emotional world of the author) called the referee a graphic, physical demonstration (the signifier) and a meaning known by the transmitter and surely shared with other persons (the signified). The logical consequence of this definition is that, in the presence of the existence of shared graphic conventions, the appropriation of a symbol by a group is therefore possible, a symbol becoming such when certain criteria of the referee are present, are graphically represented in a particular way and in a sufficiently large number of instances; for example, for a deer to become a symbol, it would require certain characteristics of cervids (anatomical, ethological, etc.) to be present and for many representations of deers to form a large corpus (Man-Estier and Paillet, 2019:249). Armed with these theoretical premises, the authors look at the diffusion patters of two symbolic behaviours, both coming from a very restricted geographical area (several open air sites in the Vézère and

Dordogne valleys centered around the sites of La Madeleine and Laugerie-Basse and in the valleys of Isle and Dronne, around the cave of Rochereil) and chronological horizon (the Upper Magdalenian, with dates comprised between 16,000 and 14,000 cal BP) (Man-Estier and Paillet, 2019:249). The first example is that of "macrocephalic" (also referred to as "hypertrophied" or "barygnath") horse, present in 108 representations over 42 objects from 9 sites in the area in question: La Madeleine, Laugerie-Basse, Limeuil, Le Soucy, le Morin, Raymonden, Jolivet, Rochereil and La Peyzie, plus 3 more sites at a further distance, specifically Montastruc, Fontalès and Mas d'Azil. This style of representation, owing its name to the disproportionately large size of the animals' head in comparison to the (often absent or incomplete) body and although focused mainly on horses, does not exclusively include them: cervids represented with the same formal characteristics have been discovered. All representations studied preserve the same formal characteristics in all the occurrences along the valleys of Vézère and Dordogne: disproportionately large heads with elongated, almost "rampant" bodies, a formal regularity that has lead J.-M. Apellaniz to consider the possibility of a "school of engravers" from La Madeleine (Man-Estier and Paillet, 2019:249;251-2). On the other hand, the second example has not found equal fortune in terms of diffusion: the graphic pattern from Rochereil, encountered in 267 engraved objects of different origin (predominantly reindeer antler and bone) with a combination of over 400 patterns; none of these, however, has been identified anywhere else in the region apart from Rochereil itself (Man-Estier and Paillet, 2019:249;252). How to explain, therefore, the different diffusion patterns of these symbolic behaviours? On the one hand, the authors credit the diffusion of the macrocephalic horse pattern to a well-functioning Magdalenian symbolic territory in which communication of symbolic messages is operated on the legs of social exchanges along the geographic area; on the other hand, the failure of diffusion of the Rochereil graphic pattern, in the authors' own words, 'prompts us to reconsider our way of perceiving the exchanges of content and production' (Man-Estier and Paillet, 2019:253).

Although unquestionably engaging as a working hypothesis, that of "symbolic territories" presents some controversial aspects that render its foundations unstable. On the one hand, as Sauvet (2019:191) and Honoré et al. (2019:189)

point out, the concept of "territory" is far from neutral, but rather loaded with implications of sedentarity and stability that do not reconcile easily with the nomadic nature of Upper Palaeolithic groups; this level of stability is implied in the very definiton of symbolic territories, where the presence of symbols marks the "occupation" of a geographical space. Fuentes is right in identifying local artistic "traditions" in the Upper Palaeolithic, as it is the case for realistic human representations in the Vienne valley (Fuentes et al., 2019:243; Fuentes, 2010:390-4) and it is undeniably true that sites in the Upper Palaeolithic are subject to repeated occupation by human groups over time; however, it is also true that we have no means of proving (or means for obtaining evidence) that the same groups repeatedly occupy the same sites over a defined period of time, something for which our current dating methods and techniques (as pointed out by Honoré et al., 2019:189; Sauvet, 2019:191-2; Man-Estier and Paillet, 2019:253) are inadequate and without which the "symbolic territories" hypothesis remains unstable. On the other hand, the exchange networks hypothesis from Sauvet seems to deviate the attention from the greographical space to the human action as the vehicle of symbolic behaviour, a much more effective way to understand the diffusion of symbols (or lack thereof) within the context of nomadic populations, together with their "regionalisation". Enlightening, in this sense, the conclusion of Man-Estier and Paillet's paper, in which the authors state that "territory, both symbolic or natural, seems now to need to be perceived as much through the mobility of groups that through the apparent sedentariness that emerges from some productions, at least on the short time scale of a man's life." (Man-Estier and Paillet, 2019:253).

ii. Symbolic behaviours, technological and stylistic aspects

The research on symbolic behaviours remains the most fertile field of research among specialists of prehistoric art and of Magdalenian art in particular, considered the pinnacle of prehistoric art from many a researcher (Ruiz-Redondo, 2016:570). Alongside the work on the diffusion of symbolic behaviour described *supra*, the focus remains firmly on the nature of symbolic behaviours: what is included in visual representations, the frequency of certain figures over others and

the reasons behind these choices, together with a renewed interest in phenomena of "regionalisation" of Magdalenian art. The abandonment of the monolithig interpretations of prehistoric art mentioned in Ch. I allowed for a more "holistic" approach to the problems of prehistoric art, thus fostering further investigation into feminine representations and, conversely, on the role of women and children in the production of art (James, 2012; Bourrillon et al., 2012; Langley, 2018).

An enlightening example of the study of a Magdalenian artistic region is the work carried out by A. Ruiz-Redondo on the Magdalenian art of Cantabrian Spain. Limiting himself to the final period of the Magdalenian, comprised between 17,700 and 13,300 cal BP, the author recognizes the extraordinary quality and number of artistic manifestations in South West France, acknowledging that: numerically, the number of sites with art from the Magdalenian outnumbers the entire record of prehistoric art for the preceding periods; socially, it is this period that sees a tightening of social bonds between groups and across regions, observable not just in symbolic behaviour, but also in lithic technology and circulation of raw materials (Ruiz Redondo, 2016:569-70). The author sets out to explore the other side of the Pyrenees within this chronological time frame. He proceeds to select 9 sample sizes based on specificl criteria: chronological homogeneity (obtained via radiocarbon dating, chrono-cultural typology or a combination of both); absence of other period of artistic activity preceding the Magdalenian that could ingenerate confusion; stylistical homogeneity (in particular the presence of black zoomorphic figures, "claviform" marks and a series of stereotypical conventions for the definition of shades and colours). By these parameters, the sample includes the sites Altxerri, Ekain, Lumentxa, Santimamiñe, Urdiales, Cullalvera, Las Monedas, El Bosque and Covaciella, for a total of nearly 500 graphic units (Ruiz-Redondo, 2016:571-2). The analysis of the parietal art in the sites revealed that, of all the graphic units analysed, only 34% had anthropomorphic figures as the main subject; the remainder of the graphic units could be subdivided into 16 different animal categories, of which 76% is constituted by the "classic" Magdalenian triad of animal of bison, horse and ibex, with a predoninance of the first two (Ruiz-Redondo, 2016:574-5). After examining the artistic evidence, the author ventures into a comparison with the contemporary French Pyrenean sites, in order to explore the possible relationship between the two regions and explore the possibility of

a common symbolic behaviour. From an iconographic point of view, the comparison gravitates round three distinct aspects: the high variety of animal species represented; the dominance of the "Magdalenian triad" and, among this, the preponderance of the bison. These aspects, the author notes, are indubitably shared by both sides of the Pyrenees, together with a common array of abstract signs; this situation represents a marked divergence from the preceding periods, during which an equal uniformity cannot be observed (Ruiz-Redondo, 2016:578-9). The similarities between the regions do not invest only what is present on the cave walls, but also what is absent, namely "complex" graphic signs, in net minority within the sample analysed (25 against 499 graphic units); the only non-figurative sign regularly present, the claviform, is also found in the French Pyrenees, thus denoting the preponderance of figurative over non-figurative art in both regions. By contrast, Pyrenean Spain seems less interested in anthropomorphic representations compared to the French Pyrenees, Aquitaine and the Poitou-Charente (Ruiz-Redondo, 2016:579). All of these elements, the author concludes, reinforce the interpretation already proposed of strong social and cultural interactions between the Cantabrian region and the Pyrenees during this period, with several symbolic behaviours common to both regions (Ruiz-Redondo, 2016:584).

This example encapsulates very well the current approaches towards symbolic behaviours and regionalisation in Magdalenian art, with similar work being conducted, regionally, for Poitou-Charentes (Bourdier, 2010) and, thematically, for human representations (Fuentes, 2010; 2013a;2013b). Ruiz-Redondo's paper also addresses aspects of technical analysis of Magdalenian parietal art: in his study, the author singled out 5 painting techniques and 5 respective engraving techniques (described respectively as "techniques of matter addition" and techniques of matter subtraction") and develops a "Complexity Index", a test which allows to evaluate the degree of technical complexity of the graphic units, and which allows to calculate the number of documented procedures in a sample divided by the total of graphic units in the site (Index of diversity = total number of procedures/total graphic units), with higher values represent greater technical complexity. The differences between the sites are striking (from 1000 at Lumentxa to 1882 at Covaciella), however, the graphic diversity index per graphic unit is relatively high: 1459, in line with the general high level of complexity of Magdalenian

art and a remarkable figure especially when compared with the index calculated for the Premagdalenian ensembles in the region, scoring at 1156 (Ruiz-Redondo, 2016:575). The author also notes how most of the techniques that have been documented pertain to painting, representing almost twice as much compared to engraving techniques for a total of 490 against 238. This abundance of painting techniques also allowed to evaluate the use of the color palette, with most of the patterns being in black, followed by figures in red at a much lower frequency and with the bichrome figures trailing at a very low rate; however, the use of these colors is not evenly distributed, since nearly 80% of the black and bichrome motifs are figurative (zoomorphs and anthropomorphs), a proportion that appears reversed in the case of the red motifs, 84% of which are non-figurative (Ruiz-Redondo, 2016:575). The comparison with the French side of the Pyrenees, from the technical point of view, brings interesting disparities to the light: compared to the Magdalenian sites in Ariège, for example, engraving appears to be the most common procedure, used in 62.4% of the motifs; this difference can be seen for the figurative motifs (zoomorphic and anthropomorphic), but not for the original abstract ones, for which the proportion between painting and engraving is similar between Spanish Cantabria and the Pyrenees (ruiz-Redondo, 2016:579-80). Based on this data, the author ventures into formulating two hypotheses that can explain this difference between the regions: 1) the sample of sites chosen for the study is not representative of the technical variability of the Late Magdalenian in Cantabrian Spain, or 2) the importance of engraving techniques is significantly greater in the Pyrenean sites *a priori*, with the second hypothesis seeming more probable as large sets of carved figures are less common in Cantabrian Spain than in the French Pyrenees; the largest site of this type, in northern Spain, is Altxerri that does not have as many engraved figures as are found in several Pyrenean sites, such as Trois-Frères, Tuc d'Audoubert, Marsoulas or Ker de Massat. Although - the author admits - the first hypothesis cannot be ruled out due to the lack of data, it would be a mistake to consider the weight of the difference between the regions as a hypothetical deficiency in the representativeness of the sample (Ruiz-Redondo, 2016:580). Where the similarities lie, between Cantabrian Spain and the Pyrenees, is in the differentiated use of color ranges. It has been established that in the Cantabrian region nearly 80% of black and bichrome patterns are

figurative, while 84% of red patterns are non-figurative, with a similar situation being recognized in Ariège. It is clear that this selection is intentional, and once again could suggest two explanations: 1) there are several technical factors with regard to the use of the two colors, or 2) the differential use reflects a symbolic or cultural behavior of which the meaning remains unknown. As part of the first explanation - the author suggests - it is true that each colour can be applied in another way; however, it is possible to apply the black pigment as a liquid (if it is manganese, for example) and the red colour can be used dry. Indeed, the entire class of technical procedures has been documented with both colours, therefore its seems more likely that the use of one colour or another was due to cultural or symbolic behavior (or taboo) in the societies occupying these regions at that time. Furthermore, the author notes, between technique and graphic conventions, the use of striated lines: this appears very rarely in the sample of sites analyzed, but nonetheless significant. Two deer have been depicted with the hair on their neck and their chest represented by streaks (Altxerri and Covaciella); also, this convention is observed in a reindeer, but in this case it is scratching. So, if cutmarks (especially in deer) are traditionally seen as a feature of portable (and parietal) art from the Early Magdalenian in Cantabrian Spain, they can be found in parietal art as persisting in the more recent phases of the Magdalenian (Ruiz-Redondo, 2016:580-1).

As the paper by Ruiz-Redondo shows, the interest in understanding Magdalenian art through the analysis of its stylistic and technical aspects is well and truly alive among scholars. The renewed interest in the authors of prehistoric art begun in the decade 2000-2010 (see *supra*, Ch. I) has led to an increased interest in technical and stylistic analyses, with the view of deploying the results to better understand social and cultural interactions between prehistoric groups (Rivero and Sauvet, 2014:64). I have mentioned in Ch. I the work of Rivero (2015) on the microscopic analysis of portable art on animal-origin materials, but that work is representative of a wider tendency within the scholarship that is worth exemplifying.

Rivero and Sauvet's paper (2014) offers this type of technical analysis applied to portable art. The authors move from recognizing the importance of style within the scholarly debate over prehistoric art, but criticize the early "evolutionary"

approach applied by the pioneers in the field, namely Breuil and Leroi-Gourhan, whose chronocultural, style-based classifications have been disproved by the discovery of prehistoric artworks "inconsistent" with their sequence. Furthermore, they criticize the view of style as an "external" factor, as a mere aesthetic component; on the contrary, style is an intentional choice of the artist to convey meanings about their identity, social status and affiliation. Acting as it does as a visual sign within a network of information exchange, it can be profitably studied by archaeologists for the purpose of understanding how said networks work and operate and, consequently, how social interactions between Upper Palaeolithic groups take place. It is within this theoretical framework that formal analysis of prehistoric art can become a vital tool for such an understanding, both synchronically (how specific networks operate within a given region or groups of regions) and diachronically (how these networks evolve over the course of time); determining a chronology becomes less important, although - the authors warn - a broad chronological framework remains essential, hence the choice of portable art as the elective subject for study, as its location in stratigraphically reliable layers provide such chronological foundation (Rivero and Sauvet, 2014:64-5). Following from these methodological premises, the authors proceed to analyze via Correspondence Factor Analysis (CFA) a sample of 273 pieces of portable art, specifically horse representations (the most frequently represented animal in Magdalenian art, in turn the richest in representations within the Upper Palaeolithic) on a variety of supports (stone, bone and antler); due to the Magdalenian artistic conventions (animals being represented often just by their forequarters and head) and preservation conditions (pieces often broken) the study focuses on the head and front limbs of the animal; for the description of the subjects, 17 features were identified, to each of which two or more values were added to account for variations (Rivero and Sauvet, 2014:65-6). The result is three distinct groups within the sample: the fist (Group A) includes the engravings with the highest amount of detail in the representation of horses (eye, ear, nostril, mouth all present) and a preponderant deployment of hatching to define the outline of the figure and its filling; the second (Group B) sits at the opposite end of the spectrum and includes the engravings with the least level of detail (little to no facial features), probably sketches or engravings left either deliberately unfinished or the work of inexpe-

rienced artists; finally the third (Group C) collecting the engravings where horses present a double mane in the form of a crest and where hatching is abandoned almost entirely in favour of a solid line to define contours and anatomical features of the body (Rivero and Sauvet, 2014:69-70). How do these groups form in terms of regional and chronological composition and what is their relationship to the time and space of Magdalenian art? According to the authors, the groups distinguished by their component features are predominantly linked to a specific period and/or region: Group A belongs almost entirely to the Middle Magdalenian and features for the vast majority artworks from the Pyrenean region; Group C, in turn, is formed almost entirely by Upper Magdalenian artworks from Aquitaine (with consistent contributions from the sites of Limeuil and La Madeleine); for group B it's harder to draw links to regions or periods due to the lack of defining features, however nearly a third of the whole sample fits in the group, which in turn suggests that the simplicity of the forms made them easily executable by a large number of individuals with relatively low skill, as opposed to Groups A and C. These results, the authors state, fit within the general trends of interaction between the regions of South-Western France and North-Eastern Spain during the Middle and Upper Magdalenian, for which high intensity of connections are testified by levels of raw material circulation, both for tool making (flint, bone) and for symbolic purposes (shells) (Rivero and Sauvet, 2014:74). At the same time, the results also fit within the problematic issue of the intensity and variability of the interregional link as it remains difficult, the authors say, to determine why certain traits (technical or symbolic) are diffused across a broad territory and others remain highly regionalised in a confined space: Group A, for example, clearly shows that the model of depicting horses it represents was created in the Pyrenees during the Middle Magdalenian, given the high representation of this region in the group; at the same time, Aquitaine is also highly represented in Group A, which suggests the model spread and was adopted in this region, as well as (although not as frequently) in the Cantabrian region of Spain, thus further suggesting that the exchange networks between these regions were particularly strong during the Middle Magdalenian, a circumstance highlighted also by the circulation of flint tools, shells and raw materials. On the other hand, the model horses from Group C (double mane with crest) appear widespread in Aquitaine, Quercy, Aveyron

and Cantabrian Spain, but more unique than rare in the Pyrenees, thus denoting a looseness or absence of exchange networks between the regions during the Upper Magdalenian, a circumstance once again confirmed by the circulation levels of tools and raw materials and also by the circulation of other symbolic artifacts ("macrocephalic" horses and schematic femaile figurines). All these observations, the authors conclude, are highly indicative of the major shift in exchange networks occurring between the Middle and Upper Magdalenian: if the relationship between the Pyrenees and Aquitaine appear solid during the Middle magdalenian, in the following period they seem to fade and re-organise, as testified, on the one hand, by the presence of Aquitanian schematic female figurines at the German site of Gönnersdorf and, on the other hand, by concomitant changes in lithic and bone industries.Difficult to pinpoint the causes of this shift, although climatic events (accompanying the Bölling interstadial) very likely played a role in the circulation of big game, with the consequent expansion of new settlement sites, maybe in relation to a significant demographic increase (Rivero and Sauvet, 2014:74-6).

It is immediately clear how much potential this type of analysis has to cast light on the social dynamics amongst groups in the Magdalenian. Only two years after their first paper on the subject, the same authors (Sauvet and Rivero, 2016) further expand their work to the realm of parietal art, applying the same statistical frameworks deployed on portable art; in particular, their attempt is to cast further light on parietal art with the aid of portable art, specifically on the subject of chronological placement (Sauvet and rivero, 2016:134). The authors set out by establishing a few important theoretical caveats: portable art and parietal art share many formal traits which justifies studying them together, but they are not two independent systems; they represent only two facets of the same mode of expression. Sometimes their association makes sense: in the Breuil gallery of Mas d'Azil, a large pebble carrying an engraved horse has been placed at the foot of a panel of bison; the very close style and their relative spatial arrangement hinted not only for their contemporaneity, but also testifies to a common conception. However, the danger would be to simply compare figures from parietal and portable art on the same terms, based on some circumstantial criteria; this can lead to baseless conclusions, the case of the hazardous chrono-stylistic hypotheses from La Peña (Cantabria) being an example for all. Consequently, the authors argue,

a large amount of data and a vast array of criteria become essential so that the comparison between parietal and portable art can allow read significant archaeological trends, particularly in terms of the evolution of forms and absolute chronology; for this, the authors propose to apply FCA coupled with the Ascending Hierarchical Classification (AHC) to a corpus of Magdalenian representations of horses and bison from both parietal and portable art contexts, specifically a pool sample of 282 portable horses, 120 parietal horses, 96 portable bisons and 84 parietal bisons against a set of 16 features for horses and 17 for bisons (Sauvet and Rivero, 2016:134). For portable horses, two classes have been identified: the first (Class A, Upper Magdalenian from Spanish Cantabria and Aquitaine) consists of simplified figures, in linear contours, without facial features or anatomical demarcations; the second (Class B, Middle Magdalenian mainly from the Pyrenees) consists of detailed figures, with facial features represented, hatched contours and many anatomical demarcations also hatched or mixed (by both hatching and solid lines) (Sauvet and Rivero, 2016:134-5). A similar result emerges for portable horses, equally divided in two classes: Class A (Upper Magdalenian from Spanish Cantabria) with linear contours, absence of facial features and double manes; Class B (Middle Magdalenian mainly from the Pyrenees and Aquitaine) with an abundance of hatching and anatomical details, which confirms that parietal and portable artworks met the same formal criteria. The difference, however, emerges with artworks from the Aquitaine region, this time located in Class B (Sauvet and Rivero, 2016:136-7). Portable bisons, once again, returned two distinct classes: Class A with linear contours and absence of facial features; Class B (Middle Magdalenian mainly from the Pyrenees and Aquitaine) with an abundance of hatching to define body hair and plenty of anatomical details. What is remarkable, in this particular group, is that, while regionally it confirms the tendencies of Group B for parietal horses, chronologically the formal qualities of the artworks extend well into the Upper Magdalenian, in net contrast to what happens for horses, both portable and parietal. Parietal bisons, unsurprisingly, still returned the same two Classes A (Upper Magdalenian from Spanish Cantabria and Aquitaine) and B (Middle Magdalenian mainly from the Pyrenees); however, models from both classes appear in the Cantabrian region (Sauvet and Rivero, 2016:140-1). Perhaps the most remarkable element of this analysis, the authors conclude, is the emergen-

ce of two remarkably constant formal classes concerning both horses and bison in both movable art and parietal art. These two classes correspond to antagonistic graphic tendencies: one towards refined, simplified, synthetic, even schematic forms; the other of "naturalist" tendencies, with an abundance of anatomical detail and a neat rendering of the coat by means of hatching, an opposition noted also in other classes of Upper Palaeolithic art such as reindeer representations and female figurines (Sauvet and Rivero, 2016:141-2). Another striking element is the difference in treatment between horses and bisons. On the one hand, the horse is the fundamental motif of Upper Paleolithic iconography, it is present in all regions and it is therefore normal that its representation has undergone an evolution over time and due to the phenomena of diffusion; the naturalistic tendency was mainly rooted in the Pyrenees in Middle Magdalenian, but that it was also present in Aquitaine and Spanish Cantabria. The "synthetic" tendency only appears in the Upper Magdalenian and seems more particularly linked to Aquitaine and in the Cantabrian Islands, with a very wide diffusion of linear double manes. Parietal horses reproduce the same pattern: for the Middle Magdalenian, the "naturalist" style dominates in the three regions and the synthetic style appears only in Upper Magdalenian, simultaneously in the three regions, judging by the figures which are dated directly or indirectly (Sauvet and Rivero, 2016:141-2). On the other hand, the case of the bison presents its own peculiar differences compare to horses, which is probably due to the variable importance of this species depending on regions and periods, and in particular to its late appearance in Spanish Cantabria. In portable art, the dominant model seems to be that of the Pyrenees with abundance of details and a remarkable taste for hatching; this model seems to have spread to Aquitaine and - to a lesser extent - in Spanish Cantabria where the rare portable examples seem clearly Pyrenean borrowings; furthermore, the naturalist model had persisted during the Upper Magdalenian, contrary to what happened for the horse. For parietal bisons, the Class B naturalist model confirms his Pyrenaean roots but it seems that he had more difficulty in imposing himself outside the region (Sauvet and Rivero, 2016:143-5).

The examples exposed in this section give the pulse of how much the technical analysis of prehistoric artworks has come to the center of debate over Magdalenian art: on the one hand, it has finally archived the early monolithic approaches

that, alongside creating strict chronologies and periodizations, more or less openly denied the validity of portable art as a valuable guide into prehistoric people's social lives (Needham, 2017:44); on the other hand, by applying statistical method to stylistic aspects of portable art, scholars have opened a vast trove of information to reconstruct the social dimensions of Magdalenian life on a multi-scale level, from small local realities to broader, inter-regional networks (Fuentes et al., 2019; Sauvet, 2019). This is also true for more "traditional" (I am using this word *lato sensu*) forms of investigation on symbolic behaviour and stylistic analysis: as the work by Ruiz-Redondo demonstrates, if applied in a comparative fashion between parietal and portable art, they can unequivocally lead to precious insights into the circulation of symbolic behaviours and, at the same time, of their retreat into regionalisation.

6. Conclusions: too good to be true?

Even a cursory read of this chapter could induce the reader to think that Poitou-Charentes is one of those regions in Magdalenian Europe where every kind of activity takes place at its best and highest. There are several factors that could induce such an impression: a constant population stream from Neanderthals to AMH; an almost uninterrupted occupation of the major sites from the Mousterian to the Azilian; evidence of artistic activities with a high level of realism stretching from parietal art to portable art on stone and animal-origin materials, an art that expresses a high level of originality even within a highly varied context such as Magdalenian art. In other words, Poitou-Charentes could be considered almost too "perfect" to be "true".

Although undeniably "privileged", this region should not be considered entirely a *unicum* for Upper Palaeolithic Europe: as it has been observed elsewhere (Bourdier, 2010; Clottes et al., 2010; Abgrall, 2010) the Poitou-Charentes is located on the fringe of two other archaeologically rich regions such as the Perigord/Dordogne and Aquitaine; further to the South-West, the channel is open via the Pyrenees for exchanges with the Cantabrian region of Spain, thus placing Poitou-Charentes at the end point of an important route through Western

Europe, a route that, as seen *supra* (§5.ii) will be vital during the middle and late phases of the Magdalenian. Furthermore (and this is another characteristic shared with neighbouring Dordogne and Aquitaine) it is undeniable that the geology and idrography of the area (§1) are extremely favourable for human settlement: the limestone plateaus and karstic phenomena of the region offer a natural source of dwellings and ample provision of raw materials for tool-making; the richness in rivers and their valleys grant points of access to the obligatory routes for animal movement, thus making them excellent hunting spots which in turn reflect on the settlement dynamics, as observable from the nature of the archaeological layers (§3). Finally, it should not be forgotten that the artistic traditions observed in Poitou-Charentes, although informed by an almost exasperate realism and refined to the highest degree, seem to have been left out of those processes of symbolic exchanges that have been observed for the Magdalenian of South-West France and North-East Spain (§5.i and 5.ii); this is especially true for the human-themed art from the Vienne, itself subject to a phenomenon of hyper-regionalisation within its own region that invests both the iconographic and the technical spheres of this otherwise highly advanced, realistic tradition.

The next chapter will further restrict the focus on the specific archaeological area of Lussac-Les-Châteaux and the cave of La Marche, to explore in further details the most important assemblace of human-themed art from this region.

Chapter IV
The archaeological area of Lussac-Les-Châteaux (Vienne)

In the previous chapters, I have described in detail the theoretical background to my research and provided context for the broader region of Poitou-Charentes. The purpose of this chapter is to give a general overview of the archaeological context I have chosen as a case study for attribution of Upper Palaeolithic artworks: the cave of La Marche, in the commune of Lussac-Les-Châteaux (Vienne). After a brief description of the geological characteristics of the area, I will proceed to outline the archaeological aspects of the caves of La Marche and the other caves in the area, notably the Reseau Guy-Martin and Les Fadets.

It has to be noted that, at the time of writing, several deposits and several private collections containing artworks from La Marche remain unexplored (see *infra* and, for similar occurrences elsewhere in the region, see *supra*, Ch. III, §3-4).

1. The geology of the area

The village lies in an area characterised by sparsely wooded hilly plains, valleys and gorges.

At least since the Mesozoic, the area has been the location of the *seuil* of Poitou, acting as both a junction of the two basins of Paris and Aquitaine and a divide between the Massif Armoricain (to the North-West) and the Massif Central (to the South-East). The natural passageway - which acts also as a drainage divide

between the Loire, the Charente and the Sevres basins - has been dated to the Lower Jurassic thanks to the discovery of sediments of Hettangian and Sinemurian age, thus placing the origin of the *seuil* at 201.3-190.8 Ma (Balusseau, 1981).

Sitting at the Aquitanian end of the *seuil*, Lussac has a rather varied geological composition. According to the 2007 data provided by the Regional Chamber of Agriculture for the Poitou-Charentes, it is possible to compile the following list (Chambre d'agriculture de Poitou-Charentes, Programme IGCS (Inventaire, Gestion, Conservation des Sols), 2007):

- In the area of the *seuil* of Poitou, the soil is composed by:
  - 5% of *terres fortes* (calcareous clay at medium depth, interspersed with levels of loamy soil rich in silicium-based sedimentary rocks in the form of pebbles or blocks);
  - 18% of *bornais* (tendentially siliceous, light brown soils on silts, deep and wet);
  - less than 1% of peat;
  - 13% of silicium-based clay, at little depth.
- In the flat areas, by a 44% of Dolomitic limestone;
- In the valleys and on the alluvial terraces, by a 14% of limestone.

It appears immediately clear, by looking at these data, how rich the area of Lussac is in limestone and calcareous rock. This characteristic is directly connected with the formation of caves by fluvial erosion in the area: in fact, both La Marche and the neighbouring caves are of karstic origin (Melard, 2006; Chisena & Delage, 2017).

2. La Marche

i. Site presentation

Although the scientific literature refers to it as a "cave", La Marche was originally described by it discoverers as a deep rockshelter, part of the vast karstic

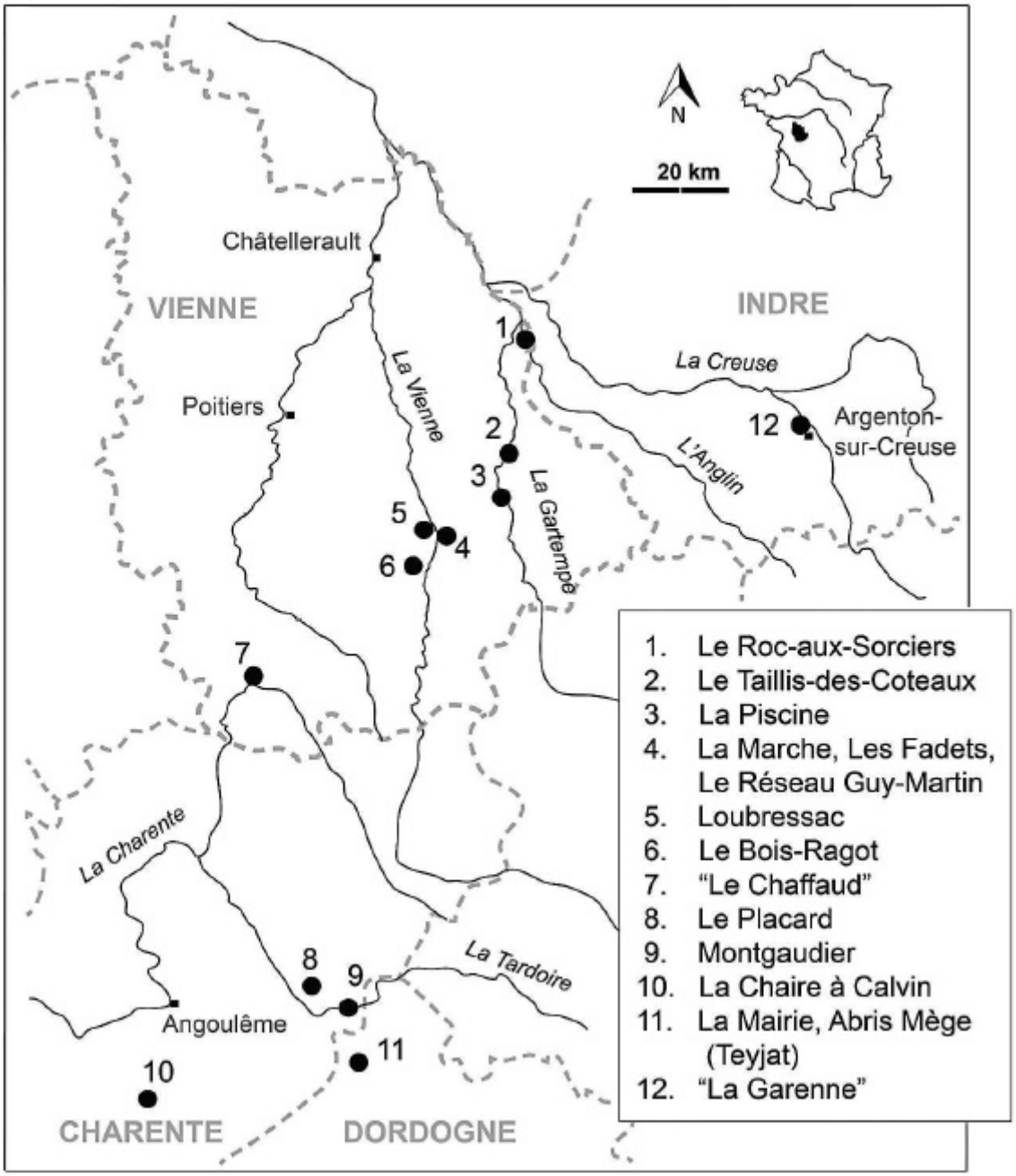

Figura 33: Localization of the cave of La Marche within the Vienne valley and in relation to other sites in the area (From Gaussein, 2017).

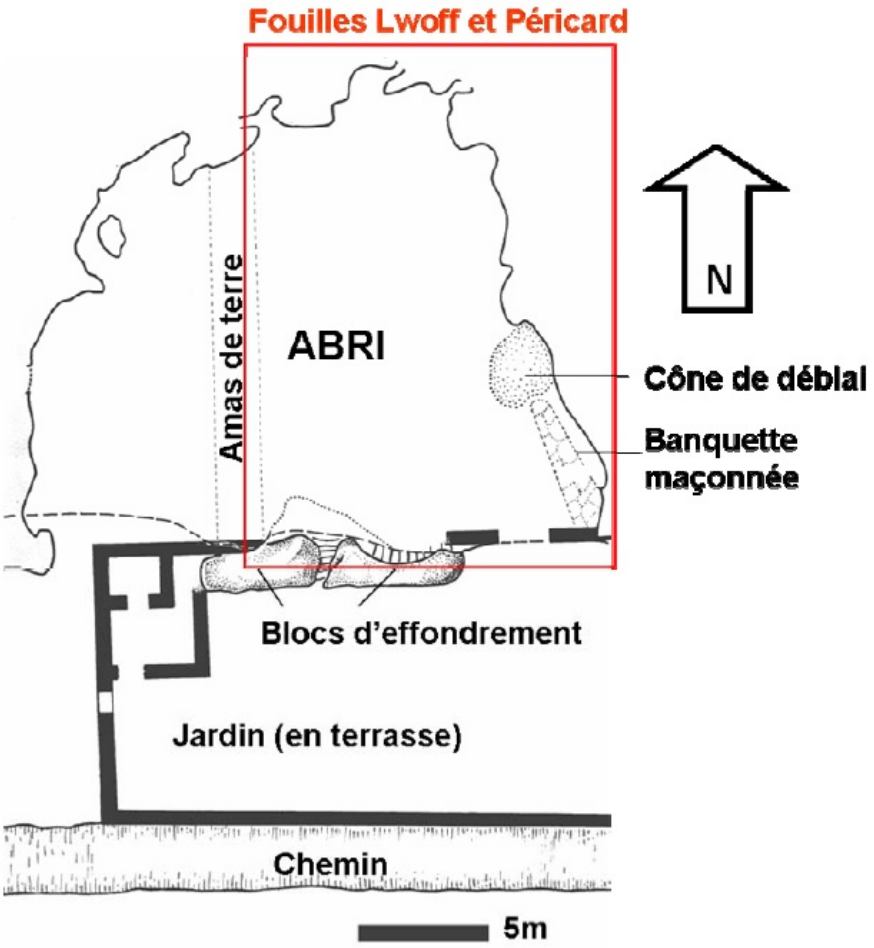

Figura 34: Plan of the cave of La Marche (from Melard, 2006).

network of caves present in the village, its current appearance as a cave derived from the collapse of the overhanging limestone rocks at some point during the late Pleistocene (Chisena & Delage, 2017:240).

At the present time, the rockshelter is approximately 20m (60ft) wide and 19m (57ft) deep, with the current entrance at approximately 7m above the current level of the stream. As the total inclusion of the site within the fabric of the village suggests, the cave has undergone several modifications over time, well before the official discovery and excavation in the 1940's: a portion of the cave floor and several low walls have been dated to the 18th century - one of the walls returning an engraved plaquette from the collection. Similarly, in order to erect

the artificial terrace in front of the site, a stone wall has been erected in parallel to the flak of the valley, thus severely altering the surrounding area. The entrance to the cave itself has largely been altered, net of the natural events mentioned *supra*, with large portion of masonry walls added to the site. We have, therefore, little to no information as to the extent of the site towards the stream; we can however infer that the site and its materials must have been already "unofficially" discovered and manipulated over the course of the past two hundred years (Melard, 2006:8-9). These activities, together with the fact that the site has been freely accessible to locals up until its final closure in the 1980's, pose a problem also on quantifying the real amount of the engraved plaquettes present on site. We can, at present, count approximately 3,000 know art items; to this has to be added a number of items present in both private collections (not documented) and in spoiled heaps still present on site and not explored as of yet, thus bringing the total to approximately 4,000/5,000 items in total. Considering also that, for each plaquette, about 5 different depictions can be singled out, it is not impossible to reach a total of approximately 50,000 depictions, both figurative and abstract (Chisena & Delage, 2017:242).

The most immediate repercussion of these events is the high difficulty in reading the site stratigraphy; however, during the surveys conducted by J. Airvaux between 1988 and 1993 (Airvaux, 2001; Chisena & Delage, 2017:241), a survival testimony of the original deposits has been found and excavated in the immediate proximity of the cave entrance. This deposit, with a depth of approximately 1.50m, rests directly on the limestone base of the cave and contains four distinct layers. At the base we find the archaeological layer (10-30cm in thickness), for which the proposed radiocarbon date (Ly 2100 : 14280±160) clearly indicates a Middle Magdalenian origin; dotted with sterile patches, this layer presents a remarkable red coloration, probably caused by infiltrations of hematite following the excavation of the layers above (Pradel, 1958; Airvaux, 2001; Melard, 2006:9). The layer immediately above is formed by the same kind of dolomitical deposit; however, it is completely sterile from an archaeological pointof view, with the exception of a very few discarded pieces. The top two layers, separated by the bottom ones by a diaphragm of limestone rocks, have instead returned historical artefacts such as fragments of tiles and pottery (Melard, 2006:10).

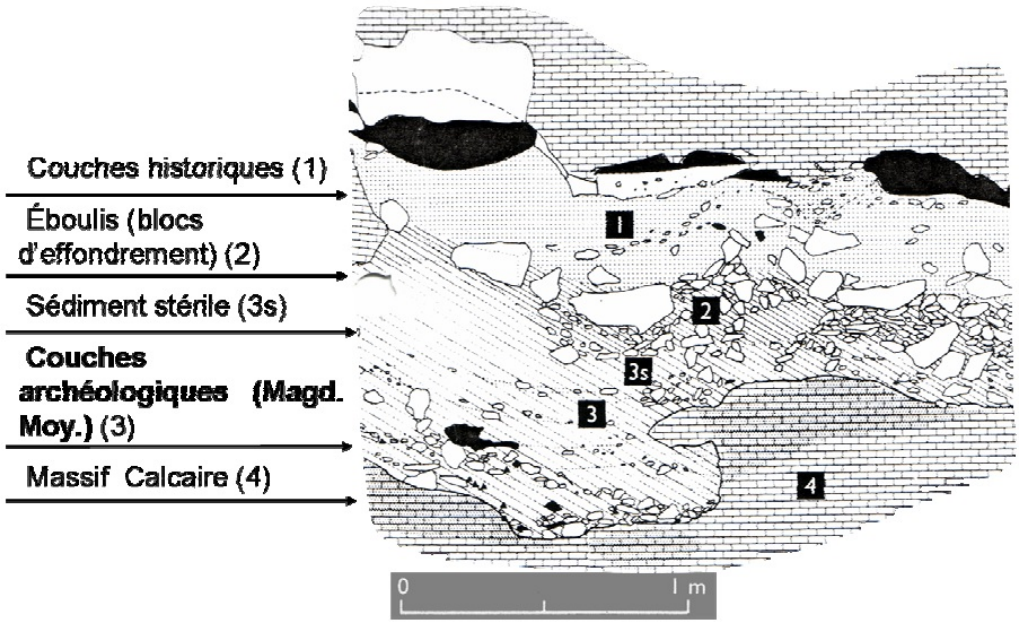

Figura 35: La Marche - stratigraphic relief from the testimony excacated by Jean Airvaux (from Airvaux, 2001, modified by Melard, 2006).

As N. Melard notes, the spatial positions of the objects in the site were not appropriately recorded during the excavation; it is therefore difficult to reconstruct the plan of the Magdalenian habitat of La Marche. This notwithstanding, it is possible to extrapolate some information on the distribution of the stones in the site, in order to determine and evaluate anthropogenic traces and to be able to make comparisons with other sites and finally to interpret certain stones (Melard, 2006:11).

In the first report on the site S. Lwoff himself provides a few elements on the situation of discovery of the engraved stones. According to his report, the stones' position in the layer is variable, with most simply laid horizontally; The engraved side is sometimes facing down, sometimes facing up, but some are inclined slightly at an angle which does not exceed 30° to 40° (Pericard and Lwoff, 1940:164; Melard, 2006:12). This description suggests a succession of several prehistoric occupations, especially considering that, in places, the archaeological layer was separated into two sub-layers by sandy scree which did not exceed 5-13cm in thickness, an occurrence that can undoubtedly be explained as natural sedimen-

tations inter-stratifying with the archaeological layer and that finds further confirmation in the stratigraphy established by J. Airvaux (Melard, 2006:12-3; Airvaux, 2001; Figure 4).

The first excavators also refer to the spatial distribution of the remains, as they in fact divided the cave into several zones according to the density and type of remains encountered: the entrance area was certainly rich in utensils (elements of projectiles, bone and lithic) while at the bottom of the cave were the items of personal ornamentation, the needles and lamps, with the larger objects (including limestone slabs) were placed around what appeared to be hearths; finally, it was at the bottom of the shelter that a large number of engraved stones was recovered (Pericard and Lwoff, 1940:160; Melard, 2006:13). This difference in the engraved stones distribution can certainly be ascribed to the re-utilization and uninterrupted use of the shelter in historical times: it is true, in fact, that the southern part near the entrance was disturbed well before the archaeological work. and that only a few fairly deep sandy pockets in the rock (30-70cm in diameter) still contained large debitage products and tools, with a remarkable concentration of 78 flint blades was even located in one of these depressions. This latter circumstance has led S. Lwoff (1940:162-3) to think that these might be identified as caches but, despite this example, the generalization of this hypothesis seems hazardous; it could also be the result of sedimentation phenomena, that is to say that these pockets would have acted as sediment "traps" (Melard, 2006:13). Similarly, no large carved stone was found in the entrance area, further proof that the Magdalenian habitat soil was destroyed when the shelter was converted into a cellar during historic times. The stones found in the archaeological layer were undoubtedly rejected or used as construction materials - and the presence of engraved plaquettes in the low wall inside the shelter confirms this hypothesis (Melard, 2006:13).Although it was the the bottom of the shelter that returned the largest number of stones, it was the western sector of the excavated area (at the center of the shelter) which contained the most of the plaquettes; large slabs in place were found throughout the West and North zone of this sector, near the historic dry stone wall and the engraved stones covered the ground in a tight network, almost resembling a paving stone assemblage (Pericard and Lwoff, 1940:163-5; Melard, 2006:13-4).

It therefore seems clear that Lwoff excavated, at least in certain sectors, an archaeological layer more or less in place, a conclusion substantiated by the fact that two hearths containing exclusively archaeological material have been described, two structures that, it must be concluded, were intact or at least little disturbed, especially considering that both hearths contained concentrated mixtures of burned bones and ashes. the first hearth - measuring 20cm in diameter - was created as a pit, dug into the archaeological layer and reaching a depth of approximately 20cm at its center; the second hearth - with a perfect rectangular shape (1m x 60cm) and the bottom dug 12cm into the occupied ground - had an outer rim laid out with soft limestone blocks fallen from the vault (Pericard and Lwoff, 1940:160) with the edge of one of the blocks apparently engraved over a length of 20cm - regrettably impossible to identify in the collections (Melard, 2006:14).

It is possible to conclude, thanks to these elements, that most of the plaques, plaquettes and slabs at La Marche were scattered more or less densely throughout the site, with the exception of certain - apparently intentional - deposits and the inclusion of stones within organized structures, such as hearths. The sifting of the excavation spoil that J. Airvaux undertook revealed a large quantity of archaeological material but obviously no indications of their location; as such, they therefore do not provide any direct additional elements to the reconstruction of the habitat soils (Airvaux, 2001; Melard, 2006:14).

ii. History of researches

The history of the site exploration is no less complex than its present condition; La Marche too, in fact, has been affected by the changing perspectives in prehistoric studies across time.

With the exception of sporadic findings by locals - among which H. Lavergne in 1914 (Chisena & Delage, 2017:241) - the site was not systematically explored until 1937, when Leon Pericard, a local miller, carried out the first excavation with the help of the local amateur archaeologist Stephane Lwoff, who trained at the school of the Louvre Museum. From this moment and for the following decades, Lwoff will be engaged in the study of the cave, regularly publishing his findings in the *Bulletin de la Societé Prehistorique Française*, first in association with Pericard, then

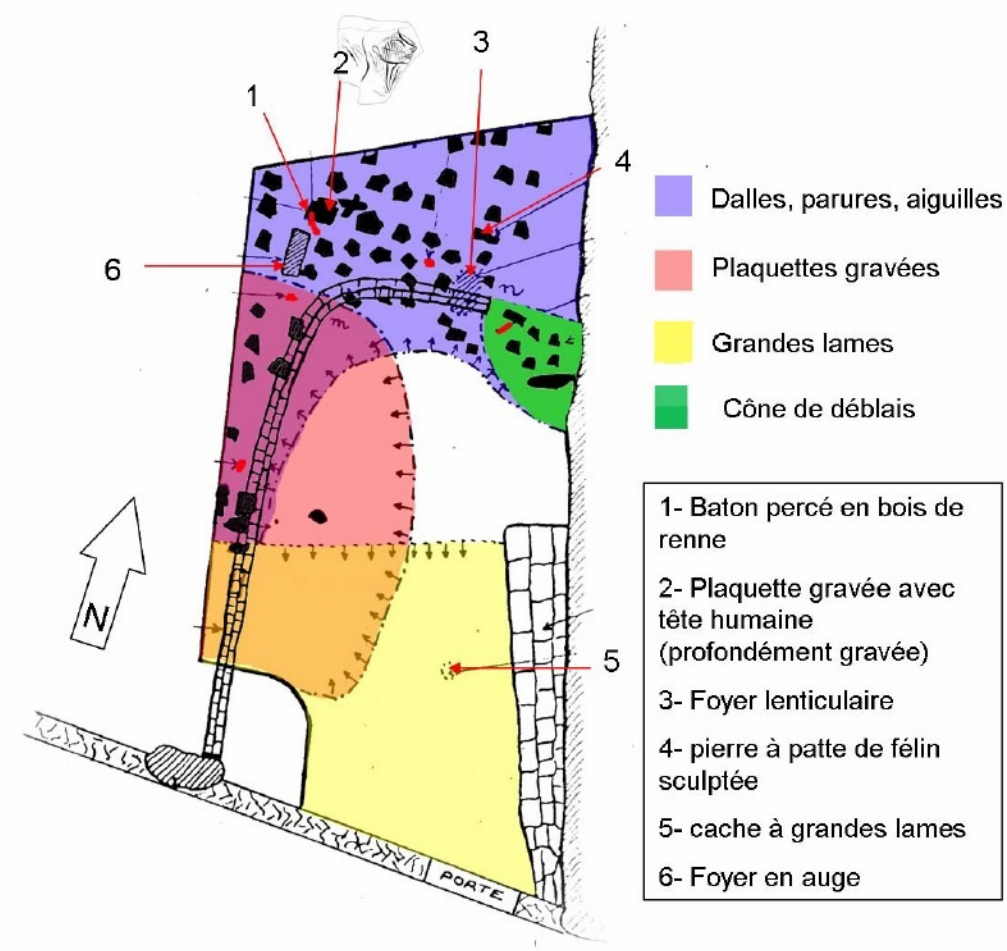

Figura 36: La Marche - reconstructed spatial distribution of artefacts (from Pericard and Lwoff, 1940 and modified by Melard, 2006).

individually (Pericard & Lwoff, 1940; Lwoff, 1941, 1942, 1943, 1957b, 1959, 1962b, 1964, 1968, 1970-71, 1989). It was during these field campaigns that the first 1500 engraved plaquettes (including several human-themed ones) were discovered and published, with the result of making La Marche instantly popular and attracting the interest of other famous scholars of the time: the Abbé Breuil himself visited the site several times during the Lwoff excavation (Melard, 2006:11). However, it is during the course of this first systematic exploration that the first doubts regarding the authenticity of the La Marche engravings arose: in his 1943 letter to the *BSPF*, the count H. Bégouën suggested the reading of the engravings was conducted with a certain margin of "imagination", thus implying that Lwoff might have "integrated" the original engravings based on what he expected to see, rather than what was physically present on the plaquettes (Bégouën, 1943). Stephane Lwoff rejected such a claim, bringing to his defence the testimony of the Abbé Breuil himself (Breuil, 1942; Lwoff, 1943). Despite this early criticism, it is to Lwoff that we are indebted for the first relief of the site and the first reflections on the occupational history of La Marche, in the light of his discoveries: even in presence of some remarkable omissions during the excavation - such as the lack of information about the precise location of the engraved plaquettes - we are still in the position of gathering precious data on the spatial distribution of the finds (Melard, 2006:12). Lwoff himself noted that

> Their [*the plaquettes'*] position within the layer is variable: most of them are simply laid on it horizontally. The engravings are sometimes on the side of the layer, sometimes on the opposite side, but some are inclined slightly at an angle that does not exceed 30 to 40 degrees.
>
> (Pericard & Lwoff, 1940:164; Melard, 2006: 12. Transl. by the author)

This information, paired with the successive stratigraphic data retrieved by J. Airvaux, seems to point in the direction of successive phases of occupation at La Marche. The concentration of the finds has also allowed for a rough spatial division of the cave: lithic and bone projectiles are located mostly at the entrance of the cave, with personal ornaments, lamps and the bulk of the engraved plaquettes positioned towards the bottom of the shelter. The presence of two hearths

containing only archaeological materials (burnt bone fragments and ashes) located in the archaeological layer and the presence around one of these hearths of a few large engraved boulders could indicate that, even allowing for the historical disturbances of the sites (see *supra*), the layers excavated by Pericard and Lwoff were for the most part intact (Melard, 2006:13).

More specifically on his work on the engraved plaquettes, Lwoff recognizes the difficulty of their study due to the superimposition of several different engravings on the same support (Lwoff, 1941:10); it is likely that such characteristic will have had an impact both on his recording techniques - he himself mentions the use of the *camera lucida* and of photographic tracing (Lwoff, 1957) - and the interpretation he gives of them - it is worth noting the expression "intermédiaire simio-humain" he uses with reference to one of the profiles (Lwoff, 1941:146; Lwoff, 1943). The combination of these two aspects is probably at the origin of the accusations of "imaginative interpretation" mentioned *supra*. Nicolas Melard speculates if this might not even be at the base of an apparent lack of interest in the cave of La Marche, suggested by the fact that no serious excavation or survey of the cave, nor a serious study of the engraved plaquettes, took place between the Pericard-Lwoff campaigns and the subsequent investigations by Louis Pradel and Leon Pales (Melard, 2006:15).

This second phase of investigations started in 1957 when a brief series of soundings was conducted by Louis Pradel (Pradel, 1960; Chisena & Delage, 2017:241). Pradel did not limit himself to the interior of the cave - where he retrieved further flint and bone projectiles and several more engraved plaquettes - but also went on to explore the area immediately outside the cave, where the artificial terrace was built. There, he found small quantities of archaeological materials, although in minor quantity, thus proving the historical damage caused to the external portion of the site (Melard, 2006:11). It is around this time that another scholar becomes involved with La Marche: Leon Pales, a trained army surgeon who subsequently pursued a successful career in biological anthropology and prehistory. The involvement of Pales with La Marche starts with the offering of a research topic by the Abbé Breuil: to decipher more than 1,500 portable art items from the site retrieved during the Pericard and Lwoff campaigns. This monumental work will protract for several decades and involve also another researcher, Marie Tassin de

Saint-Péreuse: the results will be published in the monumental four volumes of *Gravures de La Marche*, published between 1969 and 1989, in which the two scholars deploy a research methodology still considered a landmark of archaeological research on prehistoric art (Delage, 2016:193).

The aim of Pales and Saint-Péreuse was to obtain, as much as possible, a global representation of all the readable engravings from the site. A great merit of their work is the classification of the engravings: alongside a thematic subdivision - each volume is, in fact, devoted to a particular subject (Pales & Saint-Péreuse, 1969, 1976, 1981, 1989) - the two scholars have traced a full history of the researches at the site and a comprehensive "atlas" of the locations for the entire collection (Melard, 2006:15). For each plaquette, an analysis of the support is provided: the state of preservation, colour, shape and morphology of the rock are described, together with any trace of human modification. Pales is very keen in noting that, oftentimes, the support is included in the engraving, not just in its role as support *stricto sensu*, but also in the sense that its characteristics are included as part of the graphic process of engraving, in a way not dissimilar to what happens in the creation of parietal art (Pales & Saint-Péreuse, 1969; Melard, 2006:16).

The description and study of the engraved images follows directly from that of the support. The methods adopted by Pales and Tassin de Saint-Péreuse differ remarkably from those previously employed by Lwoff: casts from the originals and photographs with oblique light taken on both the casts and the originals are among the techniques employed in the study of the engravings; the result is that of a much higher degree of readability of the engravings and, by consequence, a much higher detail in their graphic rendition. On the other hand, the study so conducted confirmed the difficulties already noticed by Lwoff in reading several superimposed engravings on the same support; this has led Pales to the conclusion that, however high in quantity, the engraved works of art from the Upper Palaeolithic remain mostly unknown to the scholars and even less to the great public. It is much easier, according to Pales, to read and appreciate a figure drawn black-on-white on the wall of a cave than it would be to recognize and appreciate the profile of an animal hidden under a thick net of other superimposed engravings (Melard, 2006:16). Nonetheless, Pales deserves praises for his effort to apply a more rigorously scientific, almost "diagnostic" method (Melard, 2006:16); his ap-

proach will set a standard for the study of prehistoric portable art and will open the way to the following generation of scholars.

The third, most recent phase of investigations on La Marche takes place with the excavations conducted by Jean Airvaux between 1988 and 1993. As mentioned *supra* we owe to Airvaux the documentation of the stratigraphic testimony left by Pericard and Lwoff under one of the stone blocks by the entrance of the cave; he also performed a thorough sifting of the spoil heaps from the earliest excavations (Airvaux et al., 2001; Chisena & Delage, 2017:241). It is at this time that new analytic techniques start to be applied to the study of the engraved plaquettes, such as micro-topography, micro-rugosimetry, SEM and 3D surface imaging. At the beginning of the 2000's, Nicolas Melard (Melard, 2006) has undertaken a work of as broad a scope as Pales', by analyzing the approximately 1,400 engraved plaquettes emerged during Airvaux's excavation. Further studies have delved deeper on the more theoretical issues surrounding the interpretation of human representations in Upper Palaeolithic art: Jean-Pierre Duhard (Duhard, 1993) has focused on human-themed engravings as a mean to investigate demographics and social organization, whereas Oscar Fuentes (Fuentes, 2013, 2016) has devoted his studies to the symbolic means of human representation as a way to investigate how the humans from the Upper Palaeolithic perceived their individuality and their physicality (Chisena & Delage, 2017:*passim*). Finally, the discovery of new engravings on the ceiling of the rockshelter by Paul Bahn (Bahn, 2016) has revealed how the site falls in line with the neighbouring cave of Reseau Guy-Martin as a recipient of parietal art (Chisena & Delage, 2017:242).

iii. Industries: bone and antler

Even in the complex stratigraphic circumstances highlighted *supra*, La Marche has returned a generous assemblage of industries on both flint and hard animal materials - chiefly bone. It is these materials that have allowed S. Lwoff to archaeologically date the site to the Late Magdalenian (Lwoff, 1962d:501) and, in particular, the industries on bone and antler, which I will describe first due to their importance in the dating process.

First and foremost, it is necessary to separate between objects fashioned out of animal materials (such as engraved objects and personal ornaments) and utensils *stricto sensu*. To the former group belong the objects illustrated in Figures 37 and 38 and belonging to the collection of L. Pericard and held at the local museum of Lussac-Les-Châteaux (with the exception of item 12 in Fgure 37, currently held at the Musee de l'Homme): an intentionally perforated caudal vertebra from an unidentified animal (37.1); a bone fragment (equally from an unidentified animal) with five engraved lines (37.2); a longitudinally fractured bear canine tooth, retouched in order to be re-functionalised as a scraper (37.3); a pointed subconical cylinder in ivory, the upper part of which shows a circular cutting of debitage with an irregular collar, resulting from the tearing of the piece from its original support, potentially in perishable materials (37.4); a bone marked with two highly regular series of three and five notches, normal to the axis of the bone (37.5); a distal end of femur decorated with notches on several sides (37.6); a tooth fragment whose neck has been retouched to be refunctionalised as a scraper, with a technique similar to that employed on flint tools (37.7); a flat bone marked with notches on all of its edges (37.8); a long bone with a concave section, with a sinuous longitudinal furrow engraved on its convex side (37.9); a flat, kidney-shaped bone fragment bearing two longitudinal notches and two transverse notches, deeply engraved (37.10); a stone bucket with an internal cup, the side wall of which has been intentionally perforated to form a circular hole parallel to the cup and joining the two cavities, the nature of which S. Lwoff (962a:74) indicates as a primitive hearth; a fragment of a horse's jawbone adorned with a continuous series of *dents de loup* (chevrons) extending along its outer upper edge. (Lwoff, 1962a:74).

Figure 38 represents further items from the L. Pericard collection, with item 1 (A and B) being of particular interest: a densely engraved bone fragment with quite deep grooves, on both sides. Side A presents a series of evenly spaced notches that cut into the top edge, possibly representing a trap; the structure of the drawing is identical to that observed on other plaquette engravings from La Marche, a drawing present in several examples (Lwoff, 1962a:74). On the other hand, Side B shows the complete representation of a mammoth, featuring a domed head seconding the rounded protrusion of the bone. The trunk should be represented - in the opinion of S. Lwoff - by the space devoid of lines, while the rest of the

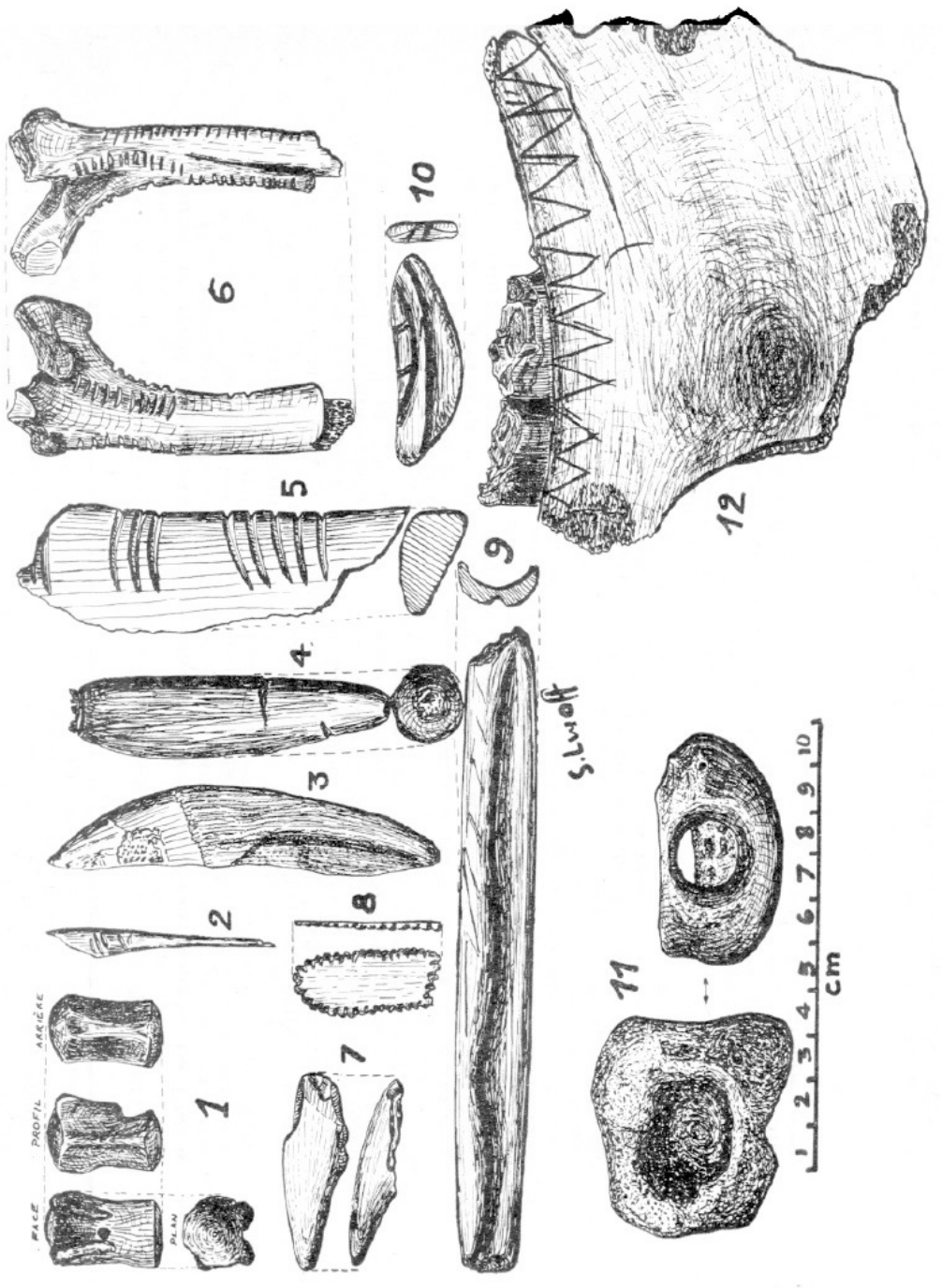

Figura 37: La Marche - objects in animal materials (from Lwoff, 1962a).

figure is shaded with vertical lines that could represent the long hair of the animal. Other examples of these flat bones from La Marche also have mammoth figures and are provided with often triple central perforations (Lwoff, 1962a:74). Item 2 is of equal interest: a flat, spatula-shaped bone with an extremity shaped in the form of a quill and, at its opposite, traces of diploë intentionally left on the object. Similar objects appear in La Marche (Lwoff, 1961; Lwoff, 1959) with one case found stuck vertically in a blind hole in one of the large engraved limestone slabs; this led S. Lwoff to suggest whether these tools would have been used as real drawing pens, whose diploë would have allowed the retention of liquid or semi-liquid coloring matter, and would fulfill a role analogous to our modern reservoir pens (Lwoff, 1962a:75). Items 4 and 7-18 are typical drilled teeth of unidentified animal, sometimes decorated with streaks, as it is the case for the bone pendant (item 3); item 5 is a bone awl engraved with grooves, clearly showing the degree of careful sharpening to which this tool has been subjected; item 6 is a fragment of a tooth re-functionalised as a scraper by retouching using the lithic technique (along similar lines as item 4.7 *supra*); finally, item 19 is a limestone needle sharpener showing three divergent grooves (Lwoff, 1962a:75).

Items of personal ornamentation are also present at La Marche, as illustrated in Figures 39 and 40. They are mainly represented by perforated teeth (mainly wolf and fox canines and bovides or cervides incisives, sometimes bearing notches and geometric engravings) and by polished bone pendants with geometric engravings. Notable the presence of two perforated bone needles, one mutilated of the point and the other fragmentary, nd of a bone spatula (Lwoff, 1942a:55-6).

Alongside these elements of personal ornamentation, La Marche has returned a set of 32 engraved horse teeth, of a similar type of those found at Angles-sur-l'Anglin (see *supra*, Ch. IV, §4), although the quantities found there were considerably smaller. The collection (see Figure 41) comprises only upper jaw incisives engraved on the lingual side at the level of the chewing table of each tooth; only horse teeth have been selected for this treatment, as no other animal species figures in the collection. Due to their size, it is reasonable to hypotesise that the teeth were engraved while still embedded in the upper jaw (Lwoff, 1962a:75; Mazière and Buret, 2010:401-2). The graphic units can be counted as follows: triangles (17) variously cross-hatched or not; trapezoids (9) all cross-hatched and in inde-

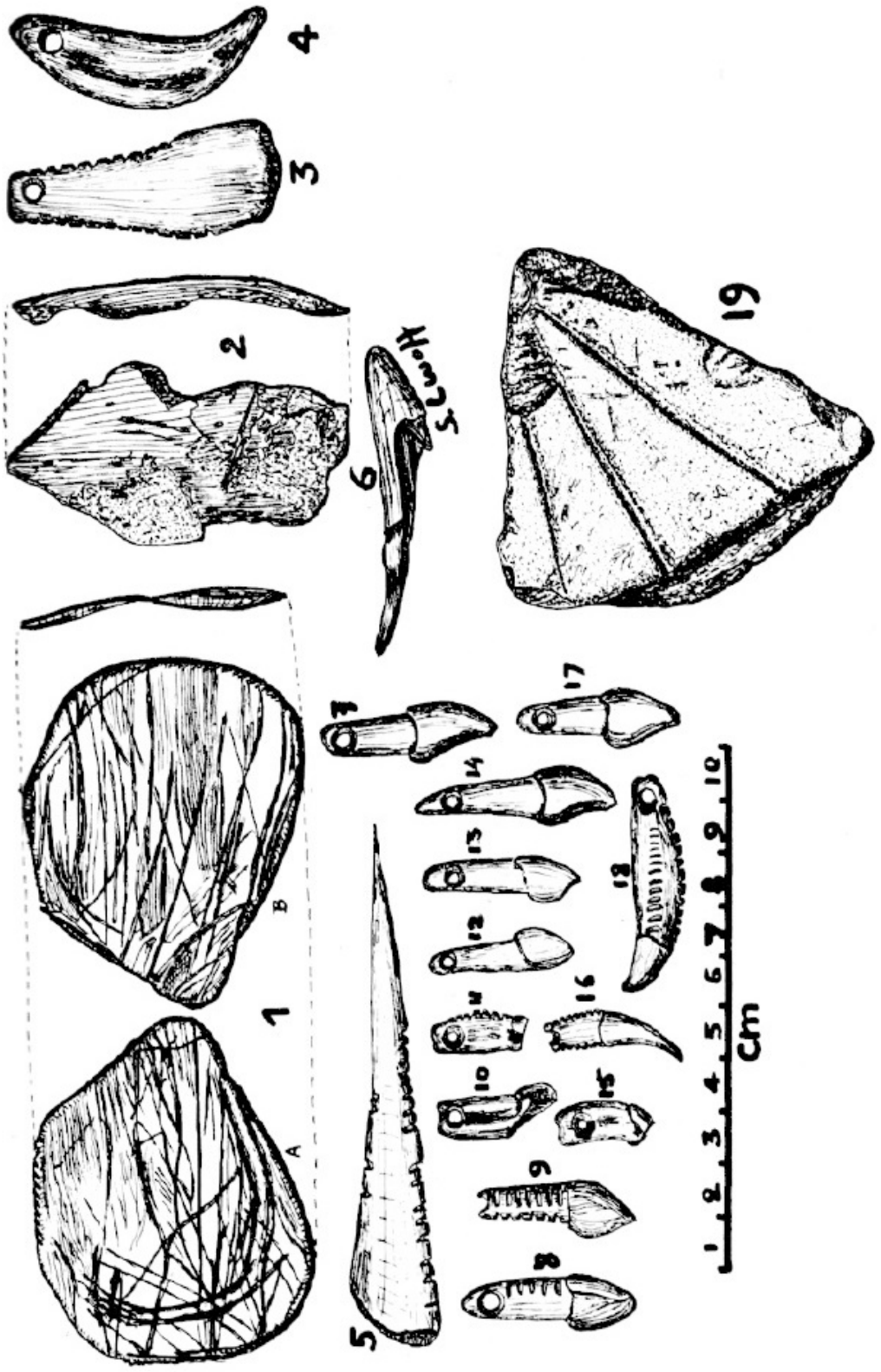

Figura 38: La Marche - objects in animal materials (from Lwoff, 1962a).

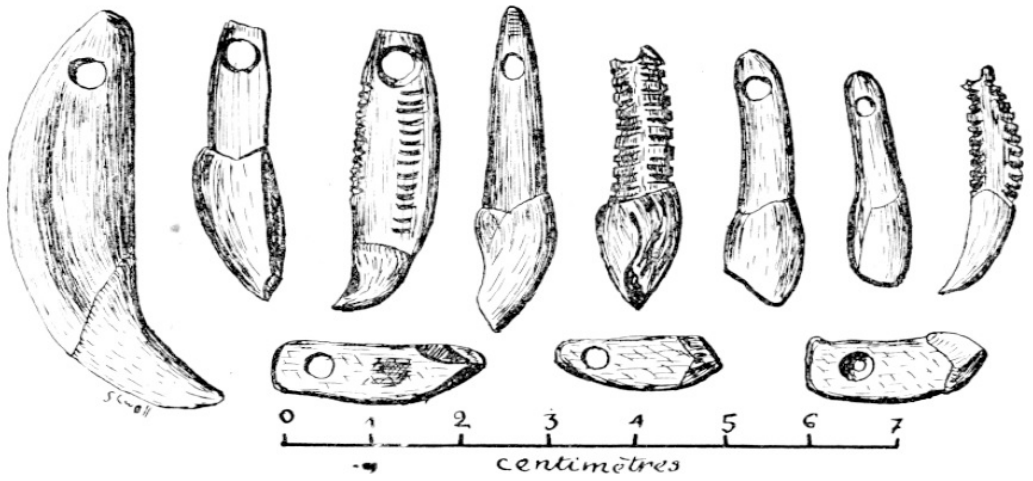

Figura 39: La Marche - perforated teeth for personal ornamentation (from Lwoff, 1942a).

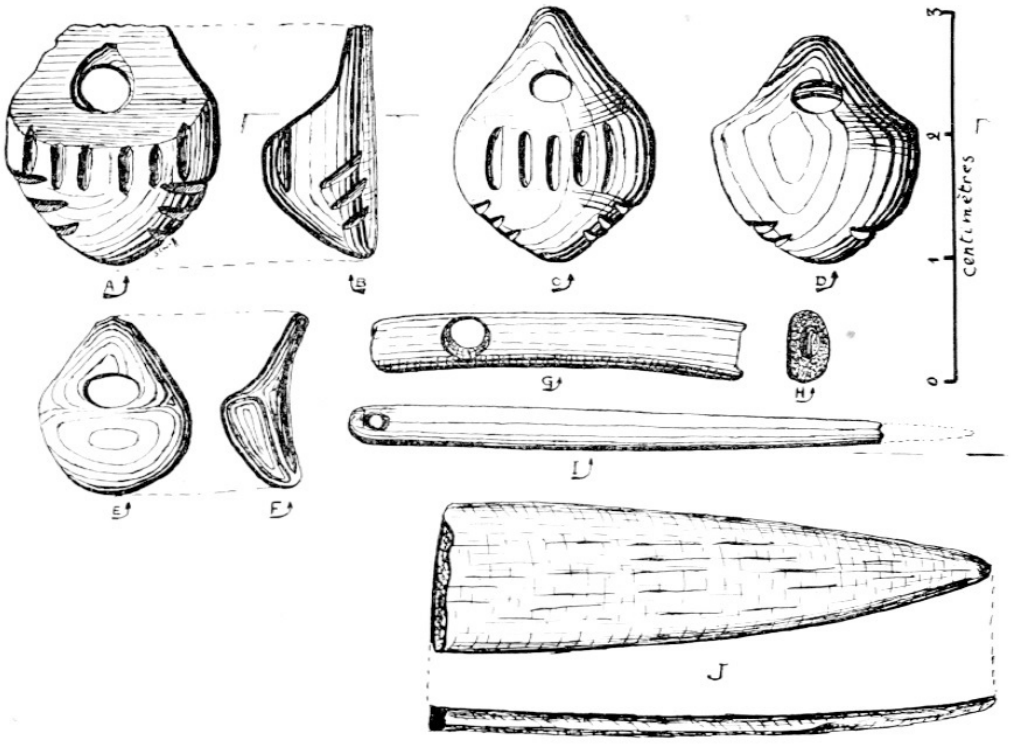

Figura 40: La Marche - polished and engraved bone pendants, perforated bone needles and spatula (from Lwoff, 1942a).

terminate figures (6). In addition, some of these pieces have more or less deep incisions both on the edges (mesial, distal or proximal part) and on the lingual side. As with the pieces from Angles-sur-l'Anglin, the geometric figures engraved on the lingual side are decorated with fine grids, meticulously produced by lines forming a kind of very tight lattice; on some pieces, nearly 40 intersecting lines can be counted, some of which are partly degraded in the chewing part of the tooth (Mazière and Buret, 2010:401). It is to be noted that that the sides of the figures (triangle or trapeze) are more deeply engraved, probably to clearly delimit and enhance its filling, while the upper part is never really marked by a definite line, the grid serving as a delimitation and the point of the triangle - or the small base of the trapezium - ofter lost in the dental sulcus. It should also be noted that traces of red ochre or manganese coloring matter have been found in the grid of certain pieces, something also observed on the Angles-sur-l'Anglin series (Mazière and Buret, 2010:402).

On the issue of interpretation, there seem to be a modicum of disagreement among scholars. The first discovered of the cave S. Lwoff posed the problem of when, in the horses' lifetime, the marks might have been made, whether post-mortem or during the animal's life: if the latter, the marks could be explained as identity indicators, although without clarifying if the identity in question is that of the animal or of the animal's owner (Lwoff, 1962a:75). On the other hand G. Mazière and C. Buret, who studied the collection in 2010, seem to be inclined towards a more symbolic interpretation, moving from the fact that this type of decor - triangles and cross-hatched trapezes - remains a particularity of the Magdalenian in Poitou, which can suggest a notion of "territory": in fact, the engraved teeth collected in the Middle Magdalenian sites all come from a radius of less than 100 km, La Marche being perhaps the "main production center", with nearly 150 pieces discovered. it can therefore be thought that these engraved items - manufactured in non negligible quantities on a restricted territory, having apparently not been the subject of exchanges or distribution outside the region - had a very specific destination and meaning (Mazière and Buret, 2010:402). Some scholars, they argue, have assigned the teeth to the category of adornments, in particular due to the rather deep incisions made on the lateral edges which could have served as a mode of suspension by ligature on a garment. Without refuting this

hypothesis, the authors say, it seems however difficult to envisage this use in view of the variety, the number and above all the position of these incisions on the pieces; in fact, these notches do not seem to follow a particular logic as they can be located on one or two edges, both in the proximal, mesial and sidetal zones; moreover, some incisions are on the vestibular side of the tooth. Furthermore, noteworthy is the absence of perforation in the apical area; however, although perforation would possible using a sharp blade or a punch. These engraved incisors are to be distinguished from other types of perforated hanging teeth which often present, in addition to the perforation, numerous incisions on the edges; instead, the authors conclude, the symbolic aspect of these pieces imposes itself and reflects the "creativity" and the "spirituality" of these Magdalenian groups. The teeth of horses seem to naturally have a morphology, if not similar, at least evocative of the female sex and the engraving of the triangle or the cross-hatched trapezium on this support suggests in approximation the pubic hair; in fact, if at La Marche there is no female sexual representation engraved on the blocks or plaquettes, there are indeed some in many caves on the walls or on the blocks and particularly at the Roc-aux-Sorciers in Angles-sur-l'Anglin (Mazière and Buret, 2010:402).

From the point of view of utensils *stricto sensu*, La Marche has returned a generous assemblage of highly diversified tools in bone, deer antler and ivory, all of them of capital importance to archaeologically date the site to the Magdalenian and some coherent with contemporary findings from the broader Poitou-Charentes region. In particular, S. Lwoff reports two examples of ivory batons (see Figure 41), one adorned with stylized geometric patterns, the other pointed and deeply incised with vermiculated patterns (Lwoff, 1943:180). These utensils are compatible with similar examples found at Montgaudier, Le Placard and Chaire-à-Calvin (see*supra*, Ch. IV, §4.ii). Alongside these small batons two larger examples of perforated batons are present, both in bone, one preserved with a portion of its handle, the other only preserved in the perforated region; two further fragments of such perforated batons are present, although without traces of decorations (Lwoff, 1942a:57; 1943:179. See Figure 43). Among the smaller assemblages we find small sewing utensils such as an awl and several punches, some highly polished and other left at a coarser stage, still showing the traces of

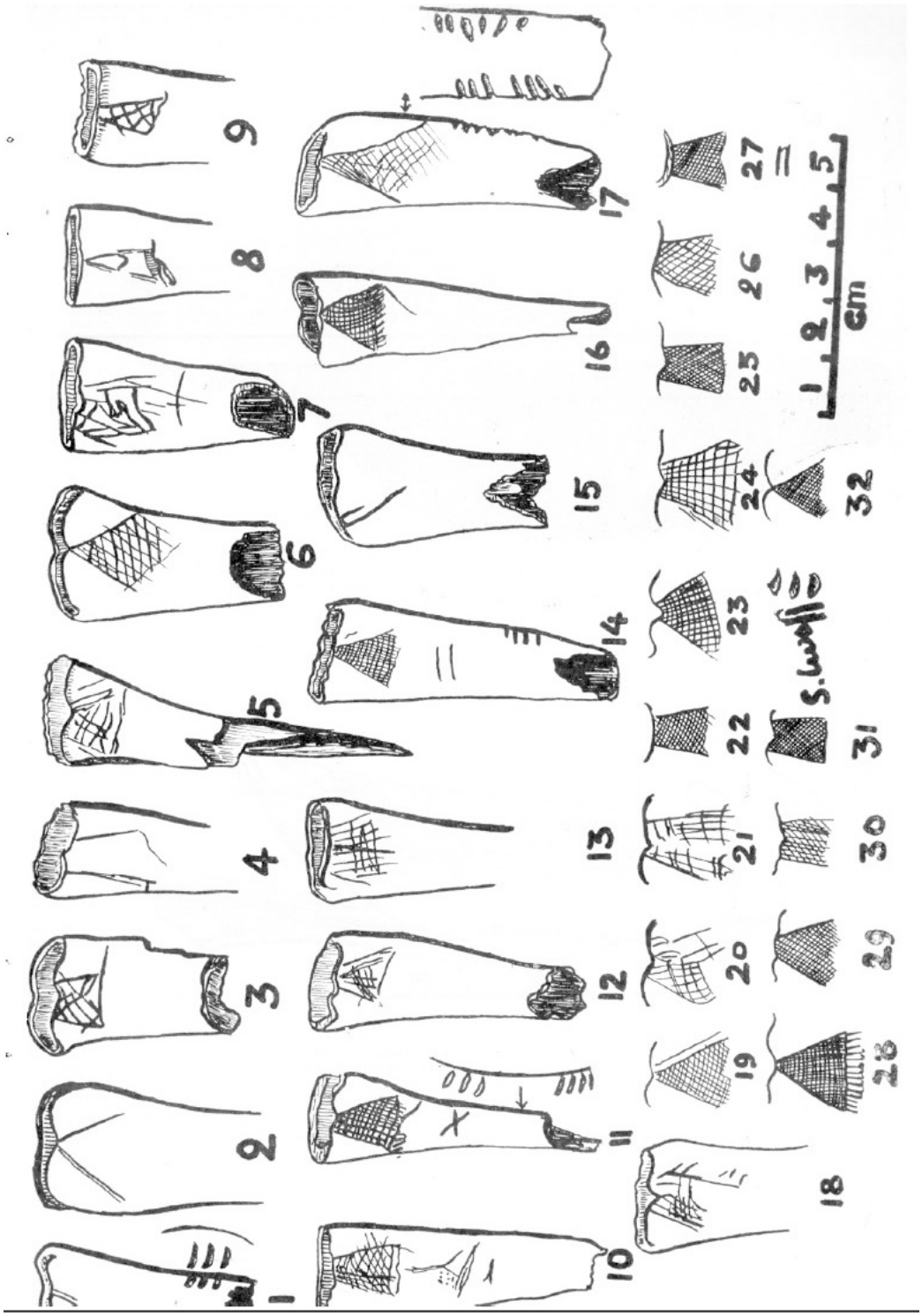

Figura 41: La Marche - engraved horse incisives (from Lwoff, 1962a).

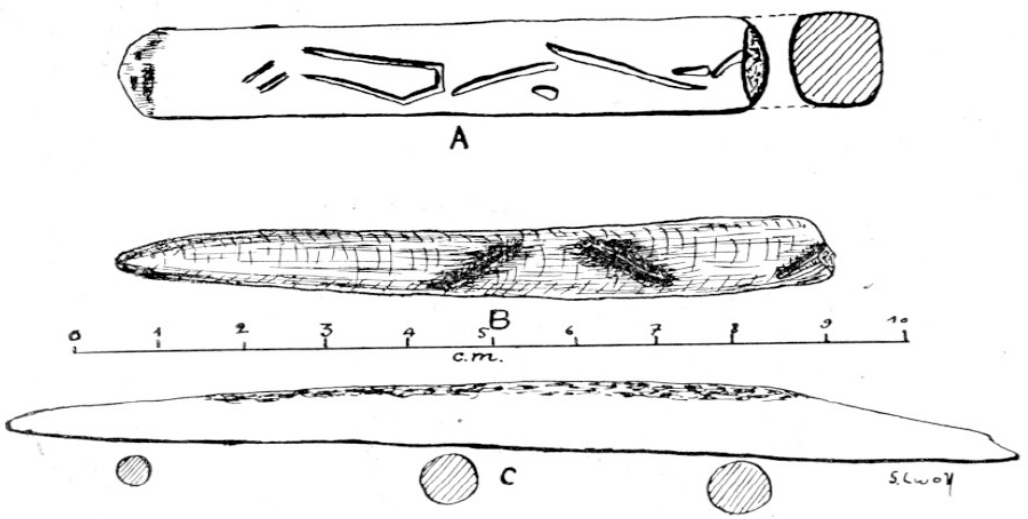

Figura 42: La Marche - ivory batons, decorated (A) and pointed (B) (from Lwoff, 1943).

the polishing (Figure 44).The second largest group of utensils is formed chiefly by smoothers and spatulas, for which several examples have been returned. It has to be noted that a small percentage of these are particularly thin and might have been used as blades, before being re-polished and turned into spatulas; others, on the other hand, present a bulbous ending with clear traces of diploë, intentionally preserved, Among the less common utensils are also numbered made of deer antler, a chisel and a round rod with longitudinal scrapings along the whole of its surface (see Figures 45 and 46) (Lwoff, 1942a:55-9).

The largest group of utensils, however, is represented by spears, found across the entire Magdalenian levels (Figure 14). The very large specimens have a subrectangular shaft with an apparent diploic mass extending the bevel which, S. Lwoff suggests, might be having the same function as the groove and possibly be a vector of toxic substance, certainly more dangerous than the groove (Lwoff, 1942a:60). Otherwise, the smaller specimens (D, E and F in Figure 47) have streamlined sections all the way through to the tapered end which is not absolutely a point, but has a sharp rounded parabolic shape, a character that is amplified on the small elements. Only the atypical shape represented by specimen G has a strictly circular section and an alternating double bevel. The study of the bevel shows that,

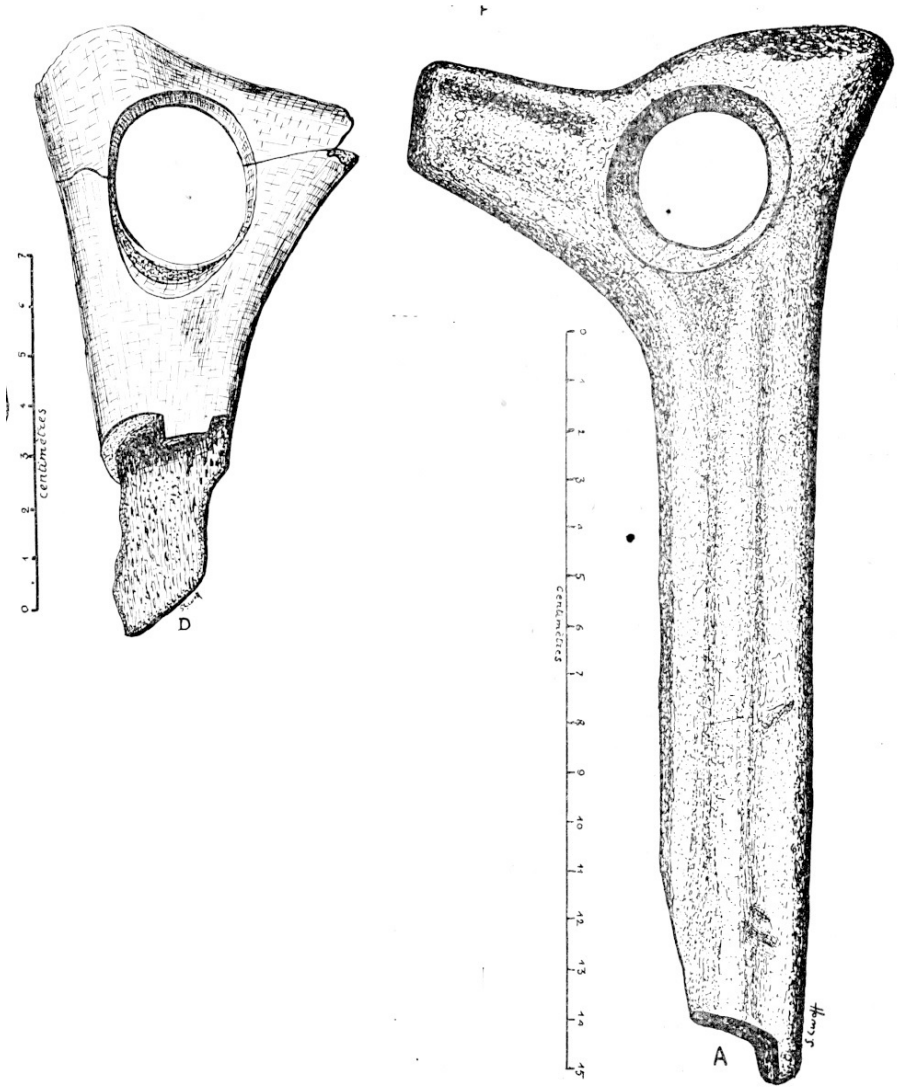

Figura 43: La Marche - perforated batons (from Lwoff, 1942a; 1943).

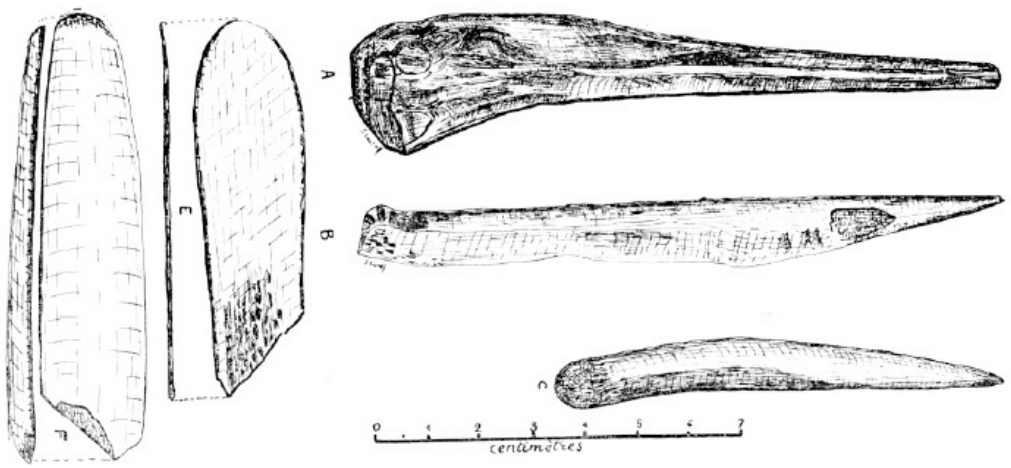

Figura 44: La Marche - awl, two punches and spatula (fragment) (from Lwoff, 1942a).

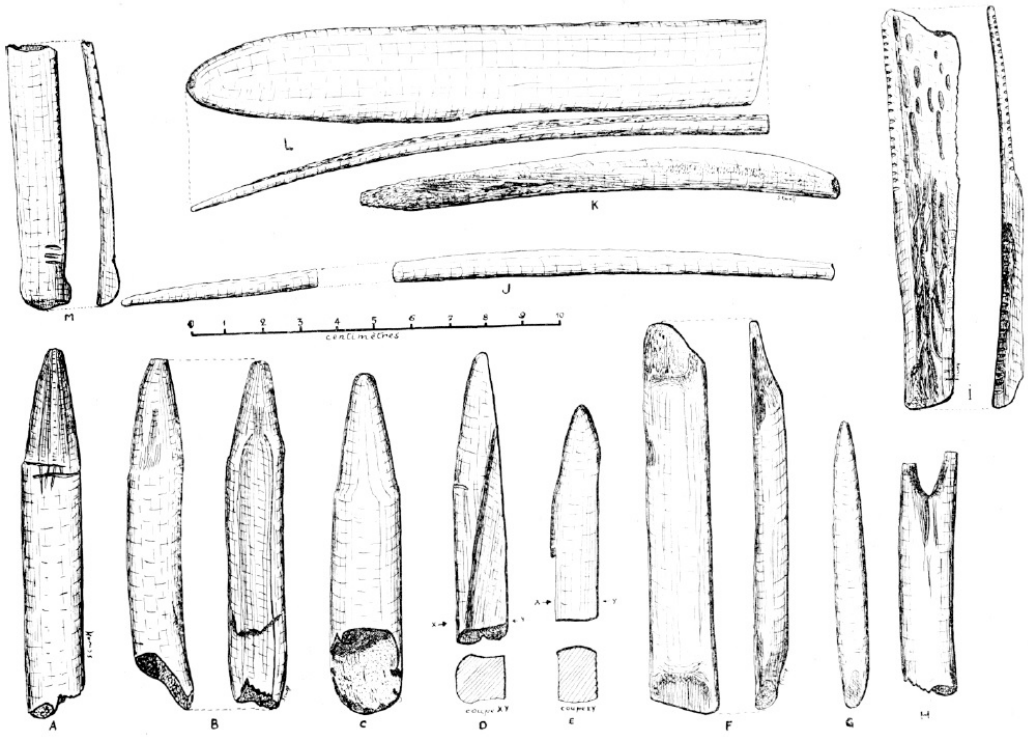

Figura 45: La Marche - smoothers and thin spatulas, probably re-functionalised from blades (from Lwoff, 1942a).

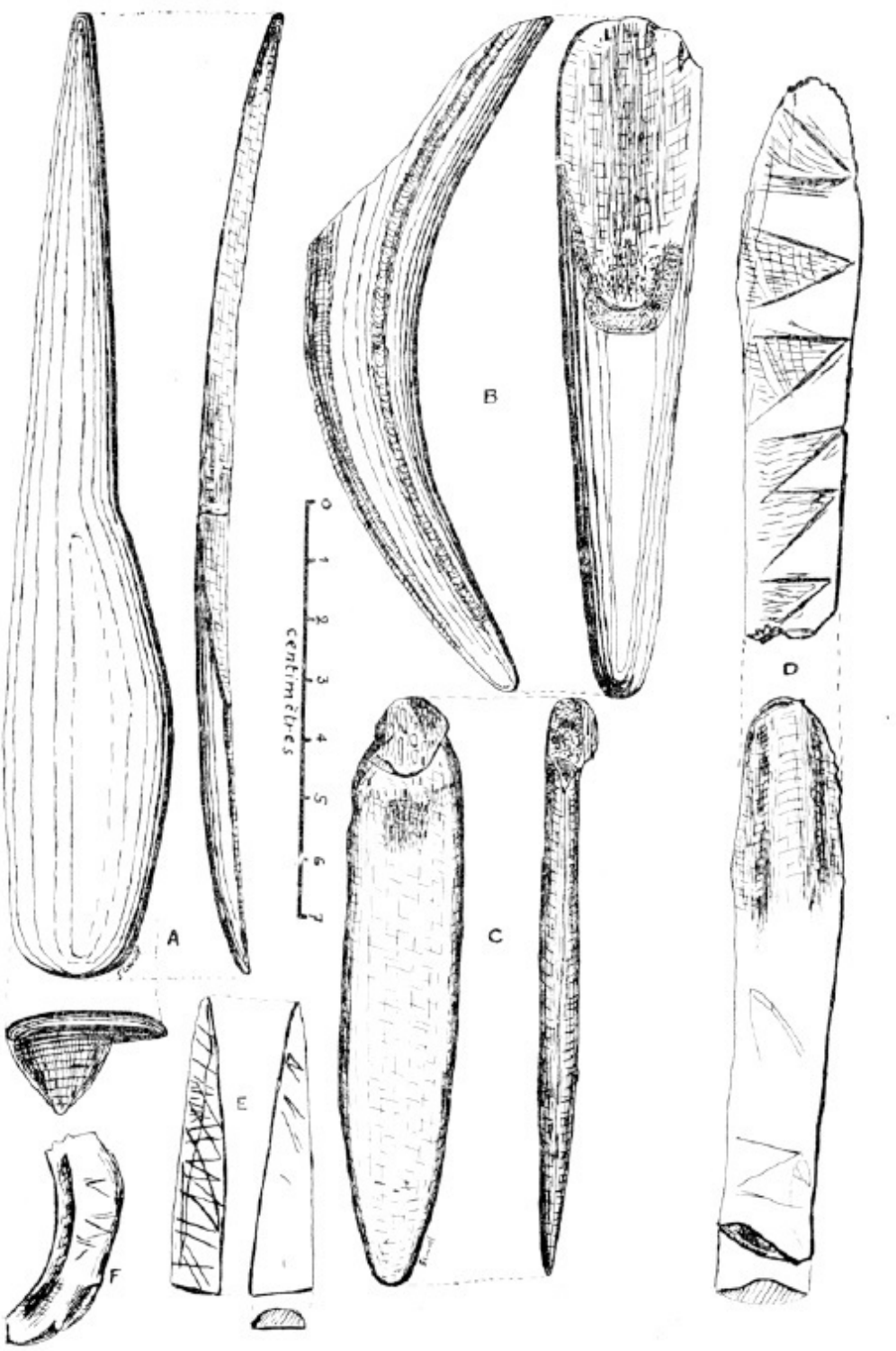

Figura 46: La Marche - smoothers, spatulas, the rammer and the round rod (from Lwoff, 1942a).

with the exception of perfectly flat shapes, there are some spears whose shape is slightly concave transversely (example A and L) and, longitudinally, parabolic (example J). The probable outline of one of the spears (M) shows the bevel only partially finished and the breaking technique at the opposite end, consisting of notching the bottom on either side with a few chisel strokes on a portion of its perimeter and then to produce a clean break to isolate the chosen part. Finally, notable are the spear points in reindeer antler (A, B and C, Figure 45) and in ivory (D and E, Figure 45): the former are strictly cylindrical pointed elements (A and C), while xample □ has a flat part following the generatrices of the cylinder; the ivory specimens (D and E) have one or two flat parts (Lwoff, 1942a:61-3).

iv. Industries: lithics

If the industries on bone and antler (as described in the previous section) have shown a great level of diversification, the same cannot be said for the lithic industry which, regardless of the undeniably large amounts returned by the site, seems limited to a few recurring types of utensils, for the vast majority on large blades and flakes. This limitation in variety, nonetheless, does not mean there aren't any exceptions: from the site, in fact, come a pair of burins that S. Lwoff himself describes as "anomalous" and a series of chisels among which a new faceted type (Lwoff, 1967:75).

The first burin is in gray limestone (with partially preserved sandstone cortex) and measures 13 x 9.5cm for a thickness of 4.5 cm (Figure 48). One of the faces is cut in large flakes with development of the retouched point, while the alternate face is flat with with signs of detaching of a blade to form the chiseling part. It is evident, on this flat face, the presence of multiple small-scale retouches towards the upper border of the chain, with evident signs of bursting possibly of frost origin (Lwoff, 1959:330). The second buring (Figure 49) is in gray chail extracted directly from the wall of the cave and has unusual dimensions (18 x 13cm for a thickness of 3.5cm). The relatively flat striking surface of 3 x 5cm lies at an angle of 60° with the main face showing the bulb of percussion and the negative detachment planes forming the beak of the burin are clearly visible (Lwoff, 1959:335).

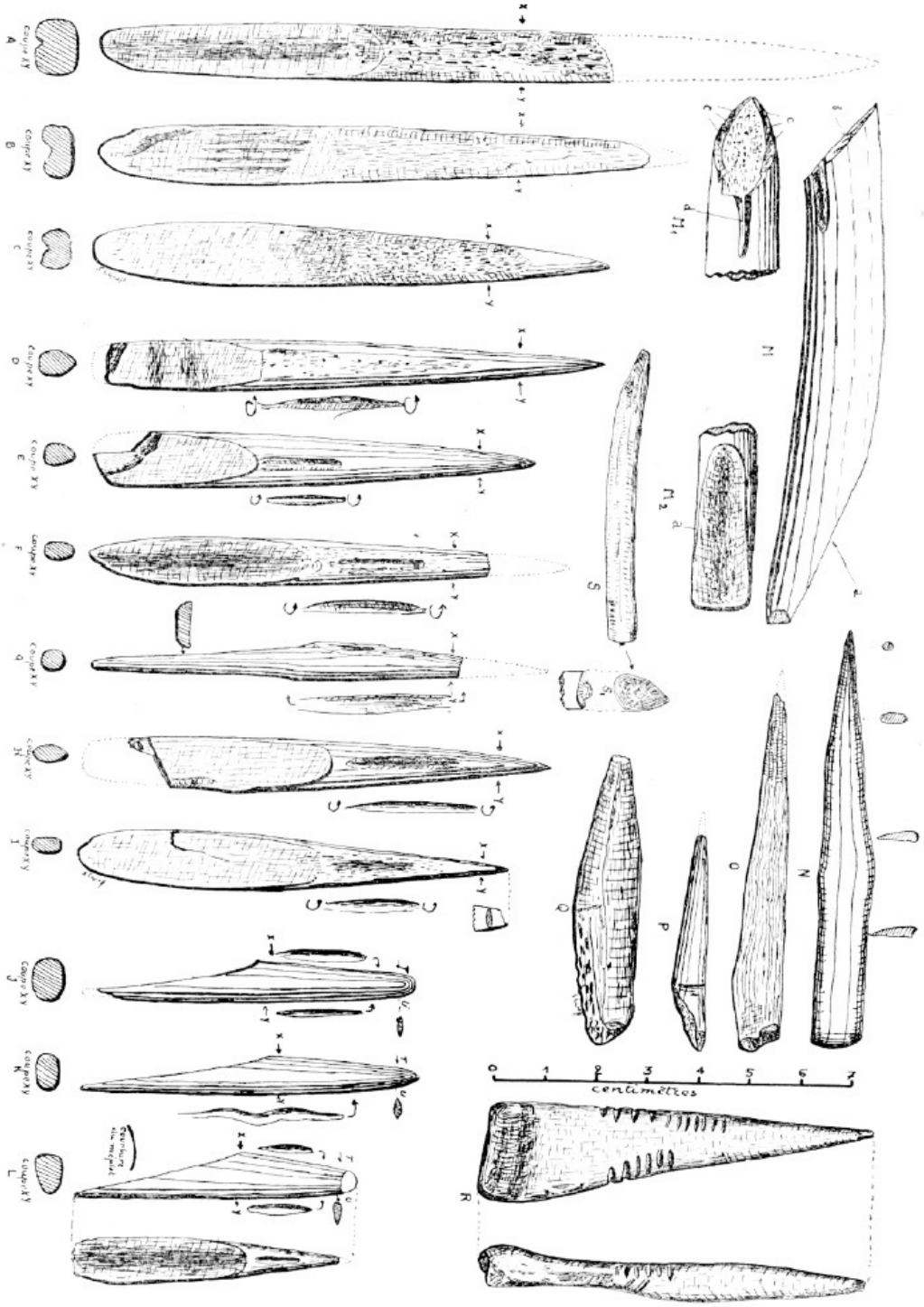

Figura 47: La Marche - spears (from Lwoff, 1942a).

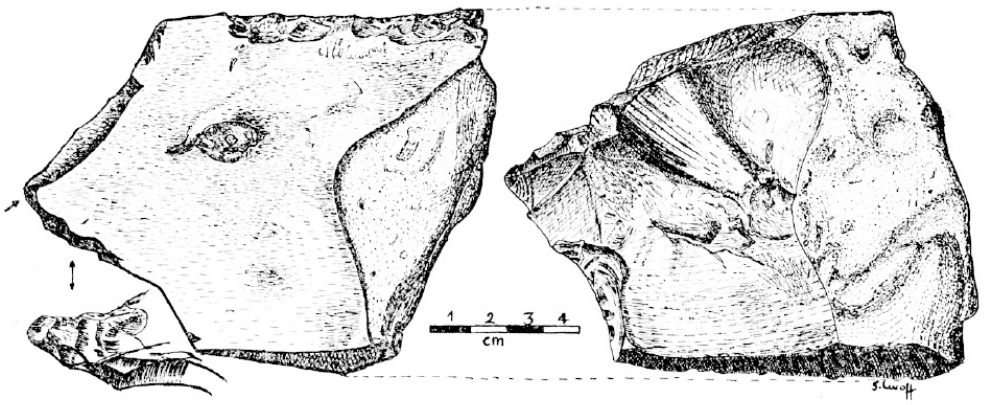

Figura 48: La Marche - "anomalous" burin (from Lwoff, 1959).

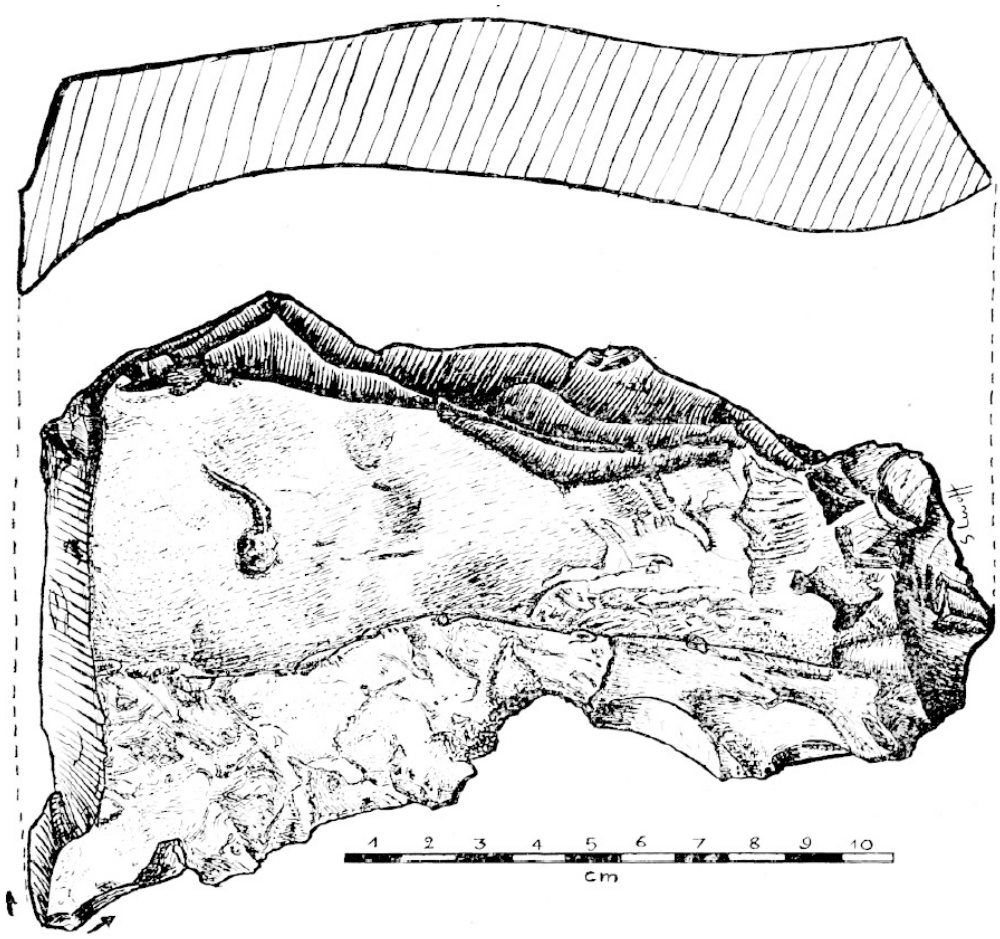

Figura 49: La Marche - "anomalous" burin (from Lwoff, 1959).

The faceted chisel - Figure 50, present in 30 examples and deemed by S. Lwoff a peculiar tool from La Marche, worth of being marked as a guide fossil for the period (1967:77) - can be described as tools fashioned on blades (or fragments thereof) of which one or both ends present on their worked face a series of short longitudinal lamellar scars (facets) with an axis parallel to the longitudinal edges of the blade and grouped at its end, the association of which forms an open, polyhedral pseudo-prism with edges substantially parallel to the axis of the blade, constantly associated (at the end of the smooth surface of the blade) with a deepening retouch (alternate sharpening retouch). This retouch joins the end of the facets on the opposite side to form a fairly sharp edge, thus creating a rectilinear or slightly curved shape; this alternating retouch can be in one piece (with flaking parallel to the longitudinal edges) or constituted by a series of juxtaposed scars perpendicular to this edge. The resulting cutting angle is close to 45°. Faceted chisels can be single, double or, in one single case, quadruple. ALso to be noted is the fact that the longitudinal edges of the blades on which these chisels are constructed are often retouched (Lwoff, 1967: 77).

Moving into the most numerous groups of utensils, S. Lwoff draws a distinction between the industries from Middle Magdalenian III - characterised by a blade-based industry formed mainly by borers, retouched blades of various types and microliths - and those from Middle Magdalenian IV-V - much smaller in number, equally blade-based but formed essentially by scrapers (Lwoff:1962d:501;507). I will follow the same criteria to describe briefly the industries of these two subdivisions of the Magdalenian at La Marche, referring the reader to the original publications by S. Lwoff (1962d; 1964) for further in-depth discussion.

The borers from Middle Magdalenian III (Figure 51) are counted in 286 examples, further subdivided in oblique borers (84 pieces), *camard* borers with axial poit (45 pieces), axial borers with double concave arching (43 pieces) and borers with double convex arching (33 pieces), followed by other forms in negligible quantities. It is remarkable to note the particular attention devoted to the finishing of these utensils, extremely high in quality and displaying remarkable skill (Lwoff, 1964:273). The retouched blades industry (Figure 52), on the other hand, is formed mainly by thin flint blades (4mm thick) whose length is between 5 and 9cm and but whose uniface superficial flaking is tempested in all directions by ad-

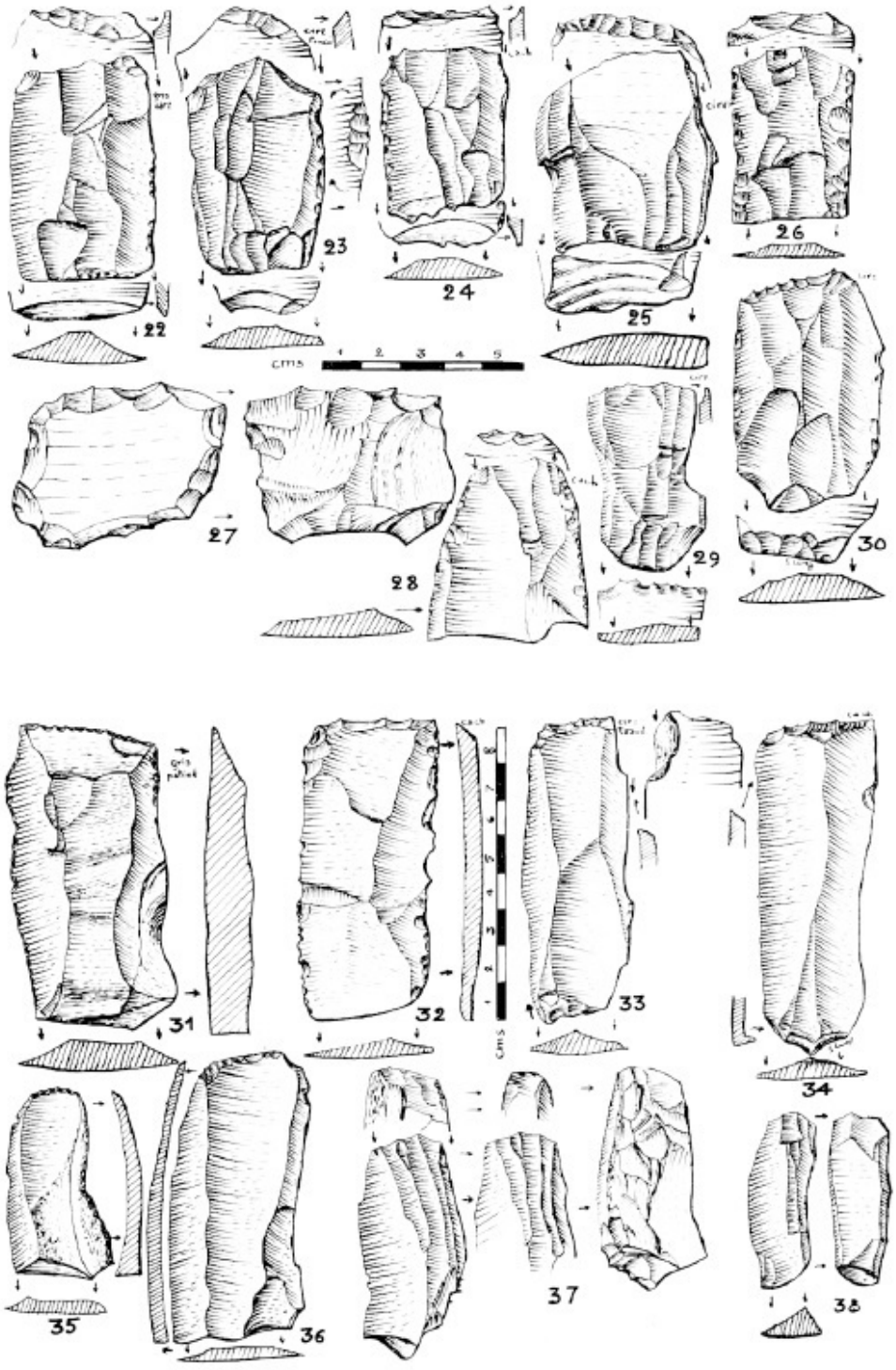

Figura 50: La Marche - examples of faceted chisels (from Lwoff, 1967).

ded ablations. These pieces rarely show intentional marginal retouching, but on the other hand, many retouches consequent to their usage; as such, it is possible to state their highly practical deployment. From a statistical point of view, thin blades count at 75 pieces, thin flakes at 245, tip-retouched blades at 34, truncated blades at 6, oval-shaped tools at 3, blunt-tipped blades at 10, serpettes and retouched serpettes at 2 and finally displaced chisels at 2 (Lwoff, 1962d:502;507). Finally, the microlithic industry (Figure 53) is formed by utensils in flint whose length is between 0.5 and 5.5cm, represented essentially by uniface bladelets, with a back cut down by abrupt retouches, which however differ in their shape from the Aurignacian bladelets of the Gravettian type. The Aurignacian bladelets generally have a narrowing towards their base which gives them the appearance of a half-leaflet or a leaflet with basal constriction, while the microliths from La Marche generally have a subrectangular body shape as well, wide in their middle part than towards their heel and whose retouched part is substantially rectilinear. The end opposite this heel is generally terminated by a point formed on the non-cut side by a curve of large radius connecting with the subrectangular shaft. Certain other rarer elements can take the appearance of the chisel in all its forms. The statistics for the collection (accounting for 812 pieces) are as follows: discarded flakes of retouched burins 193; discarding flakes from unretouched chisels, 167; rectangular blades (without points) retouched with fallen edge, 160; unretouched bladelets (the majority ending in foliated points), 68; left-sided, flat-backed bladelets, 104; right-sided, flat-backed bladelets, 10; weakly denticulate bladelets, 3; bladelets with non-abrupt marginal retouches, 10 (Lwoff, 1962d:501-2).

The utensils for Middle Magdalenian IV-V Figures 54-55) are thicker than those of Magdalenian III and often fractured, as in Périgord, but bear corrective retouching using clumsy "chisel strokes", with fractured ends. Noteworthy is the presence of a series of blades broken normally to their main axis in sections of 3cm in length at most, without retouching after fracture; such fractured elements, also reported in Périgord, were the only very rare lithic witnesses to another deposit in the Lussac region where there were associated engravings on bone and limestone. Their presence could therefore allow, in the absence of any other lithic witness, to have a presumption of dating in certain particular cases. Once, again, the statistics are as follows: end-blade scrapers, 6 side notch scrapers asso-

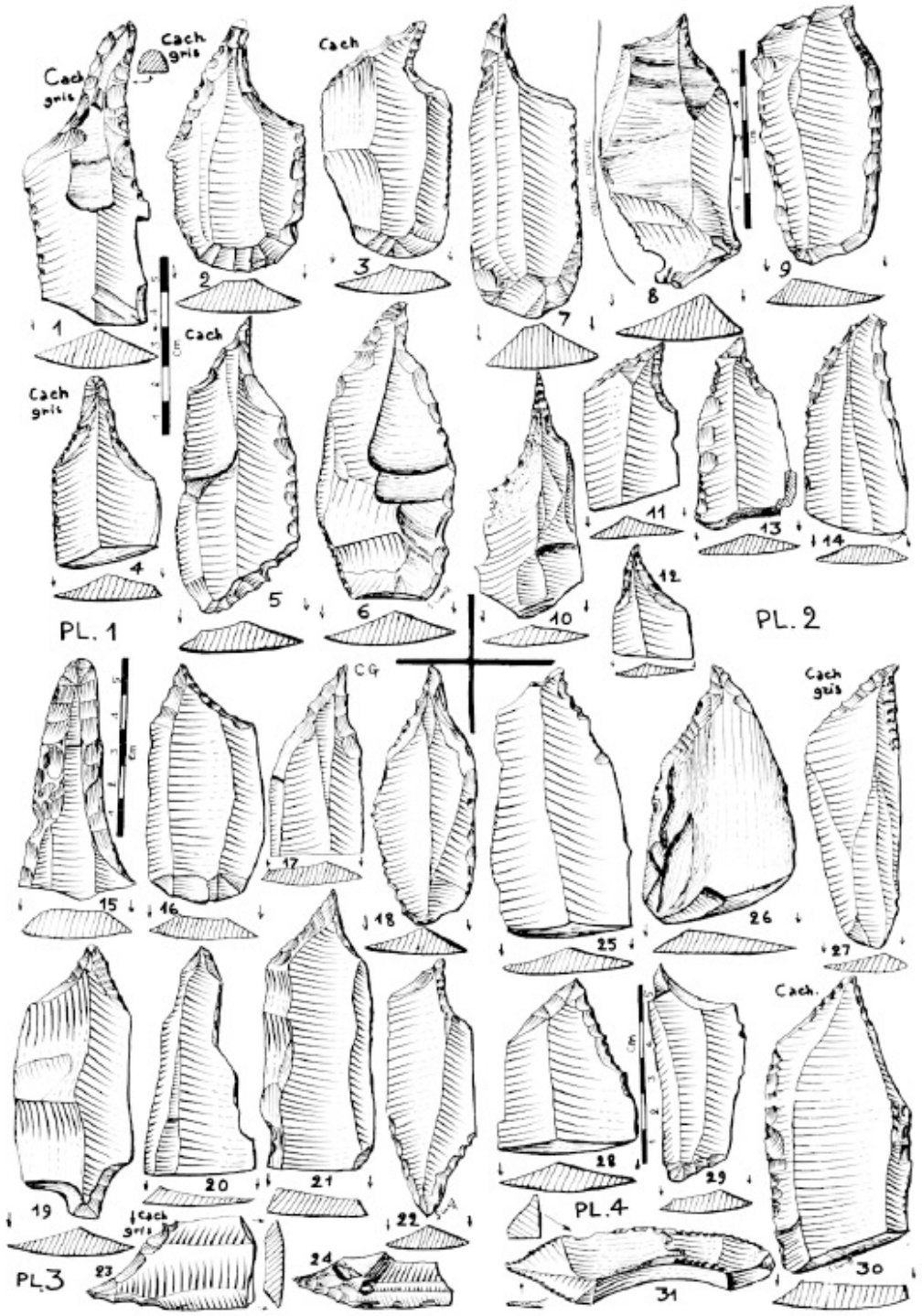

Figura 51: La Marche - examples of borers from Middle Magdalenian III (from Lwoff, 1964).

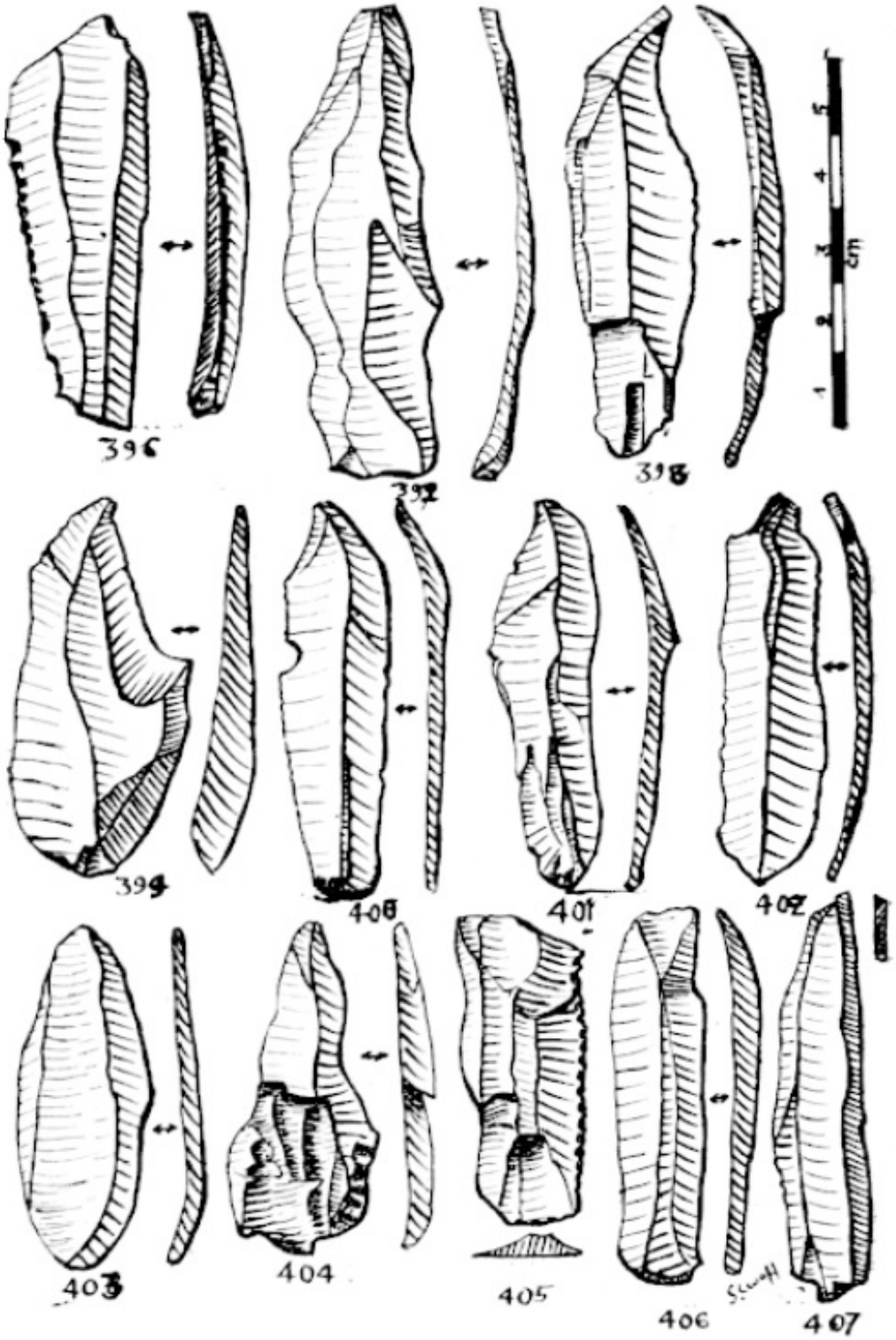

Figura 52: La Marche - examples of blade-based industries from Middle Magdalenian III (from Lwoff, 1962d).

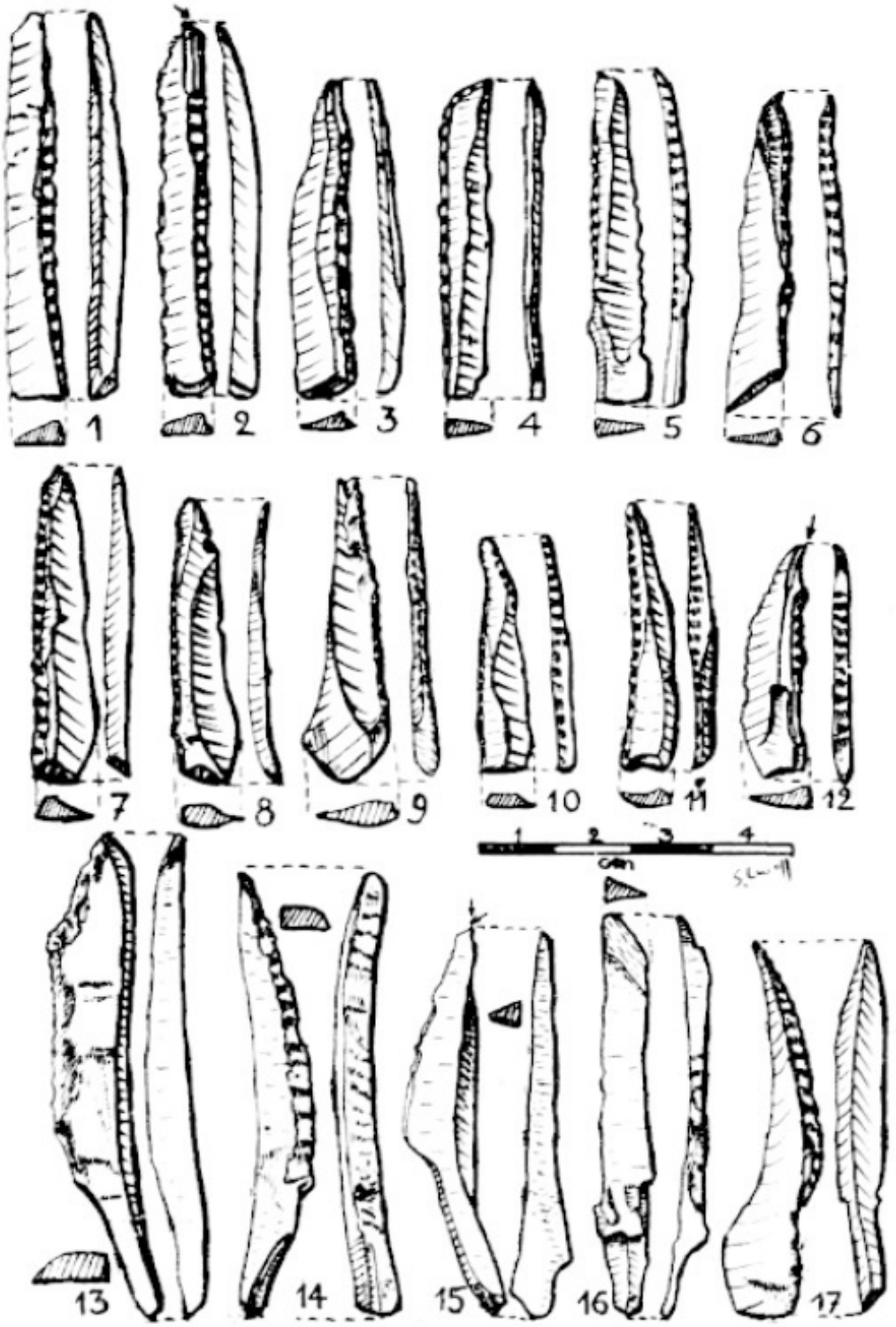

Figura 53: La Marche - examples of microliths from Middle Magdalenian III (from Lwoff, 1962d).

ciated with the end scraper of blade, 1; side notch scrapers, 1; scrapers on blade end associated with chisel, 3; chisels, 4; borer with alternate outer retouching, 1; borers, 3; scrapers-Borers, 1; nuclei, 3; fractured blades, 8; scrapers, 2; worked flakes, 2; retouched flake shards, 2; backed bladelets, 1; discarded flakes with no retouch, 16 (Lwoff, 1962d:507;510).

v. Anthropological materials

Although deprived of burials (either complete or partial) La Marche has nonetheless returned a considerable set of human remains, recovered during the course of the three campaigns carried out at the cave.

During the first campaign of L. Pericard and S. Lwoff a partial mandibule belonging to an infant (approximate age: 7 years) was discovered (Lwoff, 1943:174, Figure 15), followed by further dental remains being unearthed during the campaign by L. Pradel in 1952. Regrettably, the stratigraphic position of the first findings was not recorded properly, thus making it particularly difficult to draw any certain chrono-stratigraphic attribution; furthermore, both the findings by Pericard and Lwoff and those by L. Pradel have been misplaced in museum depots, making a re-assessment impossible until their "re-discovery" (Le Luyer, 2021:161).

During the third campaign at La Marche, however, J. Airvaux was able to retrieve further dental and skeletal remains from the sieving of previous excavations' spoils. The result of this sieving was an assemblage of 35 35 isolated teeth and four fragments of mandibles from adults and children, as well as a fragment of parietal bone from an adult found in a crevice in the base. On these remains, a systematic anthropological study has been conducted by M. Le Luyer in 2021 in order to establish the number of individuals attested at the site and to study dental variability for the Upper Palaeolithic; furthermore, it was possible to extract a further 14C date from from an isolated tooth selected for its optimal state of preservation (OxA-30980 : 14 685 ± 75 BP, corresponding to 18 215 – 17 789 cal BP), thus confirming the archaeological attribution of the cave to the Middle Magdalenian (Le Luyer, 2021:159-61).

According to the author, the morphometric characteristics of the teeth, the stages of dental maturation and occlusal wear, the pathologies and the state of

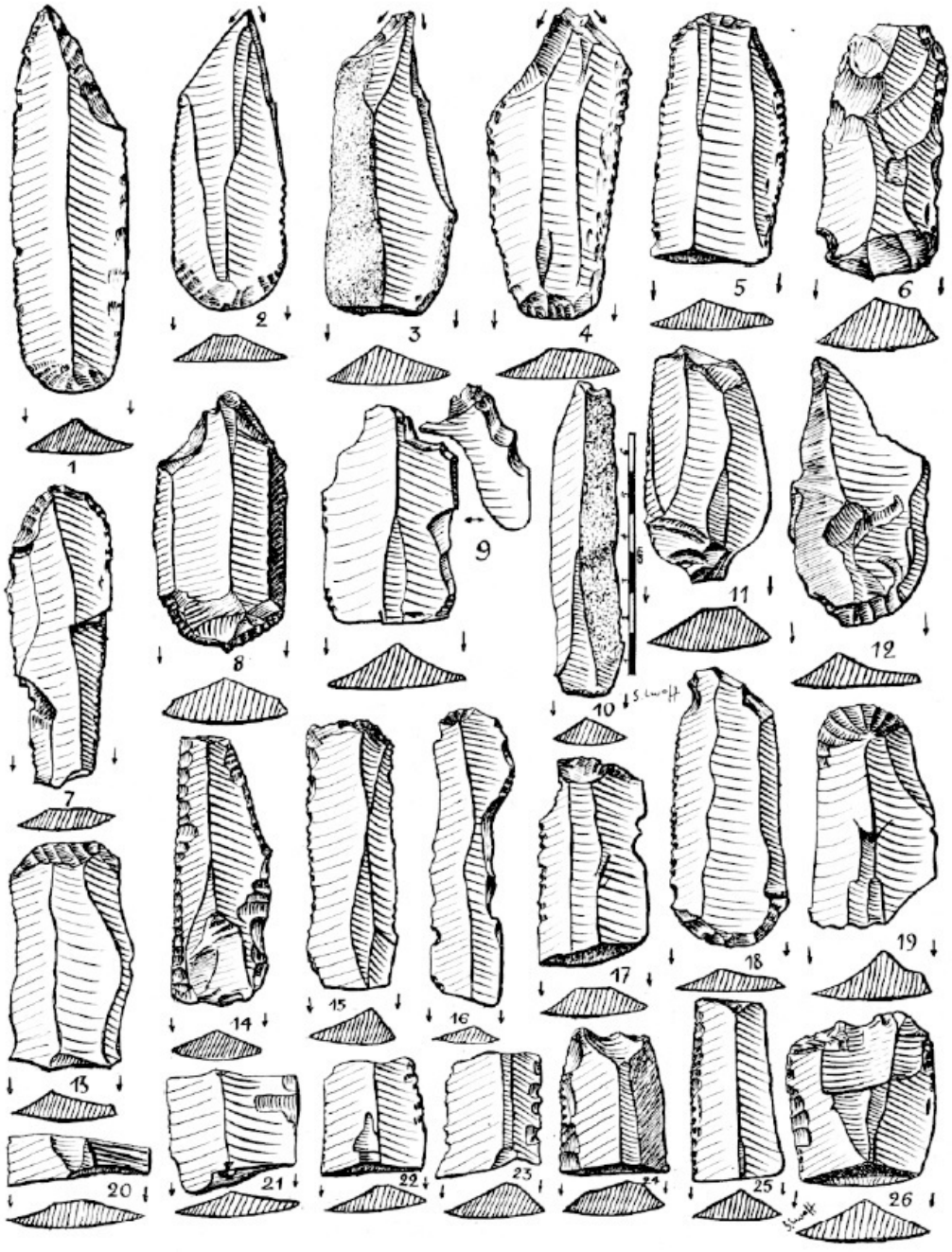

Figura 54: La Marche - lithic industry from Middle Magdalenian IV-V (from Lwoff, 1962d).

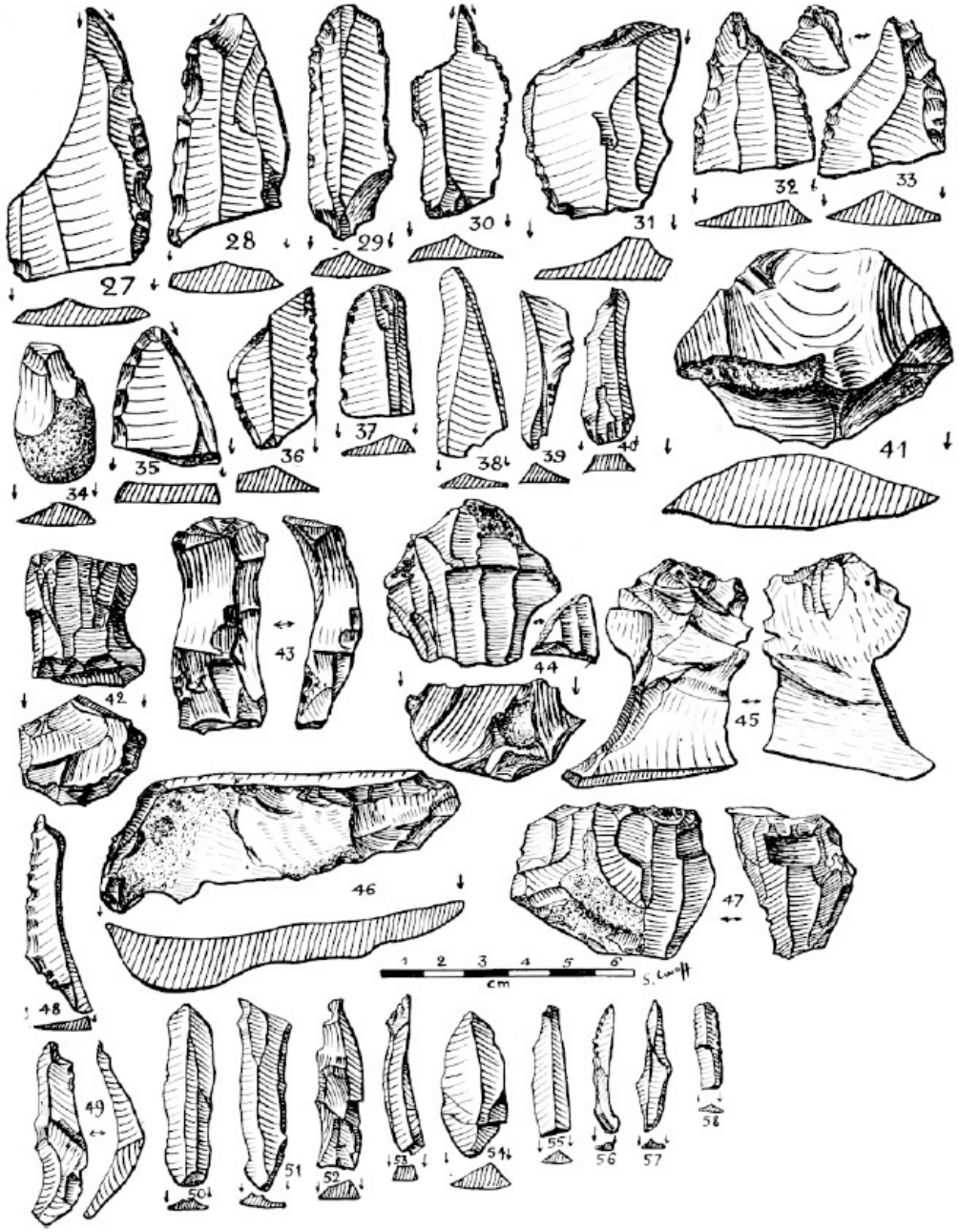

Figura 55: La Marche - lithic industry from Middle Magdalenian IV-V (from Lwoff, 1962d).

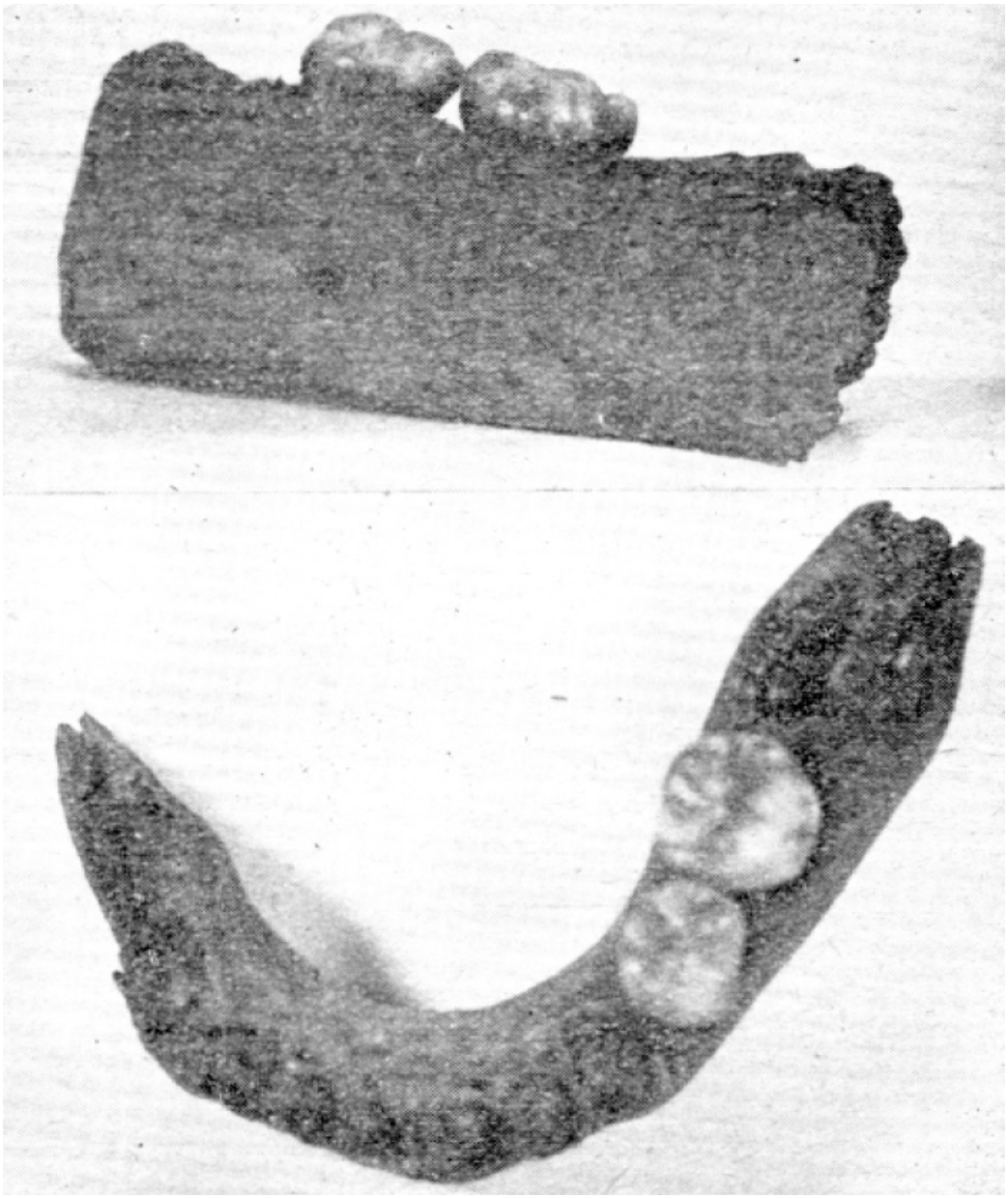

Figura 56: La Marche - fragments of infant mandibule from the first site exploration and now lost (from Lwoff, 1943).

Figura 57: La Marche - fragments of mandibule with included teeth from the J. Airvaux' campaign (from Le Luyer, 2021).

conservation of the surfaces make it possible to propose groupings by individuals: all of these criteria, in fact, make it possible to confirm a count of nine individuals, six immatures and three adults. According to the estimated ages at death, there is an infant who died between 10 and 24 months, two children over 2 years old, a child who died between 3.5 and 7 years old, two juveniles (aged 7-12 and 7-13 years), a young adult who died between 16.5 and 25.5 years and two adults whose ages cannot be specified (Le Luyer, 2021:175-6). Based on this exceptional results, the author continues, La Marche qualifies as one of the richest European Magdalenian sites in human remains; as such, this series of remains significantly enriches the data on the biology and dental variability of contemporary populations from the Middle Magdalenian - especially in consideration of the fact that human remains from this particular period of time are generally somewhat rare and particularly dental remains are even rarer and poorly investigated. In this sense, la Marche is a significant contribution to bridging this gap in the scholarship. It is finally worth noticing, the author concludes, that the presence of human remains representing a varied human group in a site so rich in art and in finery of exceptional craftsmanship does pose peculiar challenges to the scholar; these new elements show to what extent samples can be biased and stimulate to think about the consequences of these potential biases on interpretations. A re-examination of all the faunal remains should make it possible to complete the sample of human

remains and provide more significant elements on the treatment of the corpse(s) and to formulate hypotheses on the function of the site (Le Luyer, 2021:176).

3. Other caves in the area

As it has been argued by Christophe Delage (Delage, 2013; Delage et al., 2016) La Marche is not an isolated site: as it can be seen from Fig. 1, it is part of a group of caves, in turn part of a cluster of sites within the valley of the river Vienne. Furthermore, it can be argued that, at some stage, it might have been part of a much larger settlement extending along the valley (Chisena & Delage, 2017). Among the other caves of the area, two in particular have returned human themed portable art: the Reseau Guy-Martin and Les Fadets.

Located approximately 10m above La Marche, the Reseau Guy-Martin has been discovered in June 1990 by amateur speleologists. As opposed to La Marche, this small cave is an actual karstic cave, part of a longer cavity at the top of the cliffs. Thanks to a layer of bone remains, it was possible to obtain a radiocarbon dating which very close to that obtained for La Marche: 14200 BP (Orsay-3780=14240+/-85). At approximately 15m from the entrance, three distinct karstic chambers open: one of them has returned a large collection of engravings, mainly centered on animal representations (mammoths and horses). Only one of the engravings is human-themed: it represents a newborn child associated with a three *vulvae*, a combination so far unknown in the collection from La Marche (Melard, 2008:145).

Les Fadets is located much further away from La Marche, at approximately 500m along the course of the Petit-Moulin. Discovered in 1860 by A. Brouillet and investigated by the Abbé Breuil between 1900 and 1905, the cave has been visited twice on the occasion of works at L Marche, the first time in 1938-39 and subsequently in 1980, on the eve of the last excavation campaign by J. Airvaux. The cave was already known for having returned layers typologically dated to the Mousterian, the Solutrean and the Magdalenian, with a radiocarbon dating at approximately 15300 BP (Gif : 15 300 BP±150) (Airvaux, 2001; Melard, 2006:7). It was not until 1980, however, that a human-themed engraving from Les Fadets was

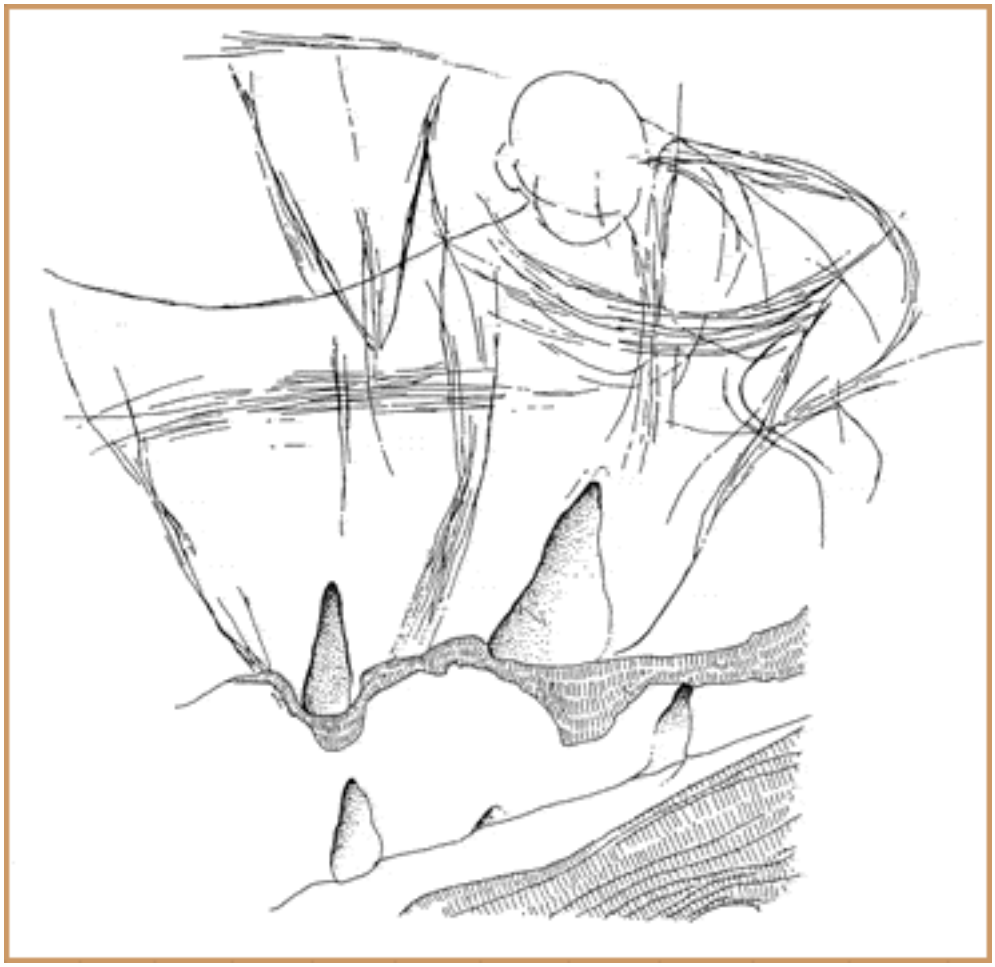

Figura 58: Reseau Guy-Martin, drawing of the only human-themed engraving (from Airvaux, 2001).

"re-discovered" within other engravings from the site among those deposited by Breuil at what is now the Musée de l'Homme in Paris (Airvaux & Chollet, 1985:83).

The limestone plaquette, approximately 9cm wide, 12cm high and 1cm thick, appears broken in three fragments, reassembled probably by Breuil himself. The groove, however shallow, does not prevent a clear reading of the engraving, which represents an erect figure in its entirety, with the exception of the head, originally present but missing due to fragmentation. The figure, slender in appearance, shows one of the legs risen, as if in the act of walking or stepping forward from a resting position; the arm, whose shoulder joint is rendered with particular precision, holds an object interpreted as a bow; long hair can be seen floating parallel to the back; of the head, only the neck and part of the chin have been preserved. The characteristics of the figure suggested it should be interpreted as a young person, possibly an adolescent; in any case, there is currently no comparison, for elegance and skill in the execution, with anything across the whole corpus of Upper Palaeolithic art (Airvaux & Chollet, 1985:83-4).

4. Conclusion

It appears clear, based on the description of La Marche provided *supra*, how much a context such as this is suitable for a research aiming at attribution of prehistoric artworks. It would be beneficial, nonetheless, to summarize them below:

1. **La Marche is coherent with its broader region** - as it will appear evident by comparing the industries returned from La Marche (see *supra*, §2.iii-iv) and those retrieved from the other Magdalenian sites in Poitou-Charentes (see*supra*, Ch. III, §3.ii), this site is perfectly coherent with the broader region it is part of, not just in terms of techno-complexes, but also in terms of artistic evidence, although the figures for La Marche's portable art outnumber other sites with art in Poitou-Charentes (see *supra*, Ch. III, §4);

Figura 59: Reseau Guy-Martin, drawing of the only human-themed engraving (from Airvaux, 2001).

2. **La Marche is a "closed" context** - despite being part of a wider system of caves and rockshelters, La Marche is the only one to return a significant amount of portable art, enough to allow the investigation of a whole community's production;

3. **La Marche's occupiers span across age groups** - as the anthropological evidence shows, the humans of La Marche were not all adults; rather, the juvenile groups (children and young adults) are well represented in the cave. When paired with the observable levels of skill in tool production and art production, it is only logical to conclude that a form of "skill transmission" must have taken place across the age groups;

4. **La Marche's human groups display high levels of technical skill** - the assemblages of utensils found in the cave - lithics and hard animal materials - demonstrate the ability of the site's occupiers to produce quality tools in large quantities; furthermore, their skill is clearly visible in the production of non-utilitarian objects such as personal ornaments and other object replete of symbolic meaning (e.g. engraved horse incisives);

5. **Human portraits outnumber any other representation at La Marche** - although this is not the only site in the Upper Palaeolithic to return large amounts of human representations, nor the one with the largest number of them, La Marche is indubitably the site with the largest amount of human portraits (that is, representations of heads and faces) across the European Upper Palaeolithic. This appears even more peculiar if we take into consideration the fact that, at La Marche, human representations as a whole (including human bodies or parts thereof) largely outnumber animal representations and, within that number, portraits outnumber any other human representation;

6. **The human face has the highest number of "points of variation" allowing for a stronger attribution** - the large quantity of engraved plaquettes sharing the same theme is the perfect environment to isolate individual variations on a common subject and to attempt a hierarchical

study of skill, in the way I have outlined *supra* (Ch. II, §3, iii) and will describe in more detail *infra* (Ch. VI, §1).

The next chapter will present the method adopted for the research, together with a description of the results obtained during the course of the research.

Chapter V
The engraved assemblage of La Marche

In the previous chapter, I have provided a description of the archaeological area of La Marche, the challenges posed by the explorational history and the archaeological evidence retrieved during the site's investigation. As I have summarised *supra*, La Marche shows all the characteristics of the perfect case study for an art historical investigation from an archaeological point of view.

This chaper will further narrow the focus on the *corpus* of engravings from the site. It will be structured in two distinct parts: the first part will investigate the supports for the engravings, moving from geological considerations (nature and provenange of the stone) to morphological descriptions; the second part will look at the anthropic interventions on the supports, ranging from general alterations (roughing/smoothing of the surfaces, alterations by heat, intentional destruction etc.) to art-specific interventions (engraving and the use of pigmentation). Finally, a brief statistical overview will look into the subjects represented in the *corpus* and their numbers compared to human representations.

1. The supports

As N. Melard notes in his study, knowledge of the exact nature of the supports' raw material is essential for the engraving, as each support has, through its chemical and mechanical properties, an impact on the choice and the creation of the engraving itself as well as on the conservation of the objects. Knowledge of the raw material is, therefore, very important (2006:66). At the same time, it

is vital for the prehistorian to investigate the provenance of the stone materials, an information that would, in turn, allow to draw conclusions about Magdalenian people's supplying strategies and their mobility withing a given region.

This first section will delve deeper on the nature of the supports for the engravings of La Marche: first, a geological description of the limestones will be provided; a morphological description of the supports will then follow.

i. Geological considerations

The first geological observations on the plaquettes from La Marche were made from their first discoverer, S. Lwoff (1941:11) who identified at least two different types of limestone:

- **Category A:** plaquettes from the low level of the archaeological layer, fashioned out of limestone very often artificially smoothed and patinated in brown and black, often glossy;
- **Category B:** plaquettes from the high level of the archaeological layer, fashioned out of grainy, poorly polished limestone with uneven surfaces, with frequent signs of breakage on the larger slabs.

Similarly L. Pales, in his comprehensive publication on La Marche's engravings, has paid attention to this variety of supports, particularly in terms of hardness, layering and concretions; nonetheless, he did not draw up any real typology of the plaquettes (Pales and Tassin de St. Péreuse 1976; Melard, 2006:29). The most comprehensive geological study on the plaquettes has, however, been conducted by N. Melard (2006:66-78) as part of his published PhD thesis; it will be his work I will mainly refer to in this section, alongside the official publications of Pales and Saint-Pereuse and Airvaux.

Following two sets of qualitative and quantitative analyses - firstly the granulometric classification of the plaquettes, secondly a microtopographic study of the supports - it was possible for Melard to identify with certainty the two types of limestone present at La Marche: on the one hand, the Bathonian limestone typical of the region and forming the cliffs surrounding the site and the very walls of

the shelter; on the other hand, a Kimmeridgian limestone alien to the site and the narrow region of La Marche, very likely the result of quarrying activities or surface collection (Melard, 2006:66-9).

- **Bathonian limestone** - by far the dominant rock in the surroundings of Lussac-les-Châteaux, with very specific morphological characteristics.

  This limestone is poorly or very irregularly layered, so much so that the coarsest components of the rock matrix are directly observable by naked eye; the grains have a size greater than 0.1 mm (100 □m) but can reach up to 500 □m in certain exceptional cases, only appearing occasionally in the form of macro-debris of fossils. The rest of the rock matrix has a rather fine grain which has a size of less than 100 □m. Some stones show quite significant porosity in some areas, with cavities greater than 300 □m and sometimes reaching 1 mm in diameter. (Melard, 2006:70) The surface is characterized by a fairly substantial undulation: a filtered image removing its roughness shows in fact differences in height of more than 400 □m; these are therefore "large shapes" which give the main characteristics of the surfacevery likelly due to marine microfossils and their fragments. Added to this general shape is a roughness which also presents fairly marked microforms, forming hollows of approximately 300 □m at most. The typical profile clearly shows, once again, that this rock is characterized as much by the undulation of its surface as by its roughness: compared to an average plane of a surface, the peaks can exceed this 300 □m or more; at the same time the depths also drop to almost 300 □m, thus creating a very significant path difference of more than 600 □m. Finally, a fairly heterogeneous dispersion of peaks can be observed, alongside a very variable peak height dispersion, between 75 and 25 □m, for the lowest peaks and the highest peaks, pointing once more to the heterogeneity of the surfaces (Melard, 2006:72).

- **Kimmeridgian limestone** - this type of limestone only crops out in a fairly restricted area, west of the town of Châtellerault (approximately 55km north of Lussac-les-Châteaux).

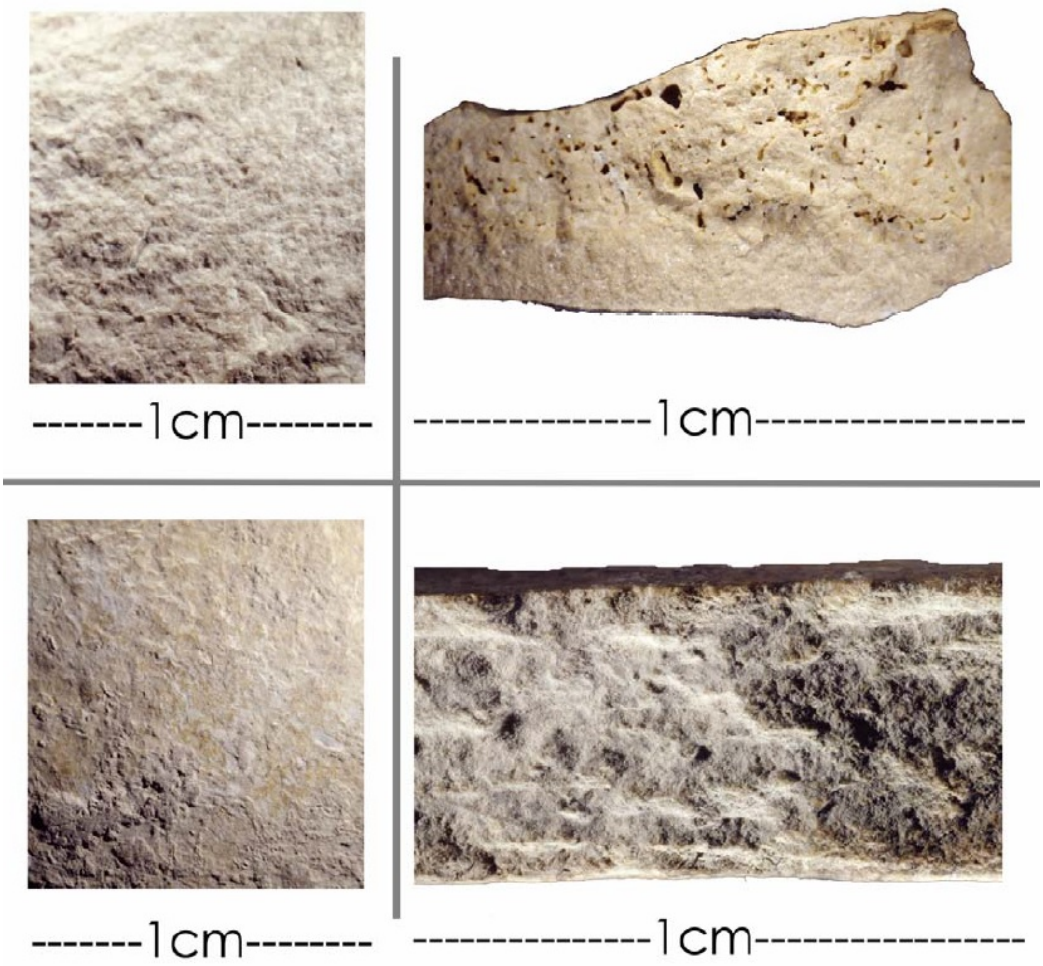

Figura 60: Macrophotographs of Bathonian (top) and Kimmeridgian (bottom) limestone. View from above (left) and in profile (right) (from Melard, 2006).

This limestone is systematically arranged in very regular layers in the outcrops and it detaches along parallel cleavage planes. The detached stones are therefore very regular plaques and platelets; likewise, flat and regular supports in the shape of plates can be found on the fields for surface gathering. The profile shows very regular bedding with layers parallel to the cleavage plane, thus characterizing this limestone with a very homogeneous and flat surface which, however, is not completely smooth but has a slightly grainy appearance, although it is difficult to observe by naked eye the particles individually constituting the surface . It is possible to deduce, therefore, that most of the constituents of this rock must have a size less than 100 □m (Melard, 2006:74). By observing the microtopography of the limestone a fairly granular appearance of the surface is immediately noticeable; however, from the first microtopographic studies, it appears that the amplitude of the troughs and peaks is lower than in the case of Bathonian limestone, with the most extreme surface amplitudes not exceeding 200 □m, or half of the values observed on Bathonian limestone surfaces. The surface is marked by a fairly significant roughness and is characterized by numerous small peaks. Furthermore, the alternations of the "large shapes" show that the amplitudes are much less strong: in relation, to the average plane, heights do not exceed 70 □m and depths are not less than – 60 □m, with a maximum step of 130 □m that contrasts with the values measured on the Bathonian limestone surfaces (which were of the order of 600 □m). It is also worth mentioning, regarding surface roughness, the distribution of peaks measured on microsurfaces (0.25/0.25 mm). Most of the time, surfaces are dominated by a grouping of peaks; in some cases, the peaks of the distribution are a little more spread out without reaching the distribution of the peaks of the Bathonian limestone. What can be systematically observed is that the variation in amplitudes is within a much more restricted margin than in the case of Bathonian limestone: in fact, maximum margins of around 25 □m can be measured, with the range often scoring at less than 20 □m (for Bathonian limestone, this range was of the order of 25 □m to 75 □m) (Melard, 2006:74).

ii. Morphological description

The dimensions of the engraved supports of La Marche are quite difficult to approach. It is indeed difficult to talk about the initial dimensions of objects, the main reason for this being the extreme fracturing of the supports and the low rate of possible reassembly. The significant difference in size between the largest and the smallest can however be estimated: there is in fact a very wide range of support dimensions, with some complete slabs, which measure only a few centimeters in diameter, contrast with large slabs which measure several dozen and which have a considerable weight, often reaching several kilograms. The most extreme cases studied by L. Pales (1976) sometimes exceed 100 kg in weight (see *infra*, Ch. VII, §2.ii, Obs. 63).Similarly, among the 1409 unpublished plaquettes included in N. Melard's study (2006) and following the same size classes that L. Pales proposed, the majority of lengths and widths are between 1 and 100 mm. A certain number of stones exceed 100 mm but stones larger than 250 mm remain an exception. A comparison between the data from L. Pales and those from N. Melard points in the same direction: small supports dominate in number and the latter gradually decreases as the size of the stones increases (Melard, 2006:30).

However, significant differences must be noted: they mainly concern the dimensions reported and the dominant groups. Thus, small-sized supports (between 1 and 50mm) are represented, in L. Pales' statistics, with a much lower percentage than in Melard's. In fact, this category represents (in Melard's study) more than 40% of the pieces for length and more than 60% for width; on the other hand, for the supports that L. Pales analyzed, the category ranging from 1 to 50 mm represents only 1% of the pieces for lengths and 11% for widths. Likewise, the fraction greater than 250 mm is quite small among the supports in the corpus of L. Pales - although he studied stones of considerable size, sometimes up to 800-850 mm in length and 550-600 mm in width; the maximum dimensions of the partsincluded in Melard's study range from 450-500 mm for length and 350-400 mm for width. This comparison therefore shows that L. Pales studied generally larger supports, something undoubtedly linked to the fact that small supports had not yet been recovered from old excavations and that they were not available for studies prior to the sieving of the spoil (Airvaux, 2001); conversely, the relative

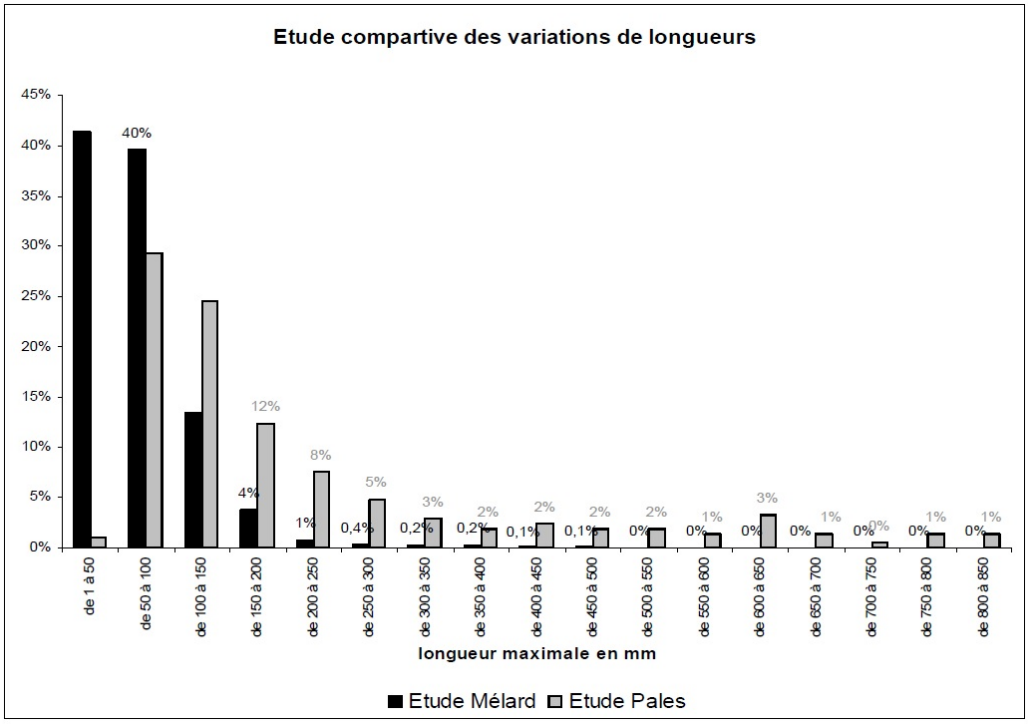

Figura 61: Comparative study of length among the plaquettes of La Marche (from Melard, 2006).

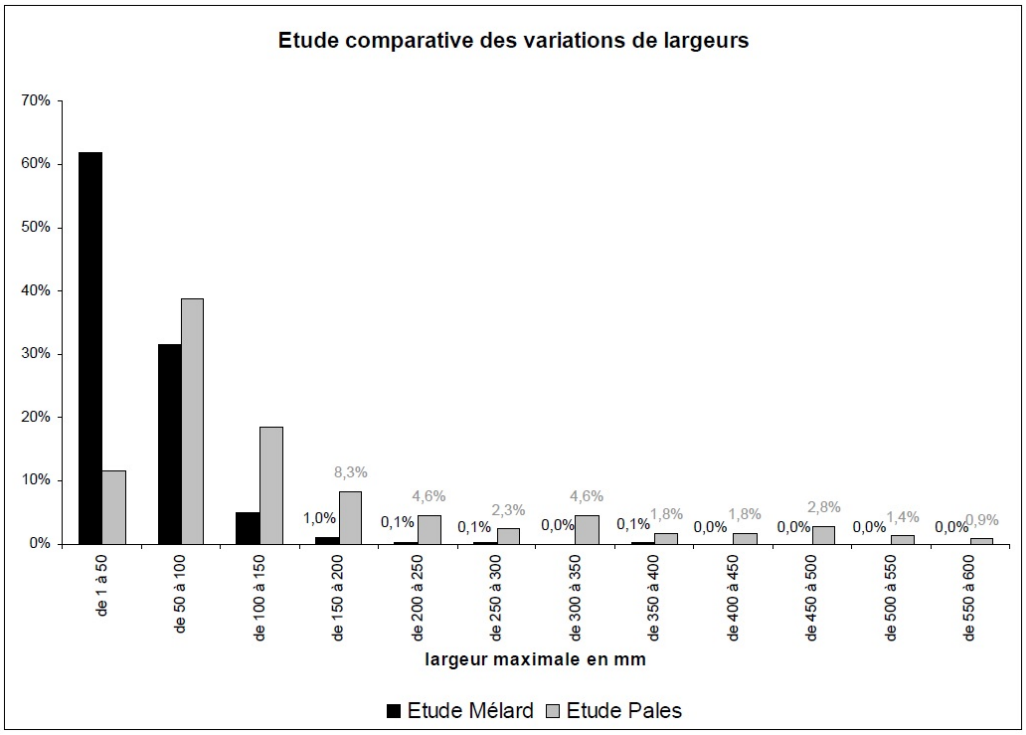

Figura 62: Comparative study of width among the plaquettes of La Marche (from Melard, 2006).

absence of larger stones in Melard's study can be explained with the fact that he focused mainly on unpublished plaquettes following the work of J. Airvaux. This notwithstanding, the counts carried out by Melard make it possible to reinforce the statistical importance of the small supports within all the stones of La Marche (Pales, 1969; Melard, 2006:31).

The distribution of thicknesses among the 1409 stones in Melard's study follows, by and large, the same path of that of lengths and widths: the same decreasing trend which goes from low thicknesses (the most numerous supports) towards greater thicknesses (low number of supports) is indeed noticeable, with stones between 1 and 10 mm in thickness forming the largest group. Although numerically less significant, the thicker supports (between 10 mm and 50 mm) still represent more than a third of the stones (570 pieces); 118 have even greater thicknesses, ranging from 50 mm to 100 mm; only 11 stones have returned thickness of more than 100 mm. It is undeniable, therefore, that even if thin supports (less than 1

cm in thickness) occupy an important place within the corpus, thicker supports (up to 10 cm) are also quite significant in number; this variation in the overall dimensions of the supports also goes hand in hand with a certain diversity in their natural color (Melard, 2006:32).

With respect to the physico-chemical agents of natural weathering, the behaviour of limestone is mainly characterized by three phenomena: the first concerns block fracturing, linked to the weakening of the rock by the passage of infiltration water and the widening of natural cracks by thermal variations; the second is surface chipping - under the action of thermal and hydrographic variations, the surface of a stone exposed to the open air for a certain time breaks away into fine and fragile particles, barely a millimeter thick, thus resulting in surface degradationThirdly, crusting is a frequent weathering phenomenon for limestone, due to the dissolution of minerals inside the rock, minerals that then migrate to the surface through the process of water evaporation and subsequently re-crystallize, causing the formation of a crust which, depending on the crystallization conditions, can vary greatly in thickness. Each of these weathering phenomena acts in its own way on limestone, however their impact and especially their intensity vary depending on the limestone facies which, in turn, differs depending on its geographical location. The reaction of the rock is thus dependent on multiple factors such as hardness, porosity and the nature of the crystal lattice. The stones found around the La Marche site - as well as most of the engraved supports - show the same morphological characteristics. If the stones from La Marche are often called "plaquettes" it is because they have one or two more or less flat and parallel faces, due to their provenance from the bedding of the local limestone. The physico-chemical alterations that we have mentioned have also left their traces on the stones detached from the cliffs of La Marche: for example, we find natural breaks in the supports which, for the engraved ones, could have happened before but also after the engraving. Flaking is also common on the stones, including on engraved supports. As for the fracturing of fairly large supports, it can be noticed that it is often followed by a mechanical modification of the edges which become slightly dull (Pales, 1969; Melard, 2006:37)

Finally, in terms of stone coloration, little natural variation can be registered from the rocks from La Marche: most are intrinsically light gray or even yellowish

gray; some stones, however, have a very light complexion and tend towards white. The surface colors nevertheless appear quite heterogeneous: they are in fact the result of the weathering phenomena described *supra*, including iron and manganese oxidation: in fact, several surfaces almost completely tinted by this process can be observed, most often black, orange or brown. It should also be mentioned that reddening can also be the cause of limestone discoloration (2006:35).

2. Anthropic interventions

The previous section aimed at giving an account of the naturally occurring characteristics of the plaquettes of La Marche; those characteristics that, in other words, are observable net of human deliberate action. The results of the interactions between the supports and their "handlers" will form the subject of the present section, in which both general (e.g. polishing, breakage, heat treatments etc.) and art-oriented interventions are described. Special attention will be devoted to the use of pigmentation.

i. General alterations

As N. Melard very rightly points out (2006:61), the stones of La Marche cannot simply be conceived as supports for engravings; they are in themselves archaeological objects which bear witness to anthropic actions other than artistic ones. These encompass all those traces of use so commonly observable on the plaquettes, such as polishes and smears due to wear or even isolated scratches or scuffs on a few parts.

Their distinction is - more often than not, complex as it is objectively difficult to clearly distinguish between simple short and isolated engraved lines and traces of wear, a problem often lamented by L. Pales (1969; 1976) and by J. Airvaux and L. Pradel (1984:213). However, given the limestone nature of the supports at La Marche, a simple thin and short line, more or less isolated on the stone, is likely to be a trace of use; such incisions can, in fact, be produced by each random impact of a fairly hard and abrasive point on the rock surface (Melard, 2006:61). On the other hand, more pronounced streaks and scratches are far

easier to distinguish from engravings: these are groups of small parallel furrows undoubtedly produced by the friction of the surface by means of the fairly large active part of a solid which was moved on it, an action observable on more than 13% of the stones of La Marche. The positioning with respect to the engravings is also worth mentioning: sometimes, these streaks underlie engravings, perhaps produced during preparation of the support for this operation; most of the time, however, there isn't an observable, direct link between the figurations and the streaks. Finally another type of trace, even more clearly distinguishable from the engravings, is that of wear, made up of slightly smoothed areas which can, in a more advanced stage, give way to real polishing (Melard, 2006:62).

Figura 63: an example of stone from La Marche showing traces of reddening caused by fire exposure (from Melard, 2006).

It is finally worth mentioning that several stones from all the limestones of La Marche actually show traces of reddening which could be linked to thermal shock. Both S. Lwoff (1940; 1941) and L. Pradel (1958) have described in their

work that there were at least two hearths in place in the archaeological layers (see *supra*, Ch. IV, §2.i) including one of a slightly rectangular shape, in which the stone had apparently been strongly altered by the action of fire. The excavators also indicated traces of heating, without describing them in more detail. These clues are, nonetheless, very valuable (Melard, 2006:63).

ii. Artistic interventions

Alongside the traces of use described in the previous section, the most notable sign of human action on the plaquettes from La Marche is unquestionably the engravings, intending by this the intentional modification of the rock surface - generally by the removal of material - with the purpose of producing a figuration or, in more general terms, a variably complex pattern (Pales, 1969; Melard, 2006:38). Although by discussing engraving separately from traces of use the reader could be induced to think that their distinction is easily achieved, it cannot be stressed enough how this is not the case: as L. Pales (1969; 1976), D. Vialou (1976;1979) and N. Melard (2006; 2008) have clarified, all of these traces generate a more or less degraded palimpsest which makes it difficult to read; a single figuration on an engraved surface is indeed a rare occurrence (e.g. Airvaux and Pradel, 1984).

Overall, it is possible to say that at La Marche there is a fairly limited range of forms of engraving, classifiable - once again on the escort of Pales, Vialou and Melard - into four categories which are not to be intended as isolated: all of them are applied in all engravings and transitions between these groups are, in fact, the norm, thus making their distinction quite challenging (see to this effect *infra*, Ch. VII-VIII).

- **Single-passage fine lines** - lines produced with a single passage of the tool, not exceeding one millimeter in width and present in almost all of the engravings, sometimes standing out as the main compositional feature of an engraving, such as indeterminate engravings and simple silhouettes. This type of engraving has the potential of providing information on the morphology of the active part of the engraving tool, although it is necesssary to account for a range of variables intervening in the engraving process, such

as the wear of the tool itself, the complexity of the subject and the skill of the engraver. Finally, these engravings prove harder to read due to having lost their clarity due to chemical and mechanical alterations (Pales, 1969; Melard, 2006:38);

- **Multiple-passage fine lines** - the category most commonly featured on La Marcheplaquettes, characterized by a set of strokes executed in the same direction. Each element of this set is a fine and shallow line entirely similar to the previous category. However, they appear as a single entity due to the close link existing between them. The multiple-passage engraving technique is carried out by successive reinforcement of the line, not by digging but by light retracing and widening of the line, thus widening the groove without significantly deepening it. However, this procedure makes the engraving more readable and makes the appearance of the line more dynamic and organic (Pales, 1969; Vialou, 1976; Melard, 2006:39);

- **Deep grooves** - morphologically similar to the previous category - and, in a manner of speaking, their continuation - the deep groves are the easier to read because of their depth and width, result of multiple passages causing further digging of the surface. Unlike multiple-passage fine lines though, the repetition of the passage aims to deepen the groove, rather than widening it. This type of engraving is rather rare in La Marche and only one piece, which includes a human head in right profile, has this type of features in its entirety. It has already been described and noted by L. Pales (1976) andJ. Airvaux (2001) (Melard, 2006:40. See also *infra*, Ch. VII);

- **Low relief sculpture** - present in a few cases at La Marche and extensively discussed by L. Pales (1989). These include animal extremities, one of which must have belonged to a deer (Pales 1989). The second bas-relief represents the front legs of a feline. Its dimensions are much larger than those of the previous piece (Pales 1969) but both are fragmentary (Melard, 2006:40).

iii. Pigmentation

A large number of pigments were indeed found in the excavation spoil during J. Airvaux's work (2001) and came in various forms. According to J. Airvaux, a large part of the archaeological layer had a red note which results from an anthropogenic contribution. Indeed, the surrounding rocks do not present any striking iron oxide mineralization. But, in a much more obvious way, these coloring materials also appear in the form of small red blocks and pebbles. In addition, some of them bear traces visible to the naked eye and have an overall shape which shows abrasion faces such as are observed on pencils and blocks used to produce coloring powder which subsequently serves as a pigment (Airvaux, 2001; Melard, 2006:81).

As N. Melard notes in his study (2006:82) the body of data available with regards to pigments is necessarily incomplete, mainly due to the lack of knowledge of the post-excavation treatments undergone by the pieces preserved at the Musée des Antiquités Nationales,, at the Musée de l'Homme and in the ancient collections of the Museum of St. Croix; too intense washing as well as taking impressions using too aggressive means could have removed pigments initially present on the surfaces. This notwithstanding, evidence of pigments from old collections and from different, partially unpublished collections shows clear connections and allows to draw conclusions.

Three shades can also be distinguished: black, red and yellow. The red tint can appear with shades going towards brown or orange, although several cases bear truly red traces and this color is the most represented. Black is the second most common colour with yellow, the third and final shade, being rather rare.

- **Red** - red pigments are loaded with iron oxide, providing the red colouring. The coloring powers of this oxide are well known: in fact, only a small quantity is needed to colour a material. From a chemical point of view, alongside iron oxide (FeO) clay (Al2O3SiO4) is certainly present but does not appear among the significant associated elements for colouring materials. Most samples show the presence of iron oxide either alone or in combination with dolomite, with some cases presenting iron oxide associa-

Figura 64: Fragments of colouring materials (red and black) retrieved from the excavation by J. Airvaux of La Marche's spoils (from Melard, 2006).

ted with chlorine (Cl, not in purity but rather in salt form) and with gypsum (CaSO4) (Melard, 2006:88).

- **Black** - black pigments show a more complex composition than the red pigments. The basic coloring materials are of two different types: bone and wood charcoal, with its major component carbon (C) and manganese (Mn), the latter, certainly present in the form of oxide associated with a chloride. The majority of carbon is found alone or linked to dolomite (CaMg(CO3)2). Black coloring materials are often difficult to locate in images because they appear to be scattered in very small fragments in the matrix. Bone charcoal has very large pores, greater than 100 □m and up to 500 □m. Charcoal, for its part, has much smaller pore sizes, less than 20 □m. If in our case it is indeed a fragment of pores, it is therefore in our opinion more likely that this charcoal is wood charcoal (Melard, 2006:90).

- **Brown** - brown shades are composed of gypsum (CaSO4) and iron oxide, as is the case for yellow. Manganese and chlorine are absent. Undoubtedly

it is a shade which is a variation of red or yellow and cannot be considered a specific color.

- **Yellow** - yellow is quite rare among the pigments identified.The chemical composition of the yellow itself is quite simple: iron oxide and dolomite (MgCa CO). They are probably made up of limonite (FeO(OH)) in the form of Goethite (FeOOH. nH2O), a hydrated iron oxide mixed with clay (melard, 2006:94).

It is worth noting that the problem of pigmentation associated with engraved rock art has been studied at several sites within the broader region of Poitou-Charentes: alongside the works mentioned *supra* (see Ch. III, §4), the study by Abgrall on the traces of colour at Roc-Aux-Sorciers (Abgrall, 2010) particularly focuses on the utilization of pigments on parietal scupltures, engraved portable art and human-themed engravings and scupltures. For the large parietal friezes, the author recognizes applications of red (in two distinct shades, light red and dark red) and black pigments: the light red, utilised in large patches and fillings, appears to pre-date the dark red, in turn deployed for more ”draw-like” solutions for textures, such as dotted and striped areas (Abgrall, 2010:445-6); black pigment, on the other hand, seems to have been selected for defining contours and outlines, as it is the case for several of the caprids in the great frieze (Abgrall, 2010:447). A similar treatment is reserved for the two human-themed representations retrieved from the site: in both cases, the back pigment is deployed for the definition of contours and anatomical details (facial hair and eyes), while the different shades of red are utilised for filling the figure, with the dark shades limited to the subject and the light one devoted to the back ground (Abgrall, 2010:448).

3. The subjects of the engravings

After having discussed the geological properties of the plaquettes and the anthropic traces detectable on them, it is possible to turn attention to the subjects represented thereupon. As it was mentioned *supra*, the density of the engravings on certain pieces reaches an extreme degree which, in turn, poses as many problems for recording as for interpretation: some plaquettes are in fact so covered

with fine lines that they can hardly be associated with representations of animals or humans; in other cases, faint and short lines can also be traces of use, but most of the time they are undoubtedly intentionally engraved lines. This becomes evident when we see that the engravers repeated the straight and curved shapes.This notwithstanding, several categories of representations have been recorded on the collections from La Marche and they will be briefly presented below, starting from the animals (the most numerous representations) and the humans before concluding with abstract and geometric representations.

Before proceeding, however, it is worth noting that the plaquettes from La Marche have not simply been used as a neutral support for engraving: as D. Vialou noted in his work on La Marche (1976), there is a close link between the engraving and its support, highlighting the use of the natural irregularities of certain stones for artistic purposes; along a similar line, N. Melard's work on unpublished collections was able to provide further examples confirmomg this behaviour, thus placing La Marche within the broader context of Upper Palaeolithic art from Poitou-Charentes and European prehistoric art *lato sensu* (Vialou, 1976; Melard, 2006).

i. Animals

The bestiary of La Marche is unquestionably very rich, with animals dominating in number over human-themed representations. The species represented are largely typical of the bestiary represented in the Middle Magdalenian - such as reindeer, mammoths, bisons, bears and horses, with an unfrequent yet consistent representation of felines. Alongside these, it is possible to recognize species that fall quite outside the boundaries of Magdalenian iconography, such as leporids (Airvaux, 2001; Melard, 2006).

It was first of all the work of L. Pales which showed this iconographic richness of the animal figures of La Marche. In most cases, the figures are very well crafted and their attribution does not pose any problems; nonetheless, despite the scholar's best effort, twenty animal engravings remain undetermined, mainly due to the outline of the animal not allowing to identify the species or genus represented. In the end, out of the 369 stones raised, recorded and studied, Pales

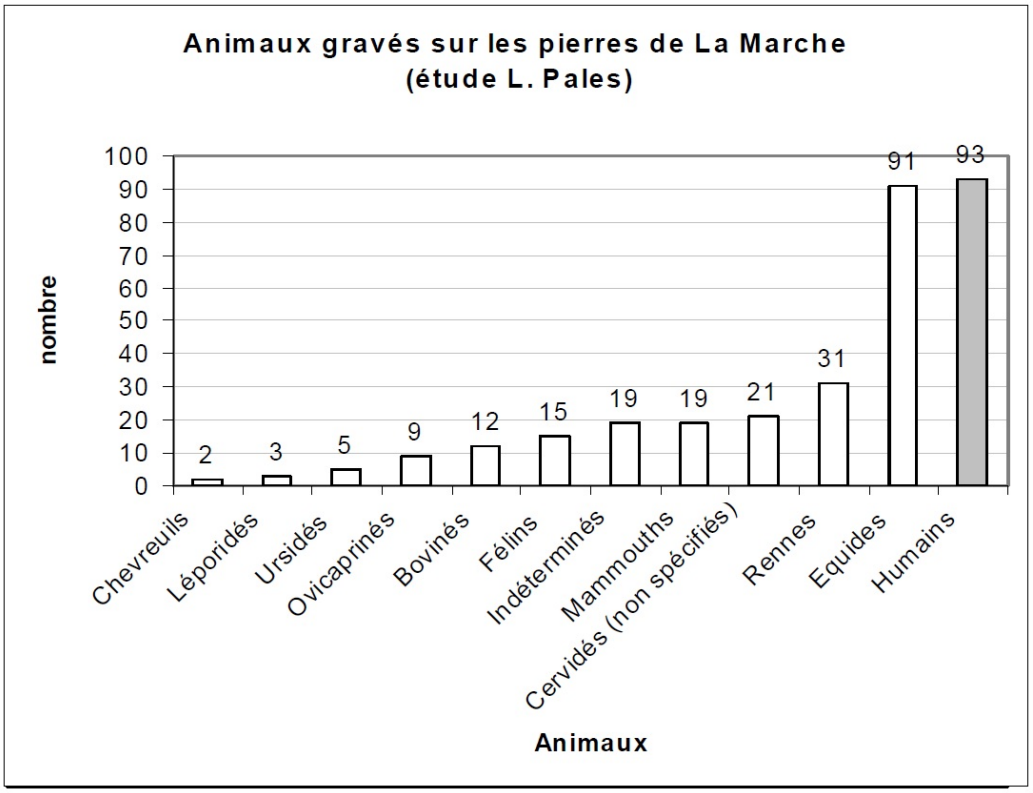

Figura 65: La Marche - inventory of representations from the work of L. Pales (from Melard, 2006).

identified a total of more than two hundred specific animals which come from 8 different families: equines, bovines, ovicaprids, felids, bears, deer, leporids and proboscideans (Pales, 1969; 1981; 1989; Melard, 2006).

There isn't equality in the numbers of species present at La Marche. First for number of representations are horses (*Equus* sp.) as the only representatives of equines with 91 engravings on 64 plaquettes, followed by cervids with at least 54 individuals represented; among these, further anatomical identifications are possible for 31 reindeer (*Rangifer tarandus*) and two deer (*Capreolus capreolus*), this latter group usually rare in Upper Palaeolithic representations but frequent in the broader Poitou-Charentes regions' artistic tradition, thus further consolidating La Marche's place within the broader regional context (see *supra*, Ch. III, §4). 21 cervids remain undetermined, either because of the lack of details represented, or because of the fragmentary state of the object (Pales, 1989; Melard, 2006).

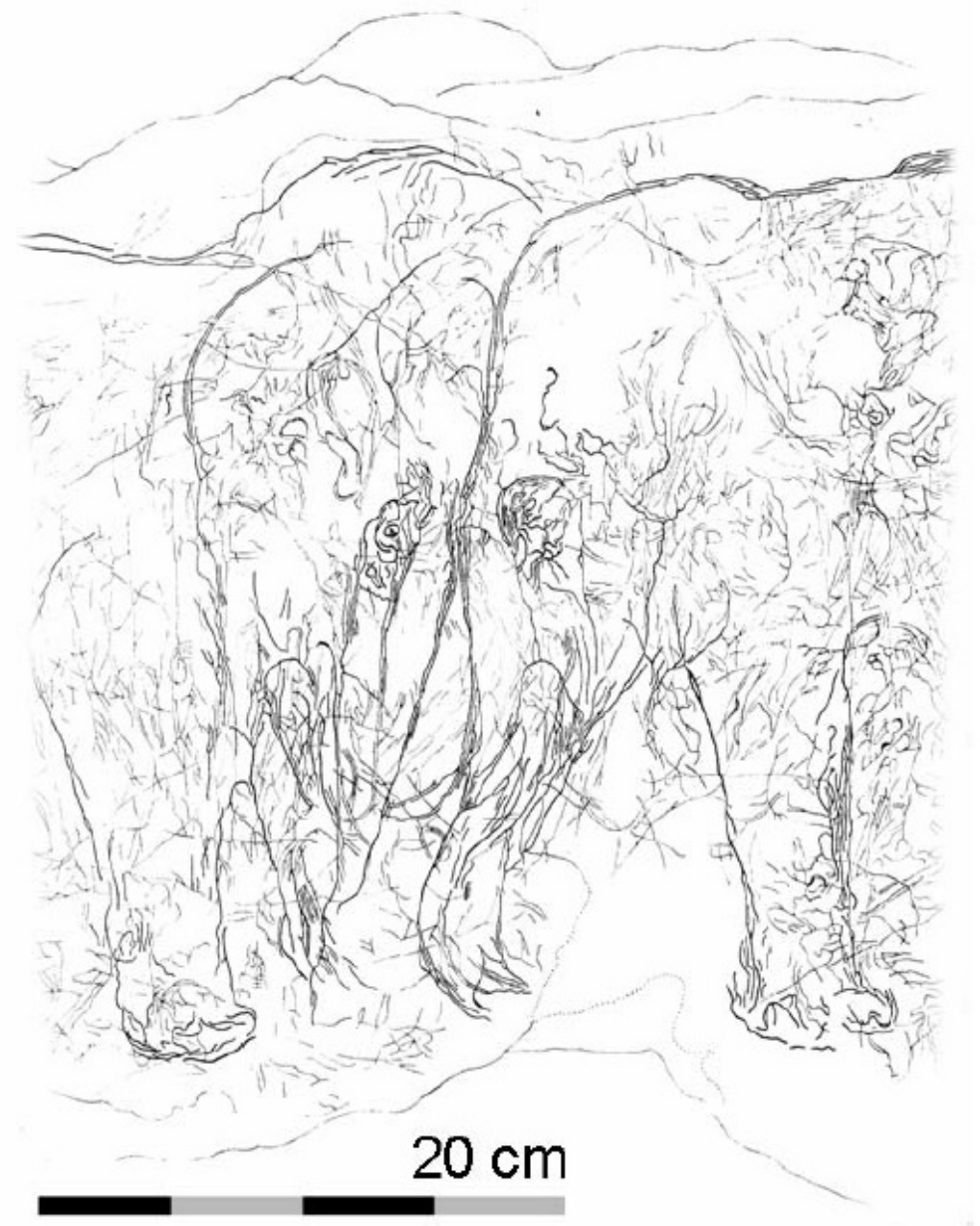

Figura 66: La Marche - two facing mammoths (from Pales, 1989).

Felids seem to occupy a special place among the animals represented: although not the most numerous group, there nonetheless a significant number of them, with 15 individuals (Pales, 1969; Melard, 2006).

Figura 67: La Marche - a mountain lion (from Pales, 1969).

The bovids' representations tally up at 21, 12 identified as cattle and 9 as ovicaprids (Pales, 1981). Proboscideans are equally common with 19 representatives of the mammoth species (*Mammuthus primigenius*) present on 18 supports - a prime example being the plaquette showing two mammoths facing each other. Bears are among the rarer species, with only 5 identifiable representations, alongside another, quite exceptional animal in Paleolithic iconography, the leporid; only th-

ree representations belonging to this species are recorded by Pales, one of which is certainly a hare (*Lepus* sp.), the other two rabbits (*Oryctolagus* sp.), each on a different support (Pales, 1989; Melard, 2006).

As mentioned *supra* (Ch. IV), further explorations into the cave took place during and after the publication of Pales' volumes alongside further studies of unpublished engravings, thus leading to the reveal of further engravings - notably animal ones - functional to the completion of the site's complex iconography. In his work on the stones of La Marche, D. Vialou noted several elements that could belong to animal representations, including the identification of an engraving representing a mammoth (Vialou, 1976). During more recent studies following his investigations of the cave in 2001,J. Airvaux identified new engravings on previously unpublished stones - resulting from field work begun at the end of the 1990s - for a total of 15 figures, including 4 animals (Airvaux, 2001; 2002). From a stylistic point of view, the new engravings fit into the motifs presented by L. Pales; from a thematic point of view, the most triking representation retrieved by Airvaux is an engraving of an incomplete leporid, for which only the head remains and whose species remains unidentifiable, thus bringing the number of leporids depicted in La Marche to 4. It is curious to note that they seem to play a fairly important role in the animal iconography of La Marche even if they remain marginal compared to dominant species such as reindeer and horses (Airvaux, 2001; 2002; Melard, 2006).

Most recently, N. Melard's work on previously unpublished stones also revealed new animal representations; specifically, 15 have been returned, including 5 indeterminate due to their fragmentary state .The 10 animals identified are in total two deer, three horses, a bovine, a mammoth, a wolf (*Canis lupus*), a phocid (probably an elephant seas, i.e. *Mirounga angutrirostris*) and a bear (Ursus sp.). Some of these animals - the wolf and the elephant seal - are the first representatives of their species in the iconography of La Marche. They are generally very rare in the artistic bestiary of the Magdalenian Melard, 2006:45).

These individuals are represented in a fairly naturalistic and detailed manner and demonstrate the engraver's quest to remain close to the natural model. For the wolf in particular, the strong elaboration of the figurative details of the legs, the ears and the proportions of the body are particularly remarkable; further-

Figura 68: La Marche - a reindeer (from Pales, 1989).

more, a particular behavior seems to have been represented because the animal is not simply standing but lying down, its head stretched upwards, a naturalistic style also appearing in most of the other animal figures Melard identified. The animals appear extremely well drawn, often with painstaking attention for details, thus demonstrating the high technical ability of their creator; for this reason, the identification of animal species would not pose any problem if it were not for the incomplete state of the figures themselves whose anatomical characteristics are sometimes depicted with particular care. This naturalism finds a good example with the representation of a reindeer. The eyes and hooves have been strongly elaborated and the appearance chosen is quite atypical: the deer is in a dynamic

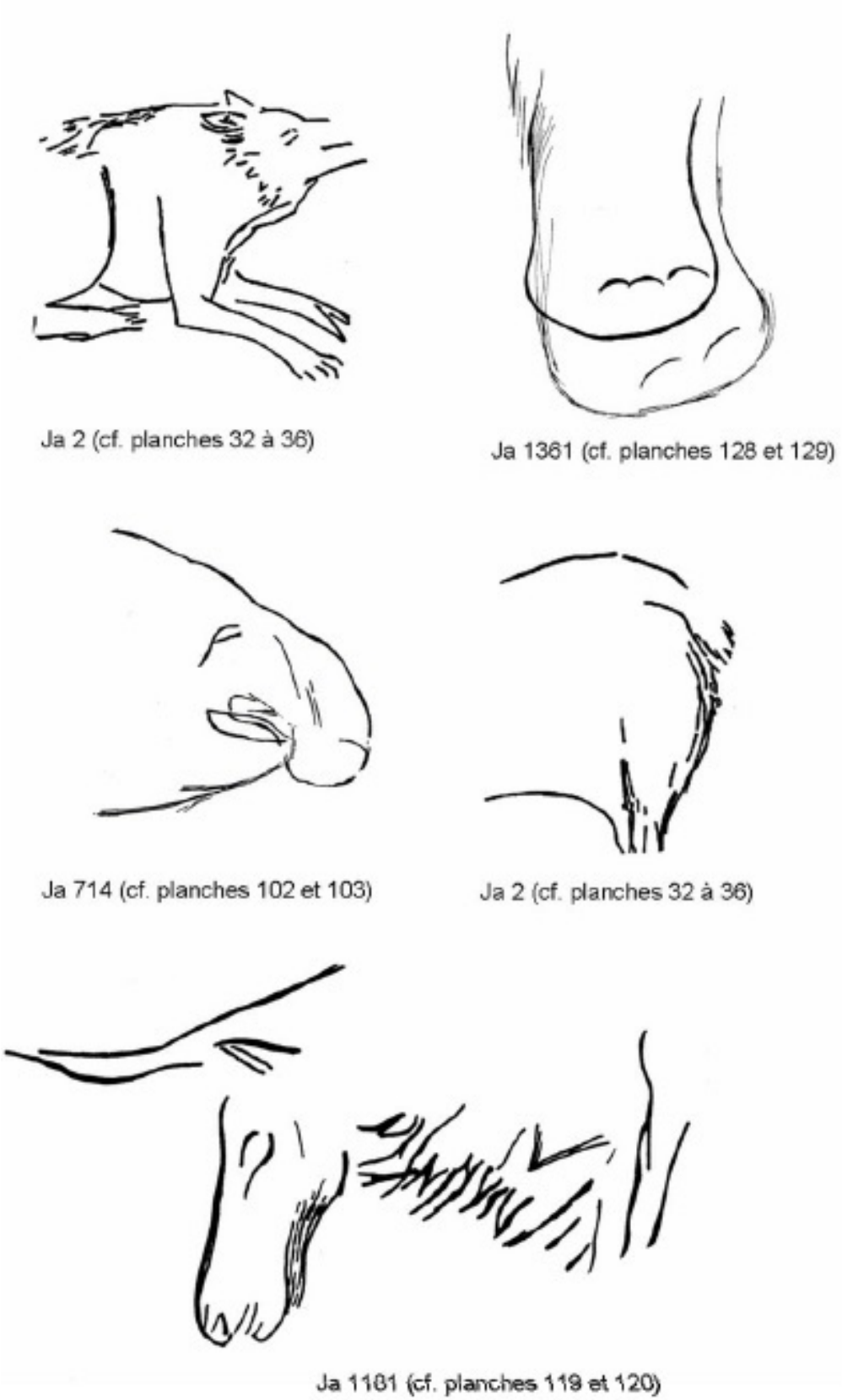

Figura 69: La Marche - animal representations from unpublished plaquettes (coll. J. Airvaux). From top to bottom, left to right: a wolf; a mammoth hoof; a sea lion; two representations of cervids (from Melard, 2006).

position, with the front limbs extended forward while the rear part is upright, the back therefore showing an exaggerated concavity. It is clear that, withis engraving, the artist has chosen to depict a precise behavior. It is also notable that, even for fairly small animal figures, the search for detail is unquestionable (Melard, 2006:45).

The naturalist style is therefore the most frequent in the corpus of animal figurations; however, it is by far not the only one as it is possible to identify animals that appear as just sketched figures, often reduced to simple silhouettes. Furthermore, the degree of completion of the figure varies greatly among animals: sometimes an initially complete representation has suffered fragmentation and thuse become incomplete; in other cases, the animal has never been entirely represented. When anatomical elements are interrupted by the edges of fragments, there is often insufficient information to tell whether the animal was initially complete or not (Melard, 2006:47-8).

ii. Humans

Human representations are undoubtedly one of the most striking originalities of the La Marche site. L. Pales published 93 human figures including isolated heads and complete or incomplete bodies, cephalic or acephalous (Pales, 1976). Jean Airvaux, for his part, added 11 humans to this corpus(Airvaux, 2001) and N. Melard (2006) has also highlighted 6 human figures. The corpus of humans from La Marche currently includes, therefore, 110 individuals. The recently discovered figures mostly correspond very well to those already described by Pales: either complete figures of seated or standing characters, or representations of heads in profile. A single human head is represented frontally (Airvaux and Pradel, 1984; Airvaux, 2001).

Human figures are astonishingly original compared to the representations - most of the time quite summary - that we generally know from the Upper Paleolithic. The richness of these representations - both in terms of style and in the mode of representation and the level of elaboration - are clearly perceivable from Pales' volumes, partocularly in details such as eyes, hair, and sometimes even jewelry and personal ornamentation and clothing. In this respect, human fi-

gures often equal animal representations, at least those which are very naturalistic (Melard, 2006:50).

This naturalistic character is observed in particular in the representation of human heads. These often give the impression of being real portraits, elaborated with surprising details: Faces has eyes, a mouth and a clear contour, sometimes enhanced by hairstyles and even decorations of the body or clothing. A small plaquette showing two human profiles looking in opposite directions clearly illustrates how the Magdalenians conveyed figurative details in a graphic manner. The two faces are individualized by the shape of their profile and by the indication of the hairstyle, with the character on the left even seems to wear a sort of headband around his head on which is mounted an object which could be a feather; on the head of the character on the right, an engraved shape could also correspond to a decorative element. Three other pieces published by J. Airvaux show in the same way to what extent human heads are individualized: once again, the author(s) of the engravings paid particular attention to the details of the hairstyle (Airvaux, 2001; Pales, 1976; Melard, 2006).

The painstaking attention to detail does not stop even in front of engravings of considerably small size: it's the case of a small human head which measure barely 1 cm in height and drawn with every detail, including the mouth, eyes and the hairstyle, the engraver not neglecting fingers of the hand, which measure only 1 mm in length (Melard, 2006:52) Sometimes these profiles are almost caricatures, with certain facial features exaggerated, preferably the nose, sometimes the chin or even the eyebrows, which gives the profile a very strange character. It is the case, for example, of a plaquette further illustrated *infra* (Ch. VII, §2.v) and showing two right-facing human heads, both sporting two exxaggerated noses and chins.

Although, generally speaking, human representations are highly diverse and individualised, it is nonetheless possible to identify certain patterns recurring several times, such as it is the case with representations of seated women. These occupy a special place due to their frequency, sporting a rounded stomach and therefore presumed to be pregnant - as argued by L. Pales on the basis that this shape of the stomach is quite typical in cases of pregnancy and discarding the hypothesis according to which it could be obese women (Pales, 1976). Although the details of these female representations may vary - typically, by the presence or

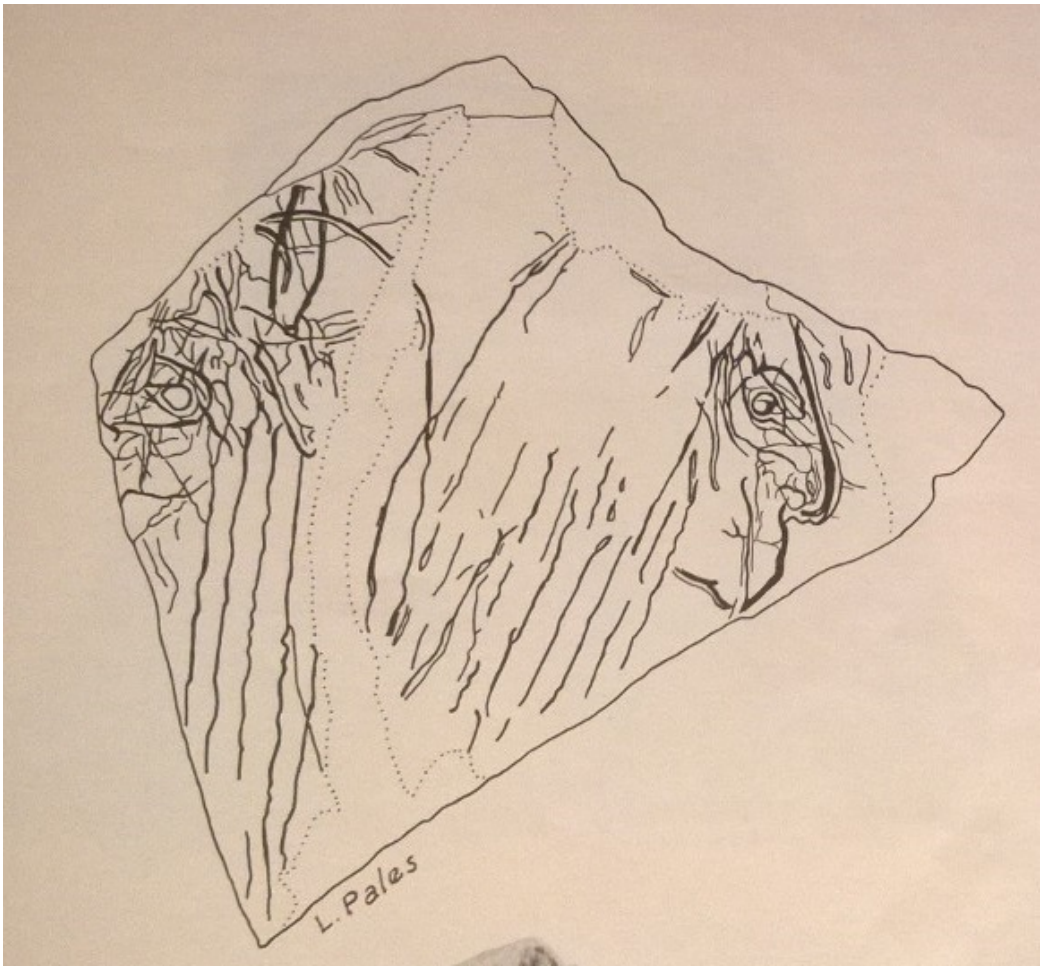

Figura 70: La Marche - human profiles facing opposite directions (from Pales, 1976).

absence of the head, the seated or standing position or the presence or absence of hands and feet - the general demeanour of the figure seems to regularly respond to general rules: the arms resting on the stomach, seconding its curve and with the elbows bent; legs extended, either to the front of the body or alongside the line of the spine. It is by far not uncommon for this figures to show items of clothing or, when the head is represented, some form of headwear, often in the form of a bonnet.

It is also notable that female representations can, on certain plaquettes, be reduced to the simple expression of an anatomical detail, such as the sexual organ.

Figura 71: La Marche - left-facing human profile and upper body, coll. Airvaux (from Melard, 2006).

Although it could be argued that placing the representation of a vulva among human representations might be incorrect - due to the graphic reduction of the individual to a single morphological character - it can equally be said, on the other hand, that the representation of a vulva is a figurative representation and not an abstract one, relatively easy to identify at La Marche. Such representations do not assume the form of simple triangles which would leave doubt about the attribution of the design, therefore they cannot be confused with pure geometric shapes (Melard, 2006:53).

In publications prior to the 1990s - eminently S. Lwoff and L. Pales - there is no mention of the representation of vulvas - despite the presence of trianglular-shaped engravings on horse teeth discovered during the earliest excavations (Lwoff, 1962a) and later interpreted as vulvar representations (Mazière and Buret, 2010. See *supra*, Ch. IV, §2.iii). It would take to the early 2000s for J. Airvaux to demonstrate that there are indeed representations of vulvas on the stones of La Marche (Airvaux 2001, 2002). Further instances were discovered by N. Melard and ultimately identified five vulvas, including two which had already been published by J. Airvaux.

One of the vulvas is associated with the small human figure described *supra*

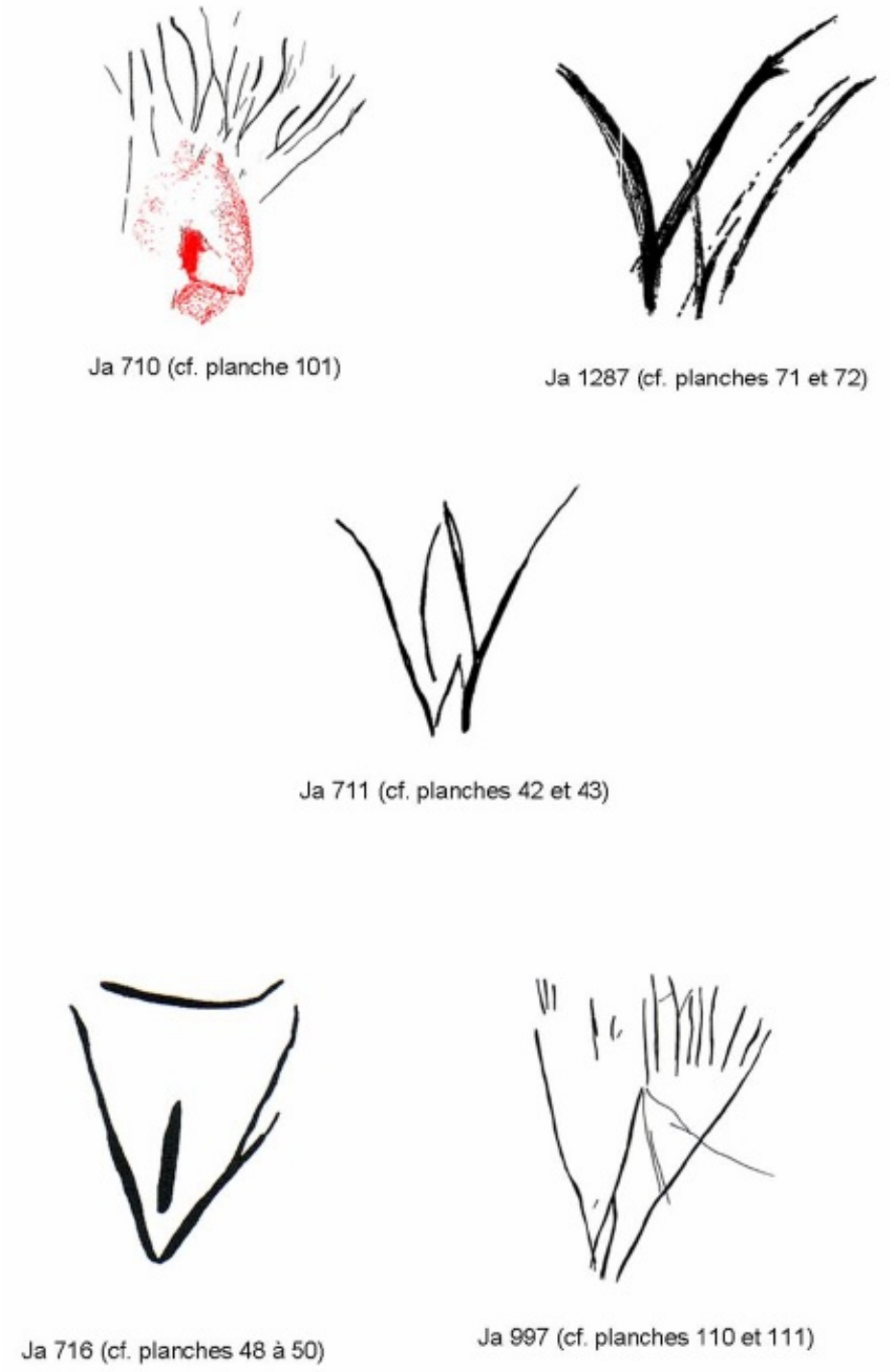

Figura 72: Representations of vulvas from La Marche (from Airvaux, 2001 and Melard, 2006).

and drawn in quite detail, the lateral limits of the pubic triangle represented by two lines converging downwards without meeting, thus forming an opening in this area; a second shape overlooks it, and is made up of two lines converging upwards. Another vulva has the same style of detailed representation (Ja 997 in Figure 40), however the treatment of the upper part of the pattern is quite different, with pubic hair being represented here by an alignment of parallel lines (Melard, 2006:55).

Finally, these representations should not be considered a fixed pattern as for the female representations described *supra* as further instances of vulvas showing diverging peculiarities in the mode of representation have been discovered. It is the case of the representation of a vulva in which the engraver has integrated the natural support forming the part around the orifice, with the rest of the pubis is represented by a set of radiating lines which form a triangle. Another representation - associated with a fragmentary human figure - is drawn in a more summary manner, by three straight lines representing the right and left limitations of the pubic triangle and the central slit (Melard, 2006:55).

iii. Geometric and abstract subjects

Along a similar trajectory as to what has happened for vulvas, there has been little interest in scholarship up to the 2000s for non-figurative engravings at La Marche; in fact, the main bodies of work covering the site have focused almostexclusively on figurative motifs, whether animal or human. The 2006 study by N. Melard, however, highlighted the presence of compound patterns of an abstract nature on several unpublished plaquettes from the J Airvaux collection, for a total of 14 cases of more or less complex abstract shapes (Melard, 2006:56).

Among the most triking examples is found a flared fusiform with interlocking chevrons inside, reminiscent of a tree leaf. It is hard to provide a definitive identification for this engravingh though, mainly due to the absence of vegetation in Paleolithic iconography not allowing any convincing comparison. Equally striking is a pebble carrying a complex engraving in the shape of a geometric grid organized into 3 bands more or less densely filled with parallel lines; the pattern occupies the entire surface of the stone and organizes it into regular sectors.This is a very

original motif for Magdalenian representations, particularly at La Marche where, until now, the corpus of engraved representations was mainly characterized by figurative motifs and indeterminate features (Melard, 2006:57).

Another abstract for - which had already been noticed by Pales (1989) - is the so-called "isolated eyes". These are rounded or almond-shaped ovals found on engraved surfaces evoking the shape of the eyes normally found in representations of humans and animals; these however remain without any graphic connection with the hypothetical representation of a head, hence the attribute of "isolated". 5 of these shapes heve been retrieved by N. Melard over 4 separate suports from the Airvaux collection: Their morphology is variable, sometimes conveying the shape of an animal's eye (usually characterized by its almond shape and a marked drip edge) or more flared and rather evoking a bovine eye (Melard, 2006:57).

Another type of abstract shape identifiable on the plaquettes are groups of parallel lines of varying length, engraved on the plaquettes' surface: the lines are arranged in a regular manner and evoke a certain gestural rhythm, thus allowing to rule out the hypothesis of involuntary traces. This type of parallel line sequences is present on at least six supports, either isolated on the stones or intermingled with other interweavings of features. Associations with figurative representations, through particular graphic relationships, could be made in two cases: the first is that of a reindeer covered in parallel lines concealing the figuration; the second, even more remarkable example is found on a plaquette bearing a human head on which the lines are arranged in front of the face without entering its outline, almost as to occupy the rest of the surface. On the *verso* of the same piece it is possible to identify another abstract shape: a series of short, wavy, carefully interlocking lines running along the edge of the piece. The shape of the engravings evokes the typical outline of a representation of the "back-buttocks-thighs" line of schematized women ofte found at La Marche (see *supra*, §3.ii), however the incompleteness of the shape and their peculiar association does not allow to certainly identify them as a female figure (Melard, 2006:58).

Finally, to complete the corpus of abstract creations present on the stones of La Marche, it is possible to note the presence of a zigzag engraved in isolation on the surface of a small plaquette, engraved with fairly marked lines requiring several repetitions, and thus undoubtedly constituting a sign voluntarily represented as

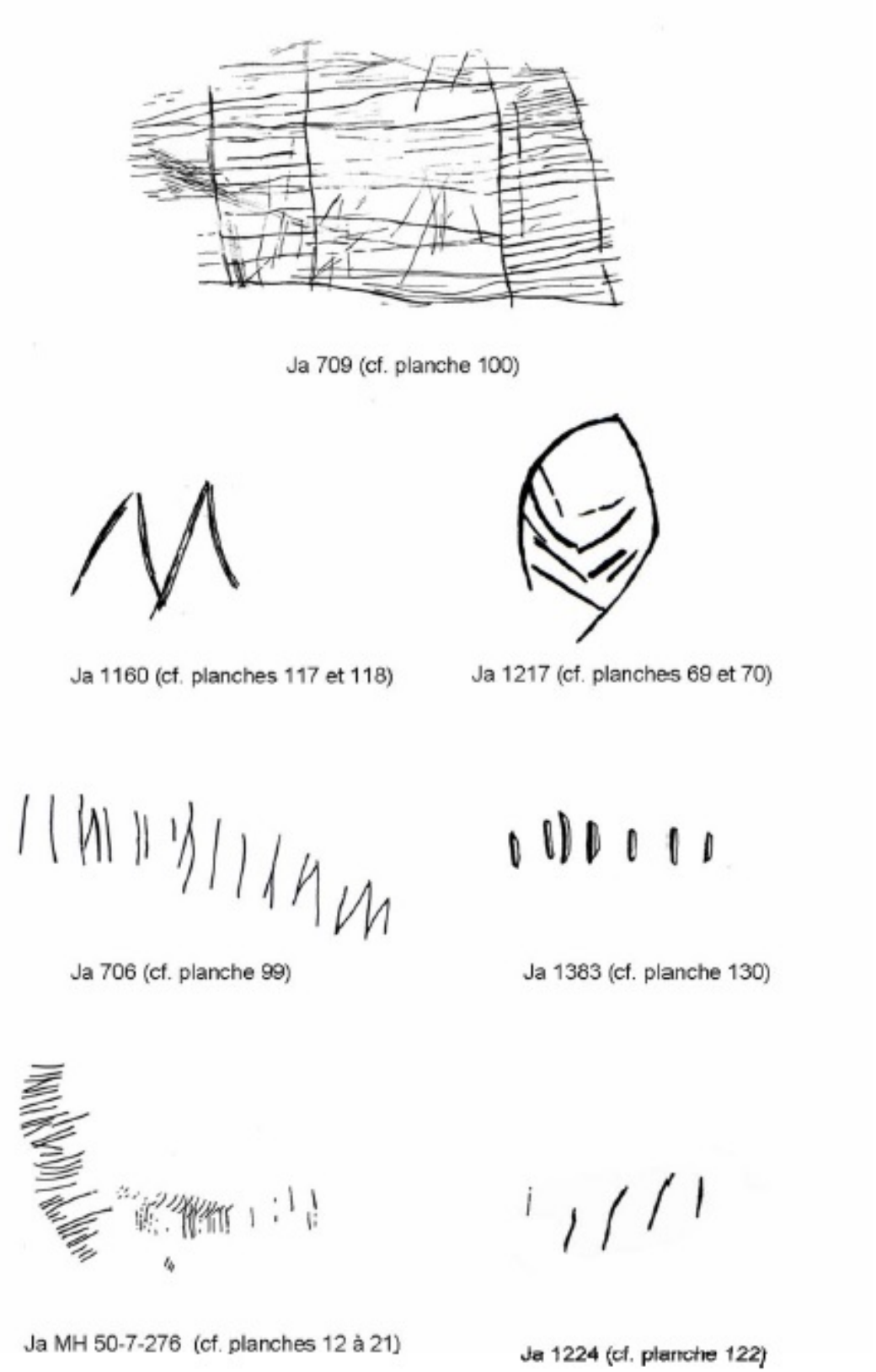

Figura 73: Geometric and abstract forms from La Marche (from Melard, 2006).

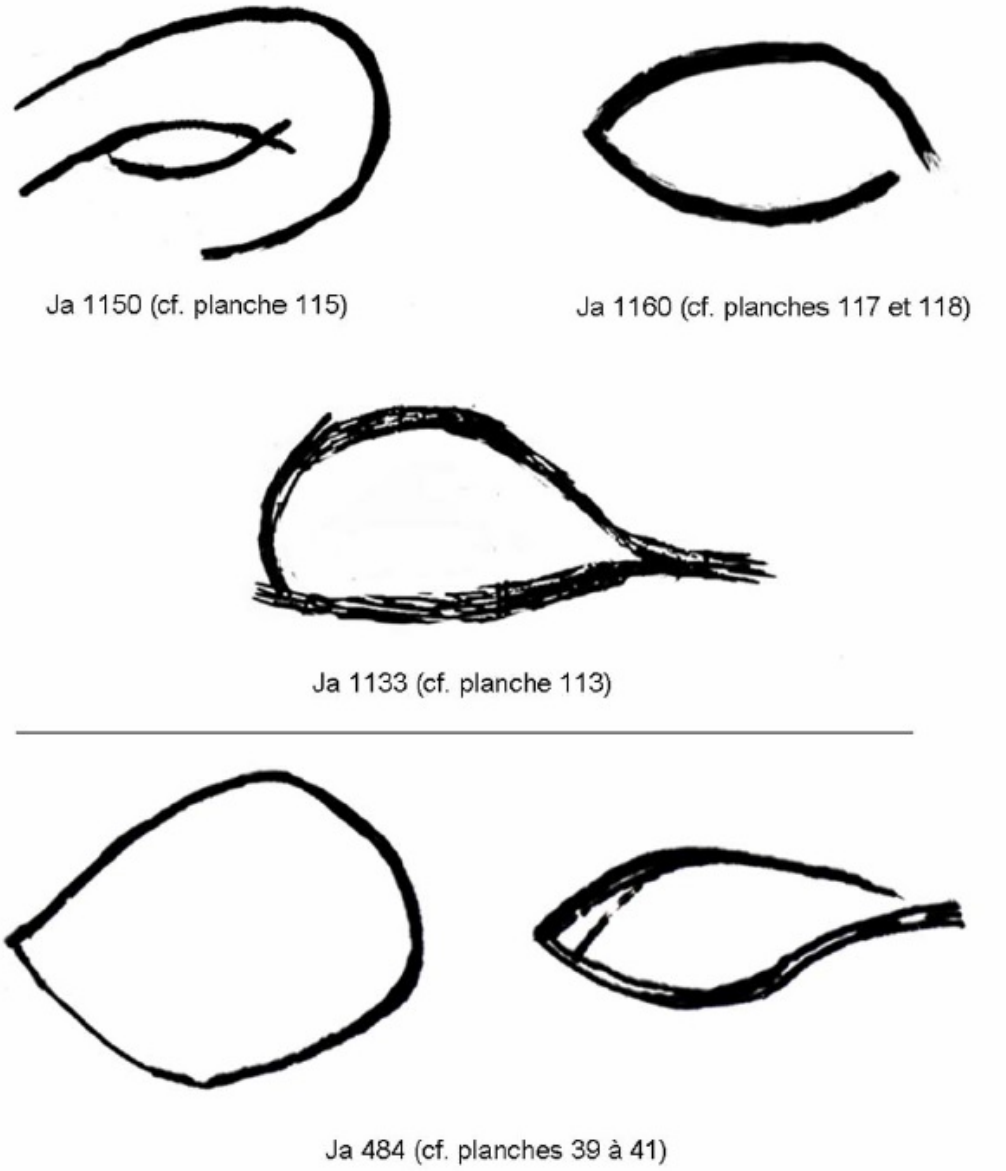

Figura 74: "Isolated eyes" from La Marche (from Melard, 2006).

such, that is to say in a non-figurative way (Melard, 2006:59).

It is indeed necessary, when discussing the engravings of La Marche, to mention indeterminate features, which are often found in considerable density on the plaquettes: even when it is not possible to determine any representation in these intersections, the intentional nature of these engravings is nonetheless unquestio-

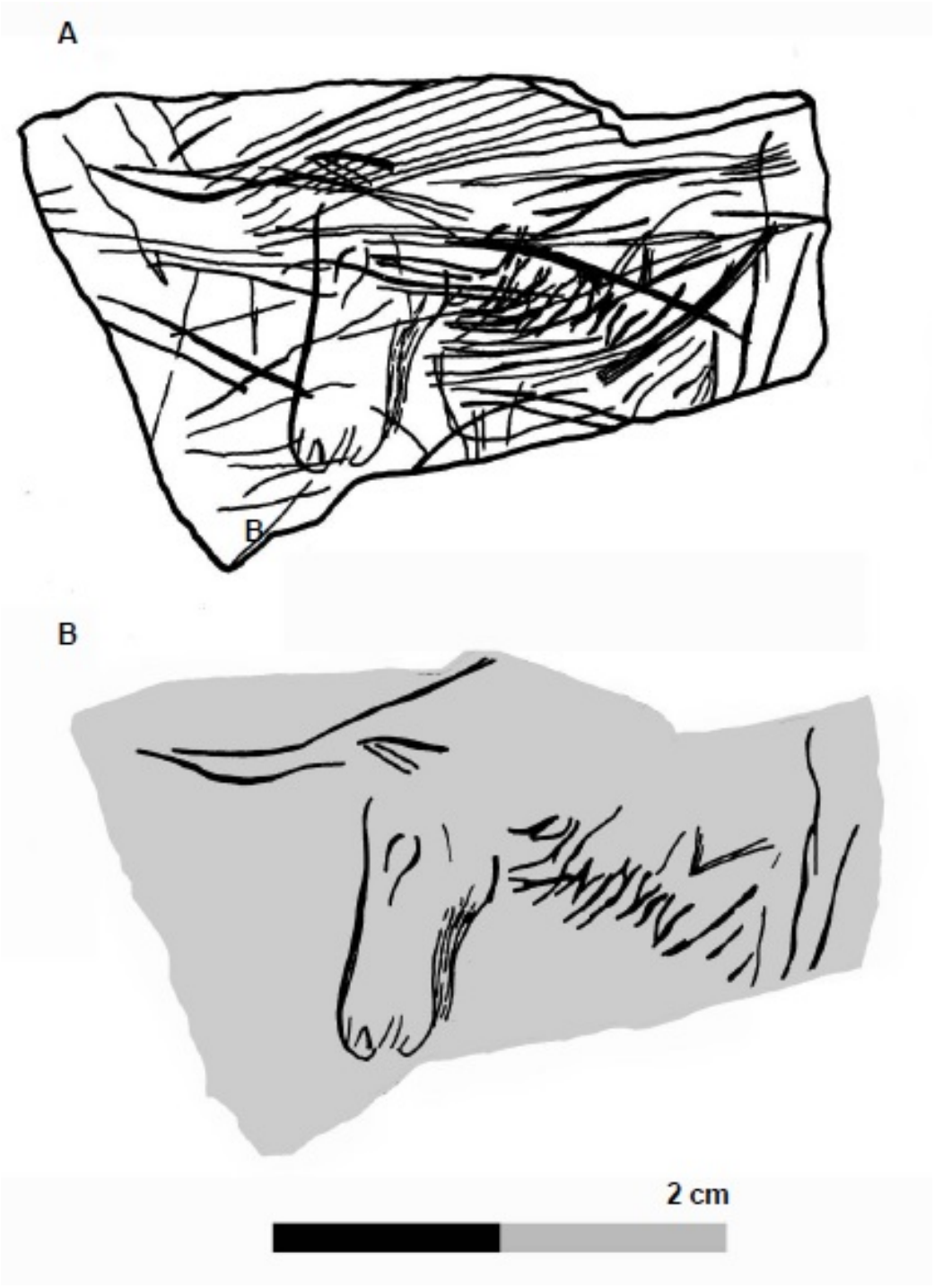

Figura 75: La Marche - example of interaction between abstract shapes and figurative engravings: reindeer covered in parallel lines (from Melard, 2006).

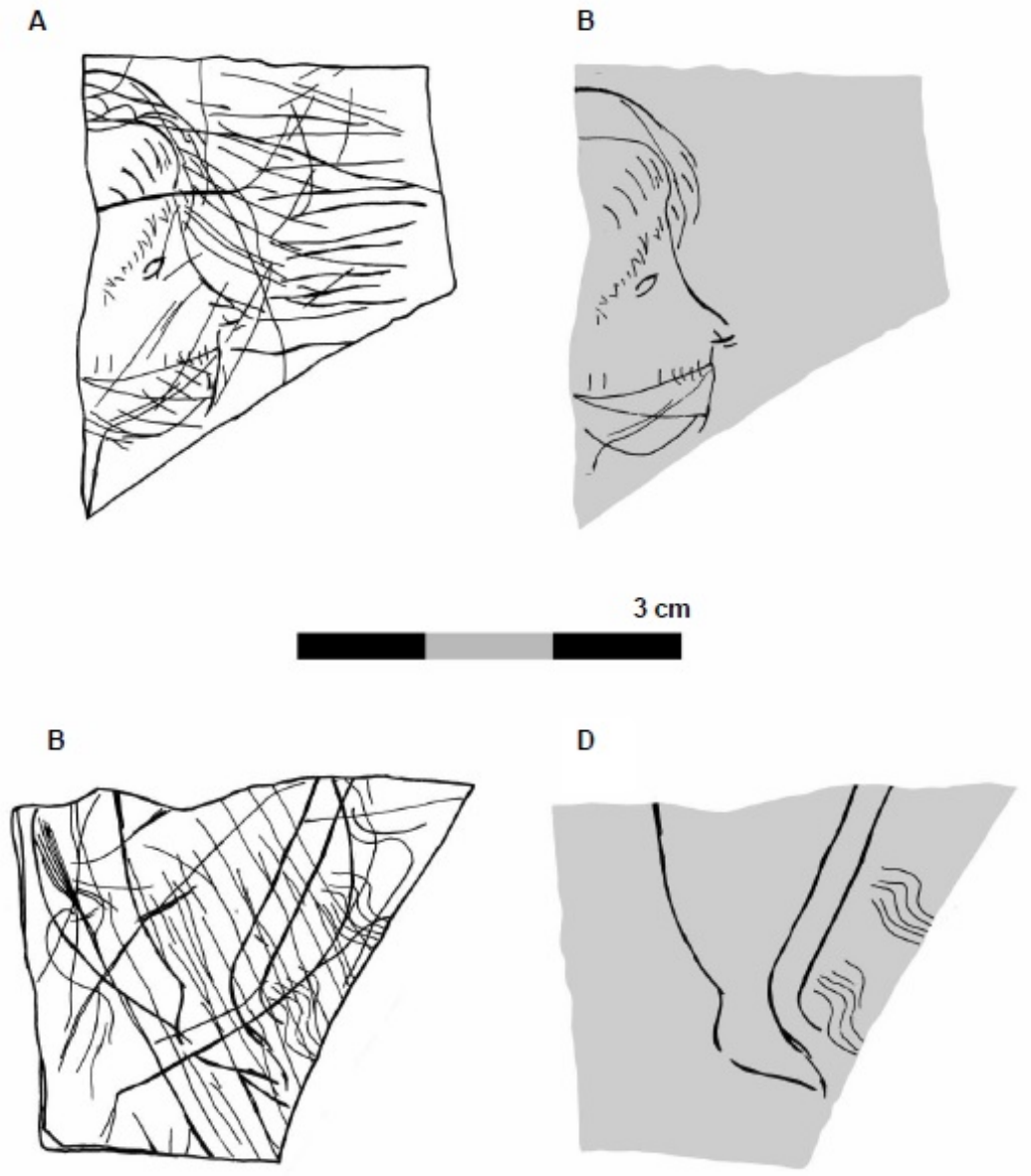

Figura 76: La Marche - example of interaction between abstract shapes and figurative engravings: ”filling” lines in relation to a human profile (from Melard, 2006).

nable; consequently, it is necessary for them to be taken into consideration these markings belonging to the domain of abstract representations (Melard, 2006:59).

4. Conclusion

The examination of La Marche's body of engraved plaquettes as a unitary *corpus* brings immediately to light a series of aspects that have informed and will continue to inform their study: if it is true that this assemblage - which still remains partly unpublished - offers great potential routes for research into prehistoric people's way of life, it is also equally true that it presents a series of critical and challenging aspects that must be taken into account when devising a fruitful research approach.

The investigation of the geological and morphological aspects of the engravings' supports offers the first, precious insights into the decisional processes of La Marche's artists and, more broadly, inhabitants. The presence of two geological materials similar in their essence (limestone in both cases) but with remarkably different characteristics leads to hypothesise the presence of a degree of "means-to-an-end" thinking: as N. Melard very rightly pointed out, Bathonian limestone is the main constituent of La Marche's shelter and surrounding landscape, thus making it an abundant local resource the gathering of which would not have constituted an expenditure for the local human groups; consequently, the choice to integrate the local sources of limestone with the allochthonous, Kimmeridgian limestone - the nearest source of which would have implied a series of challenges (at least location, quarrying and transport) to the group's economy - can be explained as a worthy investment in exchange for the peculiar characteristics of this material. Furthermore, the fact that the plaquettes do not seem to show a large deal of intentional fracturation *in antiquo* highlights how the original gatherers of the stones mitigated the efforts of raw material procurement: the choice of medium to small-sized plaquettes, in fact, favours both their extraction (or surface gathering) and their subsequent transport, thus demonstrating foresight in medium and longer terms, as smaller slabs would have required less fragmentation and preparation before their use as supports for artistic activities.

This form of foresight is equally observable if the attention is turned towards the anthropic alterations observable on the plaquettes, both in artistic and non-artistic terms. As both S. Lwoff and N. Melard have noticed (see *supra*, Ch. IV, §2.i) the plaquettes were discovered by the first excavators in an orderly layer at the bottom of the shelter, as if arranged in a paved area; it is reasonable to hypothesise, therefore, that such future utilisation would have been present to the gatherers' mind at the time of the choice of supports. The anthropic interventions on the supports are in themselves another valuable source of information: on the one hand, the physical anterations undergone by the supports (intentional fracturation, alteration by thermal shock) are reflective of the life of the objects themselves and confirm the original hypotheses for the presence of hearths in the shelter; furthermore, the number of traces recorded on the stones account for their extreme level of utilisation and transmission between members of the community. All of these elements paint a rather vivid picture of an art being produced within a context of socialisation and being utilised as a form thereof, a circumstance that fosters ont just the sharing of the finished item, but very likely of the necessary skills for its production too. In this sense, the parallel reading of the artistic traces alongside the lithic assemblages returned by the excavations (see *supra*, Ch. IV, §2.iv) has the potential of casting further light on the *chaîne opératoire* behind the engravings.

Alongside these potential harvest of information, however, lie a series of challenges that should not be underestimated. Such challenges find their origin both in the prehistoric life of the engravings and in their post-depositional history. On the one hand, as every scholar who studied the engravings has highlighted (Lwoff, 1942; Pales, 1969-89; Vialou, 1976; Airvaux and Pradel, 1984; Airvaux, 2001; Melard, 2006; Chisena and Delage, 2018) the plaquettes of La Marche are heavily overexploited, meaning by this that in the vast majority of cases the subjects represented are superimposed on one another, thus making their reading difficult at the best of times; although contemporary optical and photographic technology can compensate for what the naked eye of the scholar cannot achieve, it will always be necessary to apply caution and discernment in telling apart traces left by use wear and those left with the intention to create an image, thus avoiding the risk of "over-reading" the engraving. On the other hand, it should not be forgotten

that the plaquettes from La Marche have suffered from the extreme perturbation undergone by the site itself and, at least in part, from the conservation methods deployed by scholars during the course of time. Although there will always be a debt of gratitute towards those early pioneers who published the earliest collections without any further help than their own eyesight and shading light, it is unquestionable that some of the practices they used (such as over-polishing, over-washing of the stones and graphite re-tracing of the engravings) have led to a loss of information and, potentially, to a contamination of the engravings themselves; it will therefore be necessary, to integrate what has been lost in the old collections, to turn the attention to those plaquettes discovered after the 1990s and still partially or completely unpublished, especially to investigate the repationship between engraving and the use of pigmentation on the plaquettes.

I will not delve, at present, on the implications these aspects will have on future research, reserving this discussion for the appropriate place further down in this work (see *infra*, Ch. X). It is nonetheless evident, I believe, that they cannot be ignored if a true understanding of the creation process behind this prehistoric body of art is to be achieved.

This chapter concludes Part One of my thesis, in which I have provided the theoretical framework to my research and the context I have chosen to study. The next chapter will mark the beginning of Part two, where the full research and its results will be illustrated.

Part Two
Research Method and Results

Chapter VI
Prehistoric art as the methodological meeting ground for prehistoric archaeology and art history

The text below is a paper prepared and submitted for publication in " Archaeological Dialogues". It examines the possibility for the development of a common methodology between scholars in prehistoric archaeology and art historians in the field of prehistoric art. After examining the current state of affairs between the disciplines and briefly outlining an example of successful cooperation, the author offers some elements upon which such working relationship can be built: iconography, art production and individuality. The aim of the paper is to initiate a debate among scholars of both disciplines on the subject of prehistoric art, in the author's opinion the best ground for a fruitful interdisciplinary cooperation.

The relationship between archaeology and art history has been, historically, difficult. Since the six-year window that saw the publication of the founding acts of New Archaeology (Binford, 1962; Binford and Binford, 1968) and the consequent fracture of the monolith that was culture-historical archaeology, we have witnessed a slow but progressive divergence of currents within the discipline: on the one hand, classical archaeology and her attempts to align herself closer to the art-historical tradition (e.g. Bianchi Bandinelli, 1976) undermined by a generation of younger scholars keen to adopt a more modern approach (e.g. Carandini, 1975;

1981); On the other, prehistory, keen to put some distance between themselves and the humanities and firmly locate on the scientific side. In between these two poles of attraction, the other branches of historical archaeology, equally caught in defining their own identity (Sørensen, 2017).

It is beside the point of this paper to establish whether archaeology – and prehistoric archaeology in particular – belongs to the humanities or the sciences – if required to express his views, the author of this paper would rather argue about the definition of "science" as the determining factor in the debate. An attempt will be made, instead, to show how prehistoric art is the perfect meeting ground for both prehistoric archaeology and art history and the perfect occasion to develop a common methodology for its study. The paragraphs that will follow will focus mainly on the forms in which this relationship between the disciplines could come into being, however it is worth mentioning that there are deep reasons on both sides of the debate as to why a joint effort is important: on the one hand, an art history denying the earliest forms of visual expression its attention is at a very high risk of building a theoretical edifice with sand foundations - overlooking the appearance of the very first iconographies; on the other hand, an archaeology that denies the existence of an aesthetic dimension to prehistoric cultures would inevitably reach equally unsound conclusions, depriving prehistoric communities of an essential part of their symbolic life and thus relegating them to the status of "hominins", rather than "humans". In other words, intellectual honesty towards our very distant ancestors is the ultimate goal such a relationship would achieve.

1. A recent example: Sandström VS Delage

The *raison d'être* for this paper originates from a brief dispute between the art historian Sven Sandström and the archaeologist Christophe Delage, published between 2015 and 2016 on the pages of the Swedish journal *Fornvännen* (Sandström, 2015; Delage, 2016). In his first paper, Sandström argues that the human-themed engravings from the cave of La Marche (Lussac-Les-Chateaux, Vienne) are fakes; in his response, Delage replies only to the main critique and not-so-subtly accuses Sandström of poor knowledge of both La Marche and the archaeology

of Poitou-Charentes; this in turn triggered a further reply by Sandström who, in a rather pique tone, responds mainly to the accusations of being an ill-equipped researcher than to the main points raised by Delage. The result of this exchange is not, as one would hope, an enrichment for the scholars involved and the field of study concerned; on the contrary, it takes more the forms of a "dialogue of the deaf".

I will not discuss here the authenticity of La Marche's engravings, which from an archaeological point of view is entirely beyond question (Delage, 2016; Chisena and Delage, 2018). Rather, this diatribe shows all the characteristics of the confrontation between two diverse methodologies that struggle to understand each other:

1. The involuntary – yet inexcusable when dealing with someone else's field – ignorance of each other's latest developments;
2. The ignorance of each other's methods of analysis;
3. The tendency to dismiss the opposite opinion as the result of ignorance;
4. The avoidance of dealing with each other's points, but rather the construction of a parallel argument;
5. A certain academic insularity.

Many of these issues stem from an exquisitely human tendency towards factional thinking, which in turn inevitably leads to confrontational behaviour and animosity. However, it is worth focusing on points 1, 2 and 5, as I believe they are interconnected and responsible for a form of vicious circle: ignorance of neighbour disciplines' methods and developments leads, in fact, to a restricted view of the record they are both trying to analyze and, if protracted over a long period of time, will inevitably generate those forms of "parochial" thinking proper of each discipline, destined to foster even more ignorance and distance if left unchallenged. The root of this *forma mentis* is an old one, inextricably connected with Western European categories and insisting on hard boundaries between disciplines and "fixed" research styles to which scholars are advised to conform should they wish to be accredited and published (Knight Jr., 2013:xiii-xiv).

How are we to escape this methodological cage built long before us and whose boundaries we, often unknowingly, fulfill? First and foremost, we must acknowledge their existence and the best way to do so is to investigate our own disciplines' histories; secondly, we need to find a catalyst, a common ground we can explore in order to foster the creation of shared methods of analysis capable of producing fruitful results in both fields.

2. A fluctuating relationship

To describe a relationship, we must first define the nature of the parties involved, which given the nature of said parties and the quantity of academic literature devoted to the subject, is no easy task. For the readers' benefit, simplification could be employed and the relationship between archaeology and art history defined as that between 'artefacts' and 'artwork' (Smith, 1994:263). This definition, however, implies having to decide which elements of the historical record are to be classed under one or the other category: even with a further expansion in the definitions – where by 'artwork' we mean 'every object with aesthetic value' and as such pertaining to art history, whereas by 'artefacts' we mean 'all evidence of past human activity, regardless of their aesthetic value' and as such pertaining to archaeology – we are still left with the need to decide which objects possess aesthetic value, even accounting for the intrinsic variability of the aesthetic norms (Wicker, 1999:161). Should we want to be even more specific and define the object of art history as 'the study of visual images' (Wicker, 1999:162) we would be left with an irreducible overlap between the disciplines, as the physical dimension of a visual image – an 'artwork' – inevitably falls under the label of 'artefacts'.

It is precisely around this overlap that this relationship revolves, regardless of the historical period taken into account. For the purpose of this paper, we will briefly look at the *status quaestionis* for a neighbouring discipline - classical archaeology - for which the relationship was equally complex, before turning our attention to what has happened this far between prehistoric archaeology and art history.

i. What happened elsewhere

As mentioned *supra*, classical archaeology was not immune from the seismic waves caused by the New Archaeology phenomenon. Perhaps the most interesting experiment taking place immediately after this theoretical earthquake is that of the Italian journal *Dialoghi di Archeologia* (Dialogues of Archaeology), published from 1967 under the direction of Ranuccio Bianchi Bandinelli (Iacono, 2014:1).

In the nearly two centuries that separate the birth of classical archaeology as a discipline (with the publication of J.J. Winckelmann's *Geschichte der Kunst des Alterthums* in 1764) and the foundation of *Dialoghi*, the identification with art history was almost complete: as the province of art-historical studies devoted to the ancient world and in search of the "laws of absolute Beauty", archaeology was in Winckelmann's intentions to incorporate two distinct research needs, historical and aesthetic (Bianchi Bandinelli, 1976:xvi). Until the beginning of the 20th century, however, the aesthetic research remained preponderant with detrimental effects on the historical counterpart; the publication of A. Riegl's *Spätrömische Kunstindustrie* in 1901 and the consequent introduction of the concept of *kunstwollen* - the idea that art is inextricably tied to the civilization that produced it - marks the first turn of classical archaeology towards an overt historical research direction. The transition however did not prevent a further crystallization of the discipline between the first decade of the 20th century and the end of the Second World War: without a proper coordination among individual scholars and with the active encouragement of governments to foster studies of an art-historical nature, classical archaeology remained an essentially static field of small schools of thought, often factionally at war with each other (Iacono, 2014:4).

The introduction of Marxist thought within the archaeology departments in the 1950s and the 1960s inevitably fostered a spirit of change in the otherwise immobile world of classical archaeology: the constitution of the *Amici* (friends) group of young archaeologists and the foundation of the journal became the main organ for the academic revolution: from its columns, the *Amici* defended and campaigned for the introduction of thorough stratigraphic techniques for excavation, borrowed from prehistoric archaeology (Iacono, 2014: 3-4; Bianchi Bandinelli, 1976:xxi); they adopted a more decidedly materialistic interpretation of archaeo-

logical data, allowing space for the very first attempt at sociological readings of the archaeological record; finally, they were the first to conceive the archaeologist not just as a scholar, but also as an administrator responsible for the creation of cultural policies and the protection of cultural heritage (Iacono, 2014:4).

It would be reductive to say that *Dialoghi di Archeologia* was solely responsible for transforming classical archaeology into the discipline it has become today; however, it is undeniable that the emancipation from a strictly art-historical viewpoint was given an acceleration because this journal was able to pick up the instances coming from new debates - such as the development and adoption of sound excavation methods, the contributions of STEM disciplines to the study of the archaeological record and the role of enslaved masses in the economy of the ancient world - and to spread the across Italy and Europe.

ii. Prehistoric archaeology and art history

It would be fair to say that the roots of the difficulties between prehistoric archaeology and art history reach very far back in time. As Bianchi Bandinelli notes, for quite a long time, both art historians and classical archaeologists dismissively described prehistory as the "science of the illiterates"(a definition attributed to Th. Mommsen), due to the lack of written sources for the most ancient periods of human history (Bianchi Bandinelli, 1976:xxi). This form of academic prejudice, if on one side encouraged the progressive alignment of prehistory to the natural sciences from 1859 – publication year of *On the Origin of Species* – on the other created a distance between the two worlds that was to have long lasting consequences.

In an almost prophetic 1953 paper, W. Abell describes what the relationship is at the time between art historians and prehistorians, nearly 13 years after the discovery of Lascaux. Even though some of the issues he laments have come to change over time – we now have colleges and universities that offer courses and degrees in prehistory and prehistoric art (Abell, 1953:223) – it is still true to this day that respected art history journals rarely host papers discussing problems of prehistoric art. Furthermore, in his approach to H. Breuil and the collections of prehistoric art, the author – an art historian himself – demonstrates his concern

with all those problems peculiar to the art historical mindset: chronology and style succession, for which he laments not being able to find a solution (Abell, 1953:224-6). Undeterred, he recognizes that this state of things is only temporary, due to the fact that prehistoric art is a field of study only recently open to art historians and even offers advice as to what they could contribute to a field left, to that very day, only to "anthropologists": help with preservation of collections, identification of fakes and assistance in the creation of adequate reproductions (1953:227). He further concludes by saying that "In any event growth in these directions, slow if not rapid, seems to be foreordained for art history during the years to come" (1953:231).

Lamentable indeed that Dr. Abell's prophecy was never to become a reality! More than 60 years have passed since the publication of his paper and the tone of the debate between prehistorians and art historians is much close to that quoted *in limine* than to what he hoped: to this day, prehistoric art is only marginally mentioned in art history manuals and seldom discussed in school curricula; professional art historians prefer not to get involved with the field, preferring to leave prehistorians alone to develop their own approaches and methodologies.

3. Elements for a common methodology

The reader would be authorized to think, at this point, that the possibilities to bridge the gap between prehistoric archaeology and art history are extremely limited: grown far apart in theoretical frameworks and practical methodologies, the two disciplines appear irreparably distant. Yet, as the experiences of Riegl, Warburg and Panosfsky indicate, this divergence in aims is only apparent: once the self-fulfilling aesthetic research is abandoned, both disciplines aim at investigating art as the medium to access the material, intellectual and spiritual lives of past societies. For prehistoric archaeology and art history alike, the figure of the "artist" needs to be reconciled with the society - or, in more general terms, with the culture - from which it has emerged, its role investigated as the conveyor of a stratified collection of metaphysical instances for which, at one point, it becomes the outlet into the physical world.

The difference of methodologies, however, remains: if prehistorians have to rely exclusively on a small and often fragmentary record to draw their conclusions about the significance of visual images for prehistoric humans, art historians dealing with fully historical periods has the advantage of written records to test their conclusions against and corroborate them, together with a generally more abundant and better preserved collection of materials (Bianchi Bandinelli, 1976:xxi). This in turn produces consequences on the research practices: while an art historian will rely on more philological methods such as connoisseurship and the hexegesis of written sources, a prehistorian will have to seek the help of what once were called, in a moderately disparaging way, "auxiliary disciplines" to fully investigate its materials.

In what ways then can these two methodologies combine to create a third way, a unitary and unique practical approach to study prehistoric art? There are two areas that are particularly - but by no means exclusively - suitable to become a "common ground" for investigation: that of the fruition of art - in the form of iconography - and that of the production of art - in the form of a research on artist's individuality.

i. Iconography

The subject of prehistoric iconography is perhaps the most inherently theoretical aspect of building a common methodology for prehistoric art. On a superficial examination, it could appear that the scholar has little to no chance to understand the meaning of the imagery depicted on Palaeolithic caves or portrayed in items of portable art: in which measure can we substantiate our claims to have understood the meaning of a particular image, without the support of external sources?

Nonetheless, attempts in this sense have been made by notable scholars whose hypotheses have stood for a long time before being replaced. The most famous of them – now largely replaced – has been that offered by H. Breuil for the interpretation of Magdalenian art: in order to explain the striking naturalism of animal representation on cave walls, he resourced to the concept of "hunting magic", by which the representation of an animal confers to the artist a power over the subject represented (Lorblanchet, 1999:13). According to this theory, therefore,

we could read representations of herbivores as an attempt to propitiate their capture and, in the case of carnivores, to take possession of their hunting energy and capabilities.

Even more telling – and no less dense of contradictions – is the debate around the interpretation of female anthropomorphic figurines. For many years considered no more than a form of prehistoric erotica created by men for men's enjoyment (Nowell and Chang, 2014:563-4; McDermott, 1996:233-4), these anthropomorphic representations have been largely reconsidered in their meaning in the past few decades, to the point of seeing the emergence of strikingly fascinating hypotheses, one of which sees them as a form of female self portrait during pregnancy; if we are to follow this hypothesis, we could consider a possible interpretation of female figurines as, practically, an instrument for women to learn about their bodies and, symbolically, a self-conscious representation of their motherhood (McDermott, 1996:237-48).

This two examples are quite suggestive of how much prehistoric art is a fertile terrain for iconographic investigations. It is worth considering, however, that these examples refer to interpretive attempts from within the archaeological context; that is, without drawing ideas apart from the record itself. An ulterior source that could be profitably deployed for the study of prehistoric iconography is ethnographic comparisons, which could provide, for example and with careful critical attention, a useful term of paragon for the more abstract forms of prehistoric art such as theriomorphic figurines and depictions (such as Holenstein-Stadel and Trois Freres). It is also worth noting that, despite such a research having yet to be attempted for European prehistoric art, successful attempts have been made for the art of non-historical people from other continents: a very interesting example of this is the volume of V.J. Knight Jr., *Iconographic Method in New World Prehistory*, in which he tries systematically to apply the art-historical method to a prehistoric archaeological context.

ii. Art production, individuality and attribution

For decades since the beginning of studies on prehistoric art, the idea of investigating individuality among Palaeolithic artists was widely regarded among scho-

lars as a futile pursuit: even if the possibility of "individuals" active within the context of art assemblages was considered legitimate, it was deemed impossible to investigate their existence in any depth (Chisena and Delage, 2018:244). Since the beginning of the 2010s, however, the issue of individuality in prehistoric art has received renewed interest from both a theoretical and a methodological point of view, thus opening interesting scenarios for the development of a specific art-historical/archaeological method of study.

On the theoretical side, one of the most remarkable contributions is Fritz et al's research into the issues of gender, apprenticeship and tradition in prehistoric art. Acknowledging the difficulty of investigating individuality in Palaeolithic societies – especially on the subject of art – the authors suggest a turn towards a less broad view and instead try to look behind art to observe those who created it (Fritz et al., 2015:1308-10). By applying microscopic analysis to portable art from the Magdalenian, the authors were able to investigate skill levels and the consequent level of expertise of prehistoric artists; this was possible by taking into account the level of control the three fundamental angles involved in the process of engraving (tool, front working and side working angles) and other important factors such as the location and the size of the engraving in relation to the structure and nature of the surface, and the quality of the raw materials used. A beginner's artwork would, therefore, be characterized by lower quality raw materials and frequent mistakes: bad tool angles, poor positioning and understanding of support structure etc., making it possible to tell an expert's engraving from a beginner's. (Fritz et al., 2015:1317-9). Following from these conclusions, the authors also try to cast some further light on the concept of "art workshop" and its meaning in Palaeolithic art. Given that engraving technique is not an inborn skill but an acquired one, and that the sequence of movements used to create an engraving seems to remain constant throughout the Magdalenian period, they hypothesize that the learning process could have revolved around three elements: showing, imitation and practice, with the apprenticeship itself involving both the acquisition of technical know-how and the transmission of social codes connected with artistic productions (Fritz et al., 2015:1320). Despite acknowledging all the limitations posed by the archaeological record itself, they try even further to imagine how apprenticeship might have worked: was there a specialised social

group responsible for controlling the production and teaching of art? Were there rules regulating this skill transmission, such as age limitation or access to good quality materials? Did craftsmen hold any kind of social privilege? It is hard (if not impossible) to answer such questions, but the authors agree it is reasonable to imagine the artists of the Magdalenian holding a certain cultural or spiritual power connected to their skills (Fritz et al., 2015:1321-2; Chisena and Delage, 2018: 244-5).

The practical reverberation of such debate are equally remarkable in their results. Olivia Rivero, in a published extract from her doctoral thesis (Rivero, 2015:135-152) expands and enlarges the work of Fritz on the Magdalenian apprenticeship. By applying a similar microscopic analysis, she isolates a series of indexes (2015:62-3) used to define three levels of expertise: expert engravers (2015:135-6), beginner engravers (2015:136-42) and engravers in training (2015:143-7). She further makes some interesting observations on how the possible apprenticeship of an Upper Palaeolithic artist might have unfolded. By comparison with the process of skill acquisition for flint knapping (2015:151) she describes a possible initial phase, where children begin to discover the gestures and actions and practice them on low quality materials, followed by an intermediate one in which young adults have partially acquired the skills, yet remaining quite far from achieving complete mastery. This outline finds a parallel in the works of art from sites such as La Garma: artifacts of higher aesthetic value are also those showing the highest level of skill and are realized on bone, whereas lower skill paired with lower aesthetic qualities are found in artifacts on lithic support (2015:151-2). Furthermore, the lithic materials employed appear to have been easily accessed, probably collected on the cave's floor, as opposed to bone, requiring much higher efforts for its harvest and treatment (2015:152). These observations, together with the fact that no rare materials have been found within the cave – thus disproving the hypothesis that high-quality artifacts might have been finished, rather than entirely executed, in the cave – bring the author to the conclusion that the presence of high-quality artworks on bone and low-quality artworks on stone at the same site and at the same time might be ascribed to other causes, namely the different degree of expertise of the artists responsible for their creation (Chisena and Delage, 2018:245-6).

These recent developments in scholarship clearly show how much margin for cooperation there could be for art historians - more used to dealing with individual artists via connoisseurship - and archaeologists - more verse in the use of microscopic techniques - in the investigation of prehistoric art production, learning and teaching. A recent attempt has recently been made to sketch the outline of a method for such future study (Chisena and Delage, 2018).

4. Final remarks

In his 1953 paper, W. Abell describes with these words the possibility for art historians to measure up with prehistoric art:

> "Prehistoric art offers the student a field for robust pioneering effort; a field bristling with major problems and, I believe, rich in opportunities for major contributions". (Abell, 1953:223)

The theoretical and methodological aspects briefly described in this paper would like to offer an initial stimulus for such a pioneering effort. An attempt was made to cast some light on what work has been done in the field of prehistoric art and the choice of iconography and art production were not accidental: for iconography, in fact, the archaeological method would have to accommodate a more art-historical approach, whereas for art production the art historian would have to fit into the archaeologist's framework. Given the nature of the record, a much larger employment of imaging and optical technology will have to be taken on board – something archaeologists have used for many years and that are no strangers in art conservation's laboratories either; on the other hand, it might be necessary to re-discuss several points of theory that are currently taken for granted and that, in their current form, simply would not offer a valid interpretive tool for such a peculiar context. We are under no illusion that this would be a rapid and effortless journey; however, we believe firmly that both disciplines have all to gain from such a journey, which will be most fruitful if done, rather than separate, together.

Chapter VII
On the attribution of Palaeolithic artworks: the case of La Marche

The text of this chapter has already appeared, as a paper authored by myself and Christophe Delage, in the journal Open Archaeology. *It contains,* in nuce, *materials that form Ch. I and VI of this thesis. In this paper, we have explored the possibility of assigning the human-themed engravings from La Marche to their authors, according to the method outlined by J.M. Apellaniz in the 1980s. The method employed here follows the first of the three stages postulated by Apellaniz: macroscopic observation, microscopic analysis and experimental protocol. From our study emerged a pattern of five groups and sixteen hands at work in this site. We believe, therefore, that it is possible to speak of La Marche as an "art workshop", where portable art was produced and taught. The sections authored by me are marked with SC; those authored by Christophe Delage, with CD; those authored by both, with SC,CD.*

1. Introduction (SC, CD)

The cave of La Marche, located in the town of Lussac-les-Châteaux in the French Département of Vienne (France), is by far one of the most intriguing portable prehistoric art discoveries of the 20th century. What makes this site outstanding in the European panorama is not just the amount of mobile art items (more than 3,000 engraved stones) but the fact that, out of these, numerous hu-

man representations may be encountered; so far, the largest concentration of human individual depictions in the whole Upper Palaeolithic in Europe.

In this paper, we focused on the human-themed engravings from La Marche, followed the lines traced on the plaquettes and boulders to read the portraits' outlines and, by applying a variation of the method devised by J.M. Apellaniz (2004a), we tried to assign the engravings to specific authors. At the same time, we tried to determine whether or not it would be possible, for this archaeological context, to speak of an "art workshop", by which expression we mean a place where art was not only produced, but also taught and learnt.

2. La Marche: Setting, history of research, archaeological and artistic context (CD)

As properly described by its investigators, Léon Péricard and Stéphane Lwoff (1940: 156), La Marche is conveniently located on the northern slope of the valley called *Ruisseau du Petit Moulin*, at roughly 10 meters above the valley bottom. The small river, in this valley running East-West, is regularly underground due to the porous nature of the local karstic limestone terrain (Joubert et al. 1992), but resurfaces upstream notably at the cave of Fontserein (yielding early Upper Palaeolithic parietal art; Airvaux et al. 2001). La Marche is currently called a "cave", but at the time of the prehistoric occupations (Magdalenian, ca. 14,500 uncal. B.P.) it would be better described as a deep rockshelter since the two huge limestone rocks that block most of the wide entrance collapsed at some time in the past (Late Pleistocene). The locale where La Marche is situated on this northern slope of the valley is in fact a complex karstic network of underground galleries. About 10m above La Marche a true cave, called Réseau Guy-Martin, was discovered in June 1990 and immediately excavated and analysed before being sealed to protect it against any illegal exploration. This upper cave yielded archaeological remains (e.g. lithic and osseous industries) and art (mobiliary and parietal) very similar to those of La Marche below (Airvaux 1998; Airvaux et al. 2001). Most interestingly the parietal art was constituted of fine engravings representing a new born child and vulvae, associated to a mammoth and several horses. These data, further

supported by comparable radiometric dates, document the contemporaneous occupation of both sites by the Middle Magdalenians ca. 14,500-14,000 uncal. B.P. Other archaeologically interesting sites are also present in this valley: a few hundred metres upstream, the cave of Les Fadets contains a rich layer dated to the Middle Magdalenian (Magdalenian III according to Breuil's classification; Breuil 1913) with a lithic industry and mobiliary art very similar to those found at La Marche, in between thin layers attributed below to the Mousterian and above to the Upper Magdalenian (Airvaux & Chollet 1985; Airvaux et al. 2001; Breuil 1905; Lacy et al. in press; Lwoff 1962a); and about a hundred metres further upstream the rockshelter of L'Ermitage, which has yielded a rich level with material remains dating to the Upper Mousterian covered with thin layers tentatively attributed to the Badegoulian and the Upper Magdalenian (Lwoff 1957a; Pradel & Pradel 1954).

La Marche has been explored by various generations of scholars (Delage 2016). After several findings by local people (among whom H. Lavergne in 1914), the first excavations by a local miller, Léon Péricard (1889-1978), began in November 1937 (Péricard & Lwoff 1940). Subsequently Stéphane Lwoff (1900-1992), who had studied at the school of the Louvre Museum, joined the excavation which lasted until the early 1940s. The site attained instant fame following the discovery of numerous limestone blocks yielding prehistoric (Magdalenian) engravings (i.e. complex patterns of intertwined engraved lines), most notably characterized by human-themed depictions (Fuentes 2013a, 2013b, 2015, 2016a, 2016b; Lwoff 1941, 1943, 1957b, 1976b; Pales& Tassin de Saint-Péreuse 1976). It would then take several decades for S. Lwoff to study and publish the huge and diverse amount of archaeological remains exhumed (Lwoff 1941, 1943, 1957b, 1959, 1962b, 1964, 1968, 1970-71, 1989). In 1957 Louis Pradel carried out a short field season (Pradel 1960). Finally, between 1988 and 1993, Jean Airvaux excavated the deposits preserved between/under the huge blocks at the entrance of the rockshelter; he was thus able to observe and record for the first time the stratigraphic sequence of the site. He also sieved an enormous amount of spoiled heaps from the Péricard-Lwoff excavations (Airvaux et al. 2001). In sum, three phases of field explorations are known through publications, but we should be aware that local inhabitants of Lussac-les-Châteaux also explored the site on their own in a quest to exhume some unique stones with mobiliary art. This practice of looting stopped in the

late 1980s when the site was finally closed.

The renowned French prehistorian and art specialist André Leroi-Gourhan was skeptical of the importance attributed to La Marche and its portable art (1965: 118). Indeed, he felt that the lack of details regarding the stratigraphic context of these art items dramatically reduced their scientific value. He even proposed that they should be excluded from any theories about Magdalenian art. In contrast, other scholars, such as L. Pradel or J. Airvaux, were more confident about this stratigraphy, stressing the fact that at La Marche there was only one archaeological layer, dated to the classical Middle Magdalenian (Airvaux et al. 2001: 89). This position now seems to be accepted by most specialists. Yet it is clear from the pioneering work of L. Péricard and S. Lwoff that a layer attributed to the so-called Magdalenian IV, as shown by typical mobiliary art ("engravings on bones and geometrical patterns"; d'Errico 1995; Marshack 1972, 1991), existed above which was overlain by an Upper Magdalenian layer, itself covered by a rich level of historical periods (with tiles, potsherds, etc.). Thus the stratigraphic framework is far from clear. Furthermore, only one radiometric dating (Ly-2100: 14,280 ± 160 BP) is available (Pradel 1980). This measurement presents methodological issues (conventional C14 method, date obtained from several bones) that make us doubt its reliability (Delage 2013). New radiometric datings are needed to better calibrate the sequence of human occupations.

Despite these discrepancies of opinions, there is no doubt that the main and richest layer of human occupation at La Marche corresponded to the Middle Magdalenian. Abundant lithic and osseous (e.g. spear points known as fossiles directeurs of this time period called "sagaies de Lussac-Angles") industries, associated with faunal and human remains, pigments, body ornaments (e.g. imported perforated shells), engraved horse teeth, testify of human activities rarely documented elsewhere (Airvaux 2011; Airvaux et al. 2001, 2013; Chehmana & Beyries 2010; Granger & Airvaux 2010; Henry-Gambier 2010; Mazière & Buret 2010).

The Péricard/Lwoff excavations appear to be the main source of information to document the diversity of human occupations and to reconstruct the Magdalenian settlement. Unfortunately in the late 1930s these excavations were not rigorously carried out and very little is known about any spatial distribution of activities. Some features (hearths; pavement of limestone slabs, many of them

holding engravings) constitute the rare remains exhumed of a clearly complex settlement. We may wonder whether there were also huts (and thus traces of architecture, postholes, etc.) and burials. Indeed, one of us (CD) argued elsewhere that in fact La Marche, Réseau Guy-Martin and Les Fadets might constitute part of a single dense settlement that may have extended over several hundreds of metres along the northern slope of the valley during the Middle Magdalenian (Delage 2013; Delage et al. 2016).

In this cultural context the Magdalenians developed a unique tradition of "art" production and transmission. With the very recent discovery of fine engravings on the ceiling at the back of the rockshelter (Bahn, 2016) the site itself was the recipient of parietal art, similar in that sense to the upper cave of Réseau Guy-Martin. But the Magdalenians demonstrated a very unique preference for portable art (Airvaux et al. 2001; Airvaux & Mélard 2007; Airvaux & Pradel 1984; Gaussein 2012; Lwoff 1941; Mélard 2006, 2008; Pales & Tassin de Saint-Péreuse 1967, 1968, 1969, 1976, 1981, 1989). At the moment it is possible to document about 3,000 art items; but this is a minimal estimate since private collections - that cannot be quantified - are not included and some spoiled heaps from Péricard-Lwoff excavations used to consolidate the terrace in front of the rockshelter still remain to be investigated. Thus a total number of more than 4,000-5,000 portable art pieces would be a fair estimate (de Saint-Mathurin et al. 1990: 3). Furthermore, if we consider that engravings on each stone could correspond to approximately 5 different depictions, we would end up with more than 20,000 subjects (abstract and figurative) represented, which constitutes a rather exceptional corpus of artistic and symbolic activity for the Late Pleistocene.

The main challenges for archaeologists and art historians interested in this topic have been: 1) to convince the scientific community and the general public of the authenticity of this unique art since this evidence has been subject to numerous attacks (Begouën 1943; Breuil 1942; Delage 2016; Lwoff 1942; Sandström 2015); 2) to identify some meaningful depictions (either abstract or figurative) from the complex web of intertwined engraved lines on each stone; and 3) to discuss the theoretical issues related to the interpretation of this specific production. It appears quite obvious now that this site was the locale of intense and complex symbolic activities.

Stéphane Lwoff was the first to document the importance of portable art at La Marche (Lwoff 1941). It is quite remarkable that he noticed, very early in the explorations of the rock shelter, these very fine engravings, usually hardly recognisable on the stones. Perhaps he was intrigued by the density of limestone rocks present in the sediments, but it is most plausible that he was struck by the thin limestone slabs that did not seem of local origin. He was thus able to identify numerous animal depictions, but his attention was attracted by the human theme which was abundantly illustrated at La Marche, but a surprise for the time. This divergence from contemporary understanding would later inspire criticism. Unfortunately when we compare his drawings with more recent and rigorous studies (by L. Pales, J. Airvaux, or N. Mélard) we become aware of the subjectivity and freedom Lwoff was taking in following the lines to make sense of the engravings. This was another major source to inspire criticism of his analysis (Delage 2016). H. Breuil (1942) supported and defended Lwoff's work against Count Bégouën (1943), and others. Nevertheless he must have known that this type of analysis could not have any scientific legacy. He certainly had in mind to take on this study himself after the Second World War but his wide-ranging academic responsibilities and research interests prevented him from carrying out an in-depth study of this immense corpus. In this context Léon Pales accepted Breuil's invitation to work seriously on this collection. Associated with Marie Tassin de Saint-Péreuse he would spend several decades studying the corpus of more than 1,500 items of portable art exhumed during the Péricard-Lwoff excavations. The four volumes published between 1969 and 1989 constitute the first exhaustive study of this corpus witnessing the diversity and richness of this specific art and the subjects represented. On a methodological level it is also a rare attempt for the time to apply more rigorous deciphering techniques on this very challenging material. This research had a lasting influence on the following generations of scholars working on Palaeolithic mobiliary art. About La Marche, this could be illustrated by the works of J. Airvaux or N. Mélard. These recent studies also applied new analytical procedures (micro-topography, micro-rugosimetry, SEM, 3D surface imaging). Nicolas Mélard (2006, 2008) recently produced a work of similar scope and ambition to that of Pales. He spent years analysing the corpus of ca. 1,400 items of mobiliary art recovered during Airvaux's investigations. Finally, we should also

mention some other recent studies, notably focusing on the human representations that have played a prominent role in recent discussions and analysis of this portable art: for instance the works of Jean-Pierre Duhard (1992: 145-146, figs. 13-16, 1993: 83-85, figs. 1-2), and especially Oscar Fuentes. This latter scholar has now well documented the specificities of the symbolic use of human depictions, and we encourage the interested reader to look at his various publications (e.g. Fuentes 2013a, 2013b, 2015, 2016a, 2016b).

Limestone blocks, of local and non-local origins, of various surficial textures and sizes, were acquired and used as blanks for fine engravings. The surface was often initially painted with a red ochre (haematite). Thin grooves were then created with appropriate stone tools (i.e. borers or burins; Lwoff 1959, 1964). This operation was usually repeated numerous times producing confusing patterns of intertwining lines. The subjects depicted were thus barely recognisable. Nevertheless, numerous representations of animals are present (e.g. bear, lion, horses, bison, aurochs, mammoth, deer, reindeer, ibex, hare, seal, etc.). The outstanding artistic feature of this settlement is the presence of human depictions. Humans (both males and females) are illustrated by realistic representations: women are often pregnant and headless, may be associated to newborn infants, and may also be symbolized by vulvae; men are usually represented by their head alone. Moreover, humans dancing, in group, may also be encountered. Yet the vast majority of engravings are still a mystery and remain to be deciphered. The symbolic function of this production and its specific distribution in the rockshelter are difficult to assess. The famous French prehistorian, Henri Breuil, who regularly visited Péricard and Lwoff in the field in 1939 and 1940, qualified this artistic expression of "mobile parietal art" (Breuil 1952). Yet a large number of these engraved slabs were intentionally broken, and many seem to have been assembled in a pavement, the engravings facing the ground.

3. The theoretical framework: attribution of Palaeolithic art (SC)

More than a decade ago Marc Groenen and his colleagues (2004) conducted a pioneering work on the identification of authorship (inspired by J.M. Apellaniz's studies) at La Marche, focusing on some specific engravings from Pales's publications to assess the reliability of this approach. Their conclusion was rather positive, but they did not pursue further their analysis. One of us (SC) too was prompted to study La Marche from the authors' point of view by the paper published by J.M. Apellaniz (2004a). In this paper, condensing his work started in the 1980s, the author articulates a general critique of the "evolutionary" approach to palaeolithic art, suggesting its replacement with a "formal" theory overcoming the contradictions of the current interpretive paradigm and outlining the technique of assigning prehistoric works of art to their authors.

The evolutionary approach, postulating the variation (similarities and differences) in representation as the result of generalized changes in styles over time is, according to the author, doubly flawed: it lacks any theory concerning form and is replete with misunderstandings and contradictions. The differences and similarities in representation are observed generally and globally, without analysing their formal nature, their magnitude, their characteristics and occurrence; comparison between representation has been carried out partially, not globally. This has led to the perception of differences, but not to the perception of their extent and importance; prehistoric art's general adherence to "naturalistic" representation was enough to apply the evolutionary paradigm and construct a "history", but not a theory capable of explaining the meaning and value of similarities and dissimilarities. Furthermore, the lack of any challenge to the hypothesis has led to its crystallization, therefore reducing its value against any other hypothesis that is "falsifiable" (2004a:63-4). The mistakes that followed were of a logical, "philosophical" and methodological nature: the hypothesis became the proof (hence the dating of "schematic" art to earlier stages of the Palaeolithic and more "naturalistic" examples to later stages); the scholars were unable to disentangle themselves from the Darwinian mindset that pervaded not only archaeology (considering

art *a priori* as just another manifestation of the evolution of man) but also art criticism (for which the best art is the one that better imitates nature), without checking whether such a paradigm held any validity if applied to Palaeolithic art or such critical operation was justified; the approximate use of comparison between undated artworks (such as rock art) and dated ones (such as mobile art from cultural contexts),carried out by means of general rather than detailed comparison; the controversial use, by several eminent scholars, of the categories of "style", borrowed from art criticism (2004a:64-9).

But what can the evolutionary approach and the theory of style be replaced with? Apellaniz suggests his "theory of the Palaeolithic form", by which he means the set of formal qualities that gave the "image" of the figure, which Paleolithic society imposed on its members. These qualities are scattered through all the representations drawn by the artists, all of which have a common denominator. To recognize it, it is enough to compare the forms that a significant sample of them present and deduce it. For example: if we were to collect all the representation of horses produced across Upper Palaeolithic Europe, ideally place them in a stack on top of each other and look at them as through a series of glass panels, we would be able to identify the general outline of the Palaeolithic horse, together with the individual variations produced in every single one of its representation. It is easy to understand how, therefore, the combinations of variations on this general model are potentially endless; furthermore, as the author underlines, the statistical study of the variation over the horse form is enough, by itself, to disprove the theory of styles of Leroi-Gourhan (2004a:70-2. A similar point, expressed as the necessary conditions to attempt an attribution, is developed by Groenen et al., 2004:132-3).

It is in contrast with another of Leroi-Gourhan's opinions – the impossibility of recognising individuals in Palaeolithic art – that Apellaniz introduces his method of attribution of Palaeolithic artworks to its authors. The author candidly admits his bewilderment in the face of the scholars' resignation never to know the authors of prehistoric art: given the nature both of the graphic sign (conveying the natural movements of the author's hand) and of prehistoric art (where the graphic sign is particularly clear and readable), nothing prevents an attribution, if not from being achieved, at least from being attempted. The main parallel, in this sense, is writing: based on a general model (the Latin alphabet for Western people,

Cyrillic for Eastern Europeans, etc.) individuals produce variations that sum up to a potentially infinite number of combinations, so much so that an entire discipline, graphology, has been developed to study the graphic sign of individuals. Stemming from these premises, the author develops his three-stage method: macroscopic observation, statistical study and experimental protocol (2004a:73-8), from which I took my inspiration for this work.

The problem of individuality, underlying Apellaniz' work, is also the object of a 2015 paper trying to investigate the issues of gender, apprenticeship and tradition, although with a slightly less critical tone. Acknowledging the difficulty of investigating individuality in Palaeolithic societies – especially on the subject of art – the authors suggest a turn towards a less broad view and instead approach the problem on a microscale level, trying to look behind art to observe those who created it (Fritz et al., 2015:1308-10). By applying microscopic analysis to portable art from the Magdalenian, the authors were able to investigate skill levels and the consequent level of expertise of prehistoric artists; an expert artist/maker would be able to control the three fundamental angles involved in the process of engraving (tool, front working and side working angles), lack of which will result in slips and mistakes in the execution; at the same time, an experienced engraver would take into account other important factors such as the location and the size of the engraving in relation to the structure and nature of the surface, together with the use of better quality raw materials. A beginner's artwork would, therefore, be characterized by lower quality raw materials and frequent mistakes: bad tool angles, poor positioning and understanding of support structure etc., making it possible to tell an expert's engraving from a beginner's. (Fritz et al., 2015:1317-9).

The authors also try to cast some further light on the concept of "art workshop" and its meaning in Palaeolithic art. Given that engraving technique is not an inborn skill but an acquired one, and that the sequence of movements used to create an engraving seems to remain constant throughout the Magdalenian period – from the front to the rear, with the head (including horns or antlers) coming first, followed by the chest, the back line, the front legs, the stomach, the back legs, the rear end (including the tail) last and details such as fur, marks, eyes or nostrils added after the outline was completed – the authors make the hypothesis that the learning process revolves around three elements: showing, imitation and

Expert Engraver	**Engraver in training**	**Beginner engraver**
No accidents	Accidents in the form of 'slips of the tool'	Several forms of accidents ('slips of the tool, scratches, *accrochages*, issues with curved lines)
No corrections	Corrections	Corrections
Variable profile incision (V, asymmetrical V, relief)	Variable profile incision (V, asymmetrical V, relief)	Flat profile incision
Deep incision (deep groove)	Deep incision (deep groove)	Superficial incision (shallow groove)
Surface preparation	Surface preparation	No surface preparation

Tabella 1: Characteristics associated with different degrees of expertise among Magdalenian engravers (elaborated from Rivero, 2015:149).

practice, with the apprenticeship itself involving both the acquisition of technical know-how and the transmission of social codes connected with artistic productions (Fritz et al., 2015:1320). Despite acknowledging that the apprenticeship of a Palaeolithic artist will likely never be fully understood, Fritz and her colleagues try even further to imagine how it might have worked: was there a specialised social group responsible for controlling the production and teaching of art? Were there rules regulating this skill transmission, such as age limitation or access to good quality materials? Did craftsmen hold any kind of social privilege? It is hard (if not impossible) to answer such questions, but the authors agree it is reasonable to imagine the artists of the Magdalenian holding a certain cultural or spiritual power connected to their skills (Fritz et al., 2015:1321-2).

Olivia Rivero, in a published extract from her doctoral thesis (Rivero, 2015:135-152) expands and enlarges the work of Fritz on the Magdalenian apprenticeship. By applying a microscopic analysis similar to that of Fritz et al., the author isolates a series of indexes (2015:62-3) that she uses to define three levels of expertise: expert engravers (2015:135-6), beginner engravers (2015:136-42) and engravers in training (2015:143-7). Table 1 summarises the characteristics peculiar to each level.

Although she does not go as far as Fritz et al. in formulating questions – or at-

tempting answers – about the possible social role of Magdalenian artists, Olivero makes some interesting observations on how the possible apprenticeship of an Upper Palaeolithic artist might have unfolded. By comparison with the process of skill acquisition for flint knapping (2015:151) she describes a possible initial phase, where children begin to discover the gestures and actions and practice them on low quality materials, followed by an intermediate one in which young adults have partially acquired the skills, yet remaining quite far from achieving complete mastery. This outline finds a parallel in the works of art from sites such as La Garma: artifacts of higher aesthetic value are also those showing the highest level of skill and are realized on bone, whereas lower skill paired with lower aesthetic qualities are found in artifacts on lithic support(2015:151-2). Furthermore, the lithic materials employed appear to have been easily accessed, probably collected on the cave's floor, as opposed to bone, requiring much higher efforts for its harvest and treatment (2015:152). These observations, together with the fact that no rare materials have been found within the cave – thus disproving the hypothesis that high-quality artifacts might have been finished, rather than entirely executed, in the cave – bring the author to the conclusion that the presence of high-quality artworks on bone and low-quality artworks on stone at the same site and at the same time might be ascribed to other causes, namely the different degree of expertise of the artists responsible for their creation.

Finally, it is worth mentioning what the art historian Alexander Perrig says about drawing, echoing what Apellaniz himself says about the graphic sign. Perrig defines a drawing as a "stroke system", a "purposefully organized system of movement traces" that reflect the style of drawing. The characteristics of the stroke system - comprising movement traces, contour and hatching - are the most important features in determining authorship, as they partially escape conscious control and, therefore, are impossible to imitate (Perrig, 1991:15). If we pair these remarks with those by Apellaniz on handwriting mentioned *supra*, it can be concluded that not only two people drawing - or, in this case, engraving - the same thing will produce two different results from the same original model, but also that each individual result will be impossible to exactly reproduce by the other person.

4. Method (SC)

The method I followed here, on the route traced by Apellaniz, is that of macroscopic observation. The observations have been conducted on the published tracings by Pales (1976) and the criteria I have used are very similar to the ones usually employed in the attribution of drawings, an example of which can be found in the volume by A. Perrig about Michelangelo's drawings I have mentioned *supra* (1991).

The human head is the La Marche collection's most represented subject, and is well-suited as the main criterion of attribution. Hence, I determined points of variation, by which I mean those areas of the human head where a variation in the strokes necessary to outline a shape are more likely to occur due to the perception and movement reflexes of the individual engraver. I have singled out 9 (nine) such points:

1. the forehead and its curve;
2. the nose;
3. the mouth and the chin (and the general prognathism of the jaw);
4. the cranial vault;
5. the back of the skull;
6. the neck;
7. the outline of the elix in the ear;
8. the lobe of the ear;
9. the eye.

After determining the points of variation in the anatomy of the human head, I observed the engravings and classified them into *Groups* and *Hands* according to recurring similarities and differences in the head outline, the presence of details (or lack thereof) and their number, the pairing of heads with bodies and the details

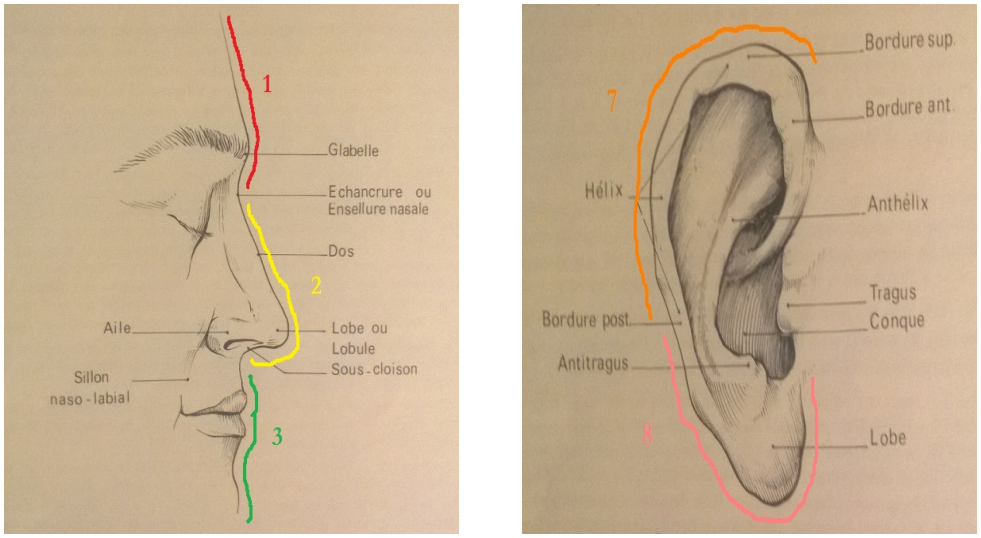

Figura 77: Points of variation in the anatomy of the human head: splancnocranium and ear.

in representing the human body. Apart from the anatomical details, I have taken into account the presence of hair (either on the head or on the face) and of items of clothing; in particular, following Pales (1976), I have focused on headwear (hats, hoods and bonnets).

The criteria behind the formation of Groups and Hands are opposite but complementary: while Groups have been formed by *analogy*, meaning the commonality of subject or theme, the Hands have been formed by *difference*, that is, based on the variation in the representation of the common subject or theme shared by the Group.

The five Groups have been marked with the first five letters of the Greek alphabet (α, β, γ, δ and ε), while the Hands are identified by their Group's Greek letter and a number ($\alpha 1$, $\alpha 2$ etc.).

Engravings are numbered and referred to according to the official publication of Pales and Tassin de Sainte-Pereuse (1976).

i. Problems

In trying to determine the nature of the site of La Marche and the authors of its engravings, I had in first place to determine whether or not there were

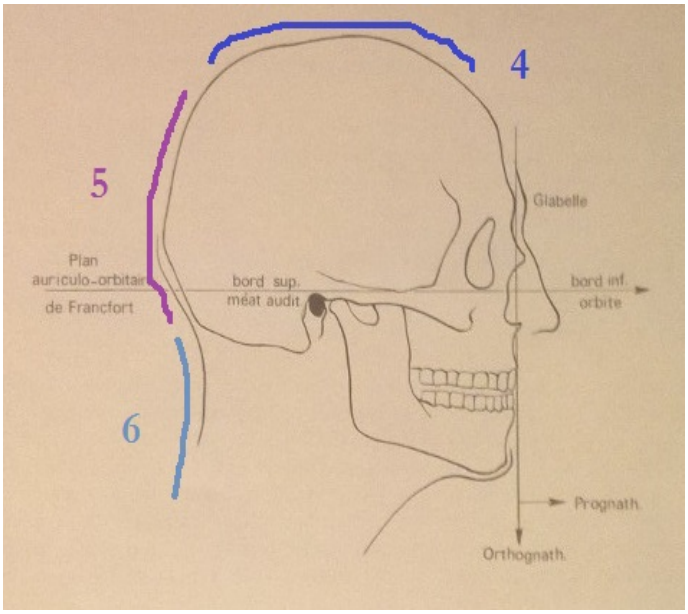

Figura 78: Points of variation in the anatomy of the human head: neurocranium.

the conditions to speak of "models", from which the other engravings had been copied. A possible solution to this problem could be the amount of detail in the engravings: if, as can be observed in contemporary art teaching, the process of art instruction moves from simple, plain forms to more complex, detailed ones by means of accumulation (i.e. from two dimensions to three, adding of light, shade, decoration, surface details etc.), it is reasonable to suppose that a similar process might be reflected in the engravings at La Marche, allowing one to single out the most complete engravings as those of the "teachers" and, in a descending scale, those with less and less detail as authored by the "pupils".

The second major problem is constituted by plaquettes bearing the work of more hands. The first, most intuitive explanation could be in terms of raw material economy: the need to use a slab of stone for more than just a single engraving. However, there is another possible explanation, suggested by the presence on the same plaquettes of two engravings belonging to different hands but showing remarkable similarities: the same plaquette might have been shared by both the master and the pupil (perhaps the most skilled) or by many different pupils. This last interpretation leads to a third problem which, at the present state of the

research, remains unanswered: could the same hand have copied from different models and, therefore, be present in different groups (see *infra*, §4)? Macroscopic observation cannot, given the conditions of the materials, answer this question; however, the next steps of the research could cast some light on this issue (see *infra*, §6).

5. Results (SC)

i. Group α

Group α is the most numerous group at La Marche with over 30 engravings, characterised by a frequent representation of feminine bodies with the usual Palaeolithic features (generous bellies, bottoms and breasts) and a remarkable consistency of subject (long-haired, side-looking character); it shares with Group β the overlapping of human and animal representations.

At least six hands are identifiable in this group:

Hand α1 - Obs. 3, 9, 30(III), 35(II), 37(I, III), 38(III), 40(I), 43(I), 45, 47, 49, 52(I): the most skilled of the group and the only one to consistently represent full human figures (head+body). The profiles are characterised by slightly bulging foreheads, French-style noses, anatomically correct eyes (oval) and what looks like a bonnet (or the space for it);

Hand α2 - Obs. 8, 19(II), 62(III): shows less skill when it comes to body representation, but skill is more evident when faces are depicted. Profiles are characterised by strong mandibular prognathism, elongated eyes and a certain attempt at expression;

Hand α3 - Obs. 13, 19(I), 23(I-II), 26(I-III), 36(I): on a similar level of skill with α2, demonstrates better abilities in engraving bodies. Profiles are characterised by perfect ortognathism, slightly bulging foreheads and the occasional omission of the eye. Possibly an attempt at composition?

Hand α4 - Obs. 15, 27(I-V): Pales nicknamed the engravings by this hand *les enfants*, probably because of the stark rotundity of the heads and the almost

complete absence of any hair (or suggestion thereof). Orthognathism of profiles, round eyes and bulging back of the head complete the picture;

Hand $\alpha 5$ - Obs. 24(I-II): defined by Pales as a composition *en Janus*, this one-example hand is characterised by "olympic" profiles, perfect orthognathism, globular eyes and a certain insistence on rendering long hair;

Hand $\alpha 6$ - Obs. 21(I-II), 22(I-II), 24(III), 38(I): bearing a curious resemblance to the Venus of Brassempouy, the engravings by this hand show (all but one) a tendency to bear the chin upwards, as if looking up. In one case, the two figures represented seem to look at each other, while in one case the figure is wearing a Phrygian hat.

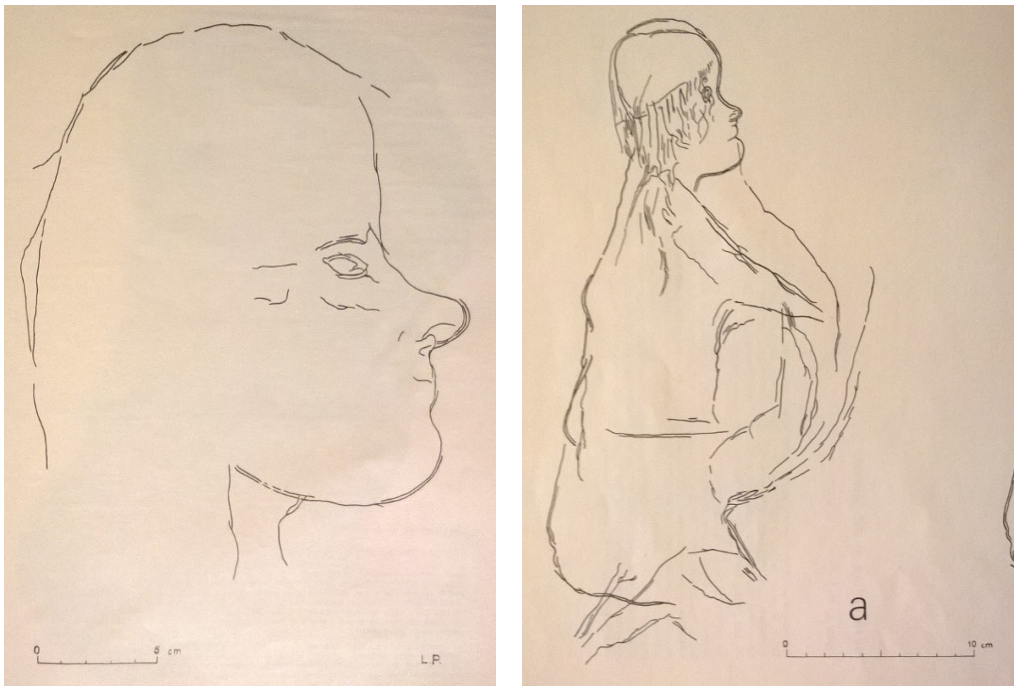

Figura 79: Group α, examples of Hand $\alpha 1$: Obs. 3 and Obs. 43(I) (from pales, 1976).

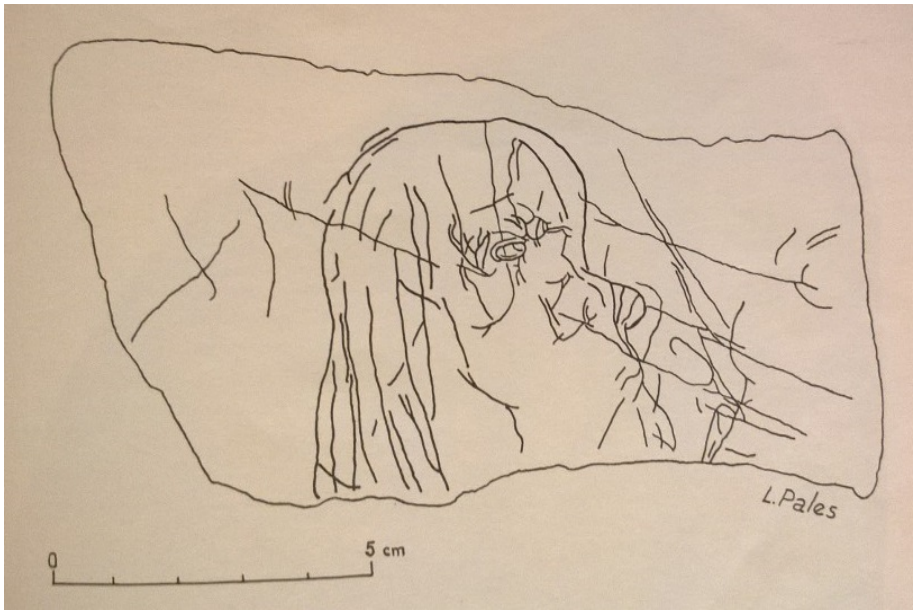

Figura 80: Group α, examples of Hand α2: Obs. 19(II) (from pales, 1976).

ii. Group β

Group β is the smallest group at La Marche with 6 engravings, characterised by straight, "gothic" profiles, square jaws and pointy noses. Together with Group α and δ, it is one of the groups where the relationship between "teachers" and "pupils" (i.e. between high-skilled and low skilled engravers) is more evident in the reproduction of models.

At least three hands are identifiable in this group:

Hand $\beta 1$ - Obs. 2, 25(I-III), 30(I-II), 63(II-III): very accurate definition of the facial details (nose, eye and, in one case, ear), It is the most "gothic" of all the hands;

Hand $\beta 2$ - Obs. 63(I, IV-V): its profiles tend to be slightly retracted compared to $\beta 1$, with whom it shares attention for hair and shaping of the eye. Describing this engraving, Lwoff (1943:144) speaks of "juvenile" portraits;

Hand $\beta 3$ - Obs. 28(I-VII): the least skilled of this group, with head profiles barely sketched and the omission of several head details.

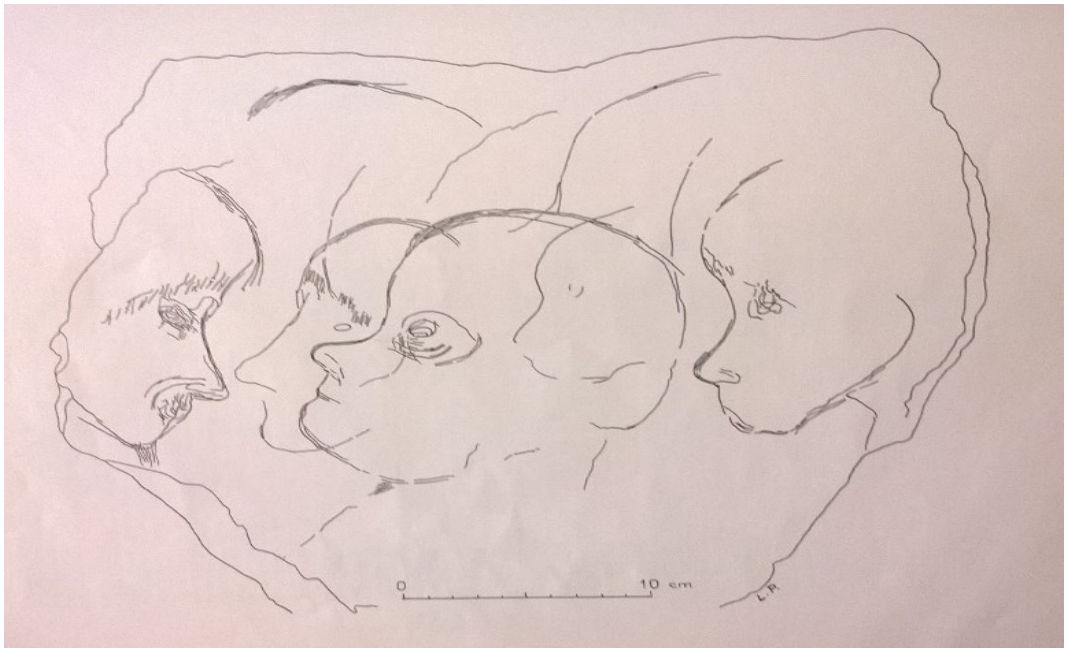

Figura 81: Group β, Obs. 63: examples of Hand β1 (II-III) and of Hand β2 (I, IV-V) (from pales, 1976).

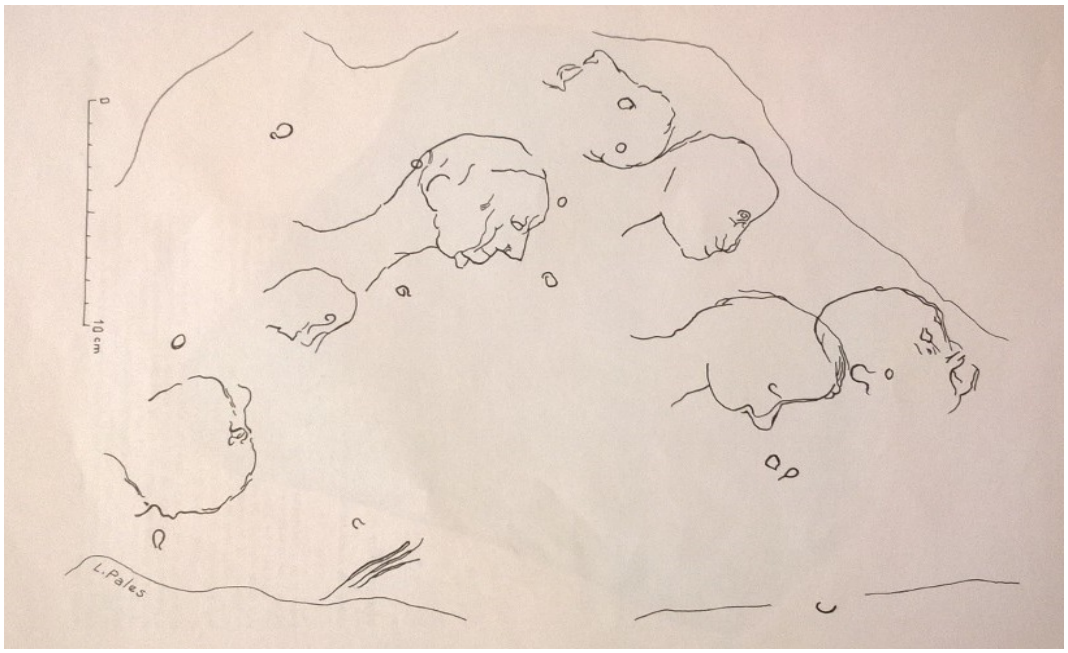

Figura 82: Group β, examples of Hand β3: Obs. 28(I-VII) (from pales, 1976).

iii. Group γ

Group γ breaks with the previous groups, in the sense that it is characterised by sharply convex profiles and mandibular retrognathism. It shares with Group δ the jaw-ear stroke (one continuous line to draw the jaw and the ear) in a constant fashion (this appears only occasionally in other groups); at the same time, it shares with Group α its attention to hair.

At least two hands are identifiable in this group:

Hand $\gamma 1$ - Obs. 29(I-II): keen attention to details (eyes and bags, nose, mouth and hair, with possibly headwear) and a certain attempt at expression;

Hand $\gamma 2$ - Obs. 1, 7(II), 18, 32(I-II), 33(I-II): less keen on details (apart from hair) but still focused on expression. It is worth noting that Obs. 33(I) shares a similar technique with another engraving, Obs. 54 (see *infra*, §4.6): in both cases, in fact, the profile of the engraving follows that of the plaquette.

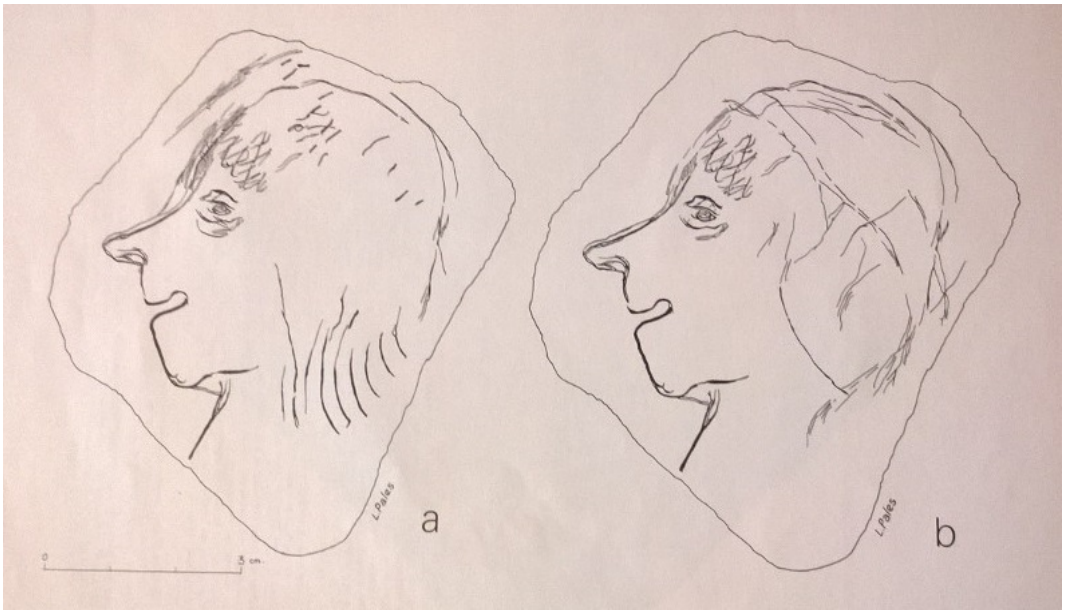

Figura 83: Group γ, example of Hand γ1: Obs. 29(II) (from pales, 1976).

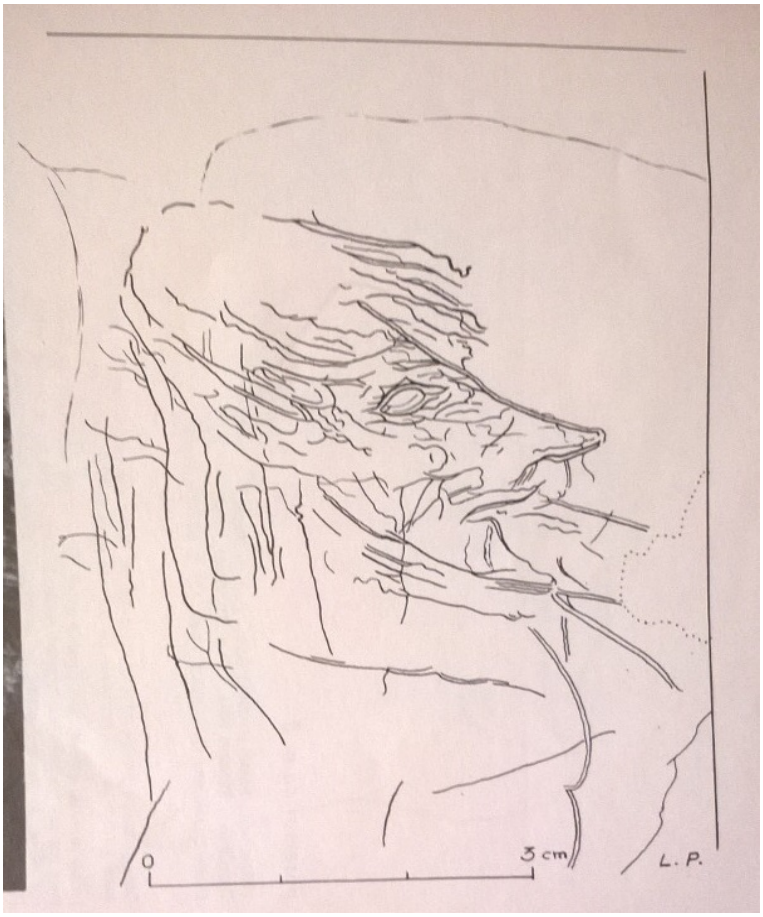

Figura 84: Group γ, example of Hand γ2: Obs. 7(II) (from pales, 1976).

iv. Group δ

Group δ is the only group at La Marche in which male sexual characters and hands are represented in detail, and one of two (with Group α) in which complete bodies appear. With the latter and with Group γ it shares the same attention for expression, with a certain gift for the "grotesque".

At least three hands are identifiable in this group:

Hand δ1 - Obs. 6, 34(I), 60(I-II): "grotesque" style; great care is devoted to depicting all features of the face and a great deal of the body; circular eyes; "paddle" ears. The effort towards composition seems evident in Obs. 60,

where the two figures represented seem engaged in some sort of physical fight;

Hand $\delta 2$ - Obs. 5, 14, 16, 20(I-II), 34(II), 61(I-IV): retains the "grotesque" style of $\delta 1$, but with less attention on the body (just traced) and occasionally omitting anatomical traits from the face; sharp profiles; oval eyes; pointy, eagle noses and ears;

Hand $\delta 3$ - Obs. 4, 12: the "hooded" engraver, reproduces the same subject who, apparently,wears some sort of hooded item of clothing above his head. The face retains some "grotesque" characteristics, however in less quantity.

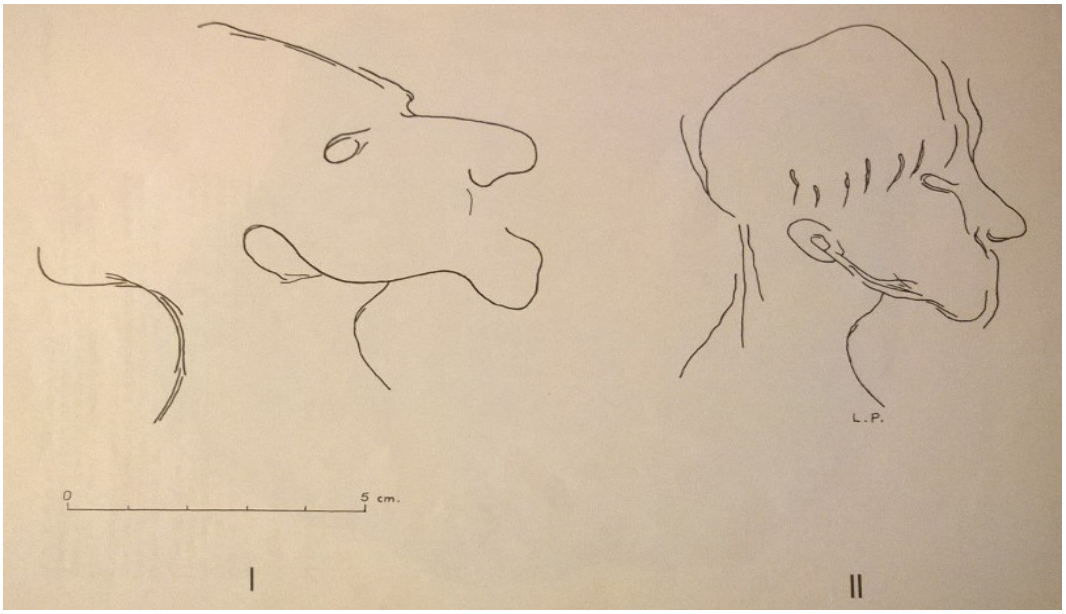

Figura 85: Group δ, example of Hand $\delta 2$: Obs. 20(I-II) (from pales, 1976).

v. Group ε

This group stands alone among the others at La Marche because of the sharp variation in the orientation of portraits: in contrast with the general formula of profile representation, the hands in this group adopt a full frontal, "passport" type technique. Also, it is the only group to include an engraving discovered later than

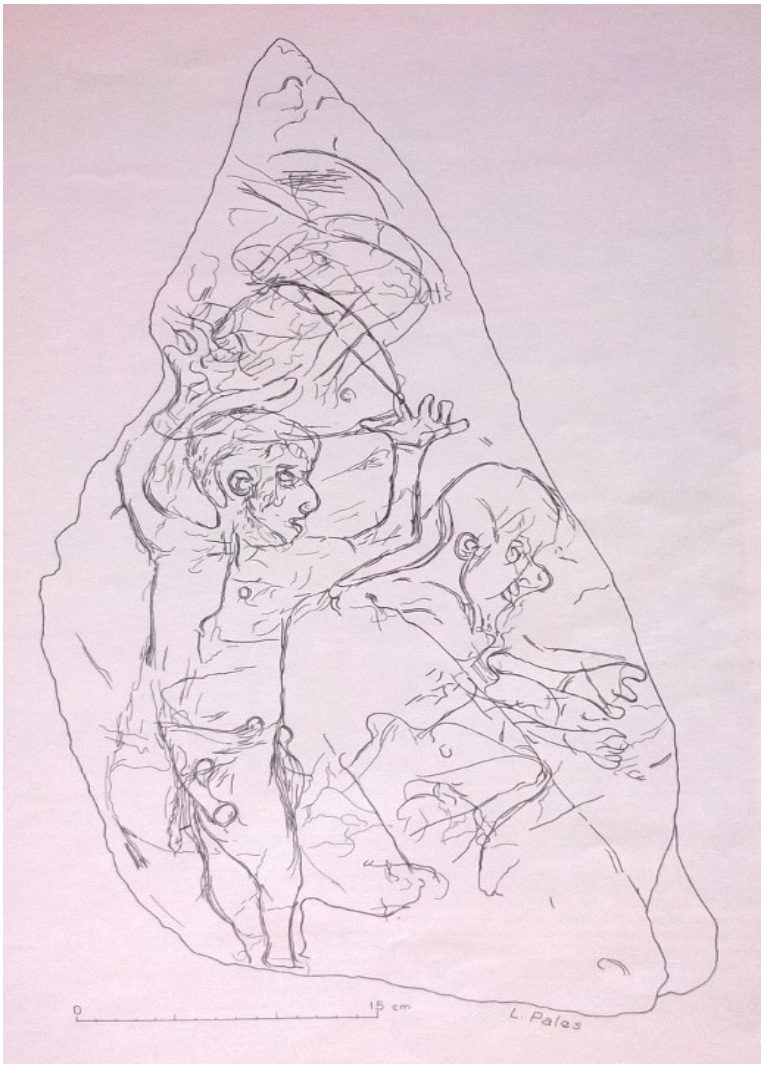

Figura 86: Group δ, example of Hand δ1: Obs. 60(I-II) (from pales, 1976).

the cave itself: Airvaux and Pradel (1984) report its discovery during the works for a new prehistoric wing at the Musèe de l'Homme in Paris.

Two hands are identifiable in this group:

Hand ε1 : responsible for the engraving discovered by Airvaux and Pradel. The face is strikingly realistic, with details of facial hair and wrinkles almost completely absent in other groups and hands;

Hand ε2 - Obs. 58, 59: responsible for the engravings published by Pales. Whi-

le clearly frontal representations, the nature of these portraits has been doubted. Pales himself (1976:pll.152-4) expresses the opinion these might actually be representations of owls; however, he says Obs. 58 bears a remarkable similarity with the face of the sorcerer from the Trois Frères cave.

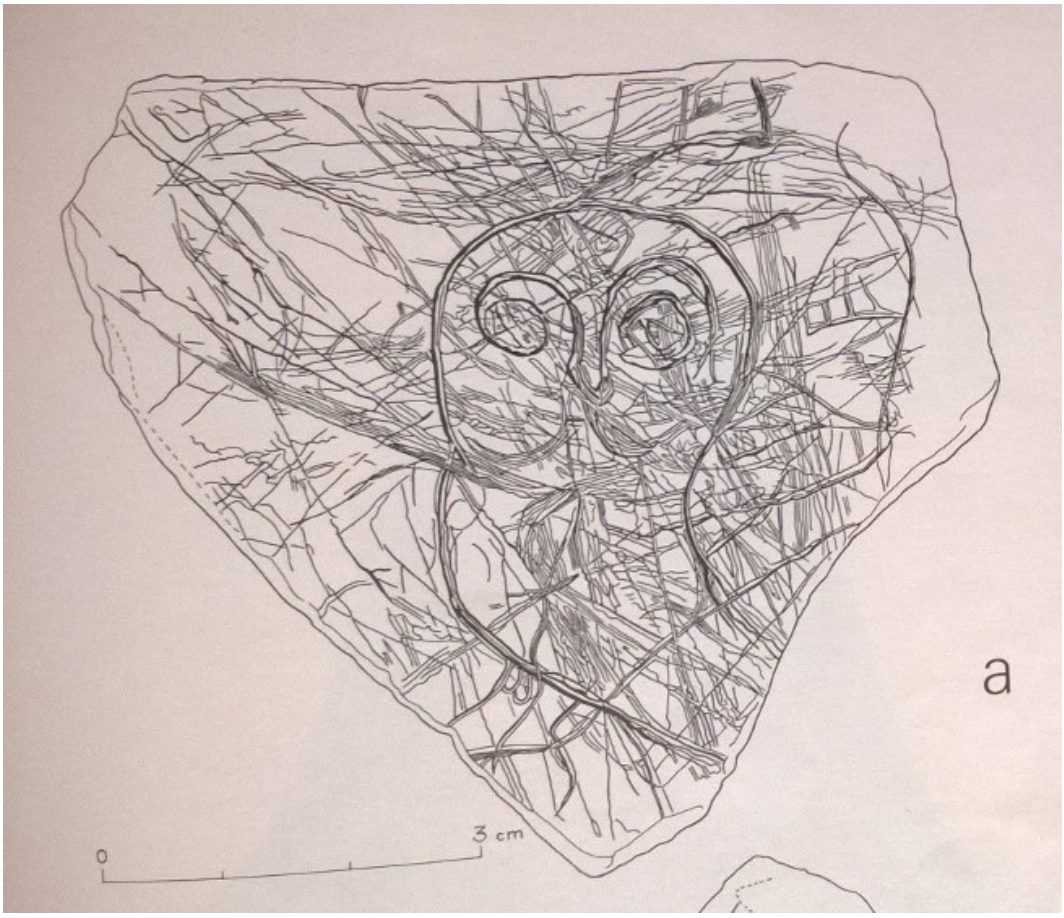

Figura 87: Group ε, example of Hand ε2: Obs. 58 (from pales, 1976).

vi. Dubious attributions

A series of engravings escape a precise attribution based on macroscopic observation. These are the following: Obs. 17, 29, 36(II), 38(III), 40(III), 41, 43(II), 44, 46, 48, 50, 51, 52(II), 53(I-II), 54, 55, 56, 57,62(I-II, IV).

Figura 88: Group ε, example of Hand ε1: portrait of old man (from Airvaux and Pradel, 1984).

For some of these, only a partial, generic attribution to a group is possible. Obs. 17, 29, 36(II), 38(III), 43(II), 44, 46, 48, 50, 51, 52(II) and 62(I-II, IV) could be assigned to Group α on the basis of the bodies' outline: in all cases, we are presented with feminine bodies showing the generous features of Palaeolithic venuses; the head is missing or very poorly distinguishable, which makes a more precise attribution to a hand impossible.

For the remaining engravings - Obs. 40(III), 41, 53(I-II), 54, 55, 56 and 57 - the

plaquette surface is so covered in marks and its preservation state so poor that a precise figure is impossible to single out, if not for very few lines. Obs. 54 seem to fall within the style of Group γ in the sense that what can be read of the figure engraved follows the contour of the plaquette as in Obs. 33 and 29(II).

Particular attention needs to be devoted to Obs. 39. While acknowledging its problematic character, Lwoff (1957:628) describes this engraving as representing two human bodies facing each other, while Breuil (quoted in Pales, 1976:pl.110) believes it represents a feminine figure in prospect or a *coitus*. I had the chance to observe the engraving only through photographs and drawings, but I believe Breuil's first interpretation to be the correct one, considering the relative symmetry of the two figures' details, in particular the head, and the outline of the arms and the legs. The face is almost completely omitted, which makes attribution difficult: for the feminine body, it would fit in Group α, but the frontal representation would suit Group ε.

6. Human/animal engravings (SC)

In five cases (Obs. 13, 25, 30, 31, 37) the human representations are accompanied by animal representations as well.

Obs. 13 is particularly interesting from an artistic point of view, since it is an example of "mixed technique": the animal profile is sculpted in low relief, while the human profile is engraved in the same fashion as the other engravings at La Marche. This discrepancy in technique might suggest two different hands at work on this plaquette; however, as Pales suggests (1976:pl.26) it is more plausible that the animal and human representations are not contemporary: the uniformity of the patina on the edges and surfaces of the plaquette indicates that the sculpture was executed before the engraving, thus identifying Obs. 13 as a clear case of raw materials' re-use.

While for Obs. 13 it is hard to identify the animal represented due to the fragmentation of the plaquette, for the other four cases the outline is either complete or sufficient to carry out an identification: Obs. 25 shows a bovine profile looking left, presumably an auroch; Obs. 30 shows a cave bear profile looking

right, missing the limbs but clearly defined in the face and back; Obs. 31 shows a cave bear profile looking right as well, its design limited to the head but with a certain attempt at detail; finally, Obs. 37 shows a small deer head looking left, barely sketched.

7. Discussion and Conclusion (SC, CD)

From macroscopic observation and attribution of the engravings, it is possible to say that approximately 16 (sixteen) people are at work in this cave, of which 5 (five) possess medium-high skills, 9 (nine) possess medium-low skill and 2 (two) possess very low skill. Given the premises we have outlined supra (see Section 3), we think it is possible to say that the assumptions made by Apellaniz about the possibility of assigning Palaeolithic artworks to their authors are sound and valid: the opinion expressed by Pales and Saint-Pereuse (1976:pl.99) – and rightly criticized by Groenen (2004:129) – of a single authorship cannot be sustained anymore; even a macroscopic analysis, with all its limitations, highlights a wide range of skill levels, approaches to the support and attempts at composition and expression. With regards to the possibility of speaking of La Marche as an art workshop, where skilled engravers trained other people in their craft, we believe it is possible to say that the three principles behind apprenticeship in the Palaeolithic outlined by Fritz et al. (see *supra*, §3) are at work in this cave. Engravings made by skilled artists were used by less skilled or unskilled (possibly younger) members of the community as models, possibly under the guidance of the authors themselves, thus forming the groups I have tried to identify in §5.

We are conscious, however, that macroscopic observation alone – especially conducted on tracings – is an insufficient tool for such a complex task as the attribution of the engravings; following what Apellaniz himself suggests (2004a:75-9), we believe the next steps, immediately following the macroscopic analysis on the engravings themselves, could be: 1) the execution of a microscopic study of the engravings, followed by the study of the grooves' morphology across the groups and the hands; and 2) a double blind experimental protocol in which people with different levels of artistic skill will be required to produce human-themed

engravings using materials as similar as possible to the ones in La Marche, followed by a similar analysis as per point 1. These could, we believe, either confirm my attributions or amend them, with the potential of drawing a completely different map of groups and hands at La Marche. Once these three stages are complete, the method could be extended to the other caves in the Lussac-Les-Châteaux area that have yelded human-themed engravings, first and foremost the neighbouring cave of Les Fadets (see the example published in Fuentes, 2013:989) in order to establish whether or not artists "trained" at La Marche moved across the area and left art in other caves. Such a study aspires to contribute to the exploration of the rich vein of individuality in prehistoric art; we believe it is necessary to pursue the investigation on the artists and, in particular, the training they received.

Chapter VIII
Microscopic analysis - the RTI technique

In the previous chapter I have outlined the method I have adopted to carry out the macroscopic observation stage of my attribution method; subsequently, I have applied it to the tracings of the Magdalenian plaquettes of La Marche and presented the remarkable results that have emerged, clearly showing the presence of Groups and Hands at work in this cave. This section will integrate the macroscopic observation with the microscopic analysis conducted via the RTI technique (fully detailed in §1), the results of which will be presented and discussed respectively in §2 and §3.

1. The technique

Devised by T. Malzbender and D. Gelb, RTI (Reflectance Transformation Imaging) lies at the crossroads between photography and information technology.

The best way to describe this technique is as a computational photographic method, capable of capturing the shape and colour of an object's surface and enabling its interactive re-lighting from different directions. Furthermore, RTI allows for the mathematical enhancement of the object's surface attributes, thus revealing surface information that would otherwise be completely inaccessible by direct physical examination of the object itself. Multiple digital photographs are taken of the object's surface from a stationary camera position; in each photograph, the

light is projected by a different angle. The resulting series of images of the same subject with varying highlights and shadow is then mathematically synthesized in order to generate a mathematical model of the surface, allowing the operator to re-light the image from different angles and to study the image from a PC screen.

Originally developed by HP Labs in 2000 for 3D imaging purposes, RTI has received almost immediate recognition as a valuable tool for cultural heritage and conservation studies, the first application on an archaeological artifact - a neo-Sumerian cuneiform tablet - dating as early as 2001 (Earl et al., 2010:1). Given its peculiar characteristics, RTI has proven particularly effective in the study of engraved artifacts from a variety of eras and archaeological contexts, its most famous applications being the Vindolanda tablets, the Herculaneum Amazon statue and, in more recent times, the Star Carr pendant (Earl et al., 2010:7-8; Milner et al., 2016). Although portable art has mostly been the target of choice, the Mesolithic pendant is not the only example of prehistoric art onto which RTI has been deployed: in 2019, the technique has been successfully utilised for the study of an engraved rock art panel from Monte Bego (Alpes Maritimes, France) dating from the Middle Neolithic to the Early Bronze Age (Mourey, 2019). It was in light of these successful applications in the field of prehistoric art that I resolved to adopt RTI as the technique of choice for the microscopic observation stage of my research.

For the plaquettes in question, a series of 60 (sixty) photographs have been taken for each item, using a Canon EOS 800D with an EF-S 18-55mm IS STM Lens (OEM), mounted on a Manfrotto 055 Carbon Fibre 3-section tripod. Lighting has been provided by a hand-held LED lamp and the shutter has been controlled remotely via an infra-red trigger, so to avoid any vibration or movement that could compromise the focus of the camera. For each photograph, the light source angle has been varied as to produce a "dome-like" coverage of the whole object surface (for portability reasons, no actual lighting dome was employed for the recording of this plaquette).

Expert Engraver	**Engraver in training**	**Beginner engraver**
No accidents	Accidents in the form of 'slips of the tool'	Several forms of accidents ('slips of the tool, scratches, *accrochages*, issues with curved lines)
No corrections	Corrections	Corrections
Variable profile incision (V, asymmetrical V, relief)	Variable profile incision (V, asymmetrical V, relief)	Flat profile incision
Deep incision (deep groove)	Deep incision (deep groove)	Superficial incision (shallow groove)
Surface preparation	Surface preparation	No surface preparation

Tabella 2: Characteristics associated with different degrees of expertise among Magdalenian engravers (elaborated from Rivero, 2015:149).

2. Results

The following tables illustrate the results of the RTI technique analysis on a sample of plaquettes from La Marche.

The sample plaquettes have been divided based on their current location. For each plaquettes, descriptors have been given for each of the categories illustrated by Olivia Rivero and outlined *supra* (Introduction, s. 3.1) and schematized here in Table 1. The only exception to Rivero's criteria is constituted by surface preparation, impossible to detect via RTI. Based on Rivero's criteria, each engraver has been classified as Expert (E), Trainee (TR) and Beginner (B).

3. Preliminary conclusions

The first set of conclusions that can be drawn from this field study concerns the suitability of the RTI technique for the study of Magdalenian engraved plaquettes. While this technique has proved effective and precious on artifacts of medium to small size with a relatively even engraved surface, it has to be noted that, for larger engraved objects (as it was the case for one of the engravings at MAN) and uneven surfaces, the readability of the surface has been less enhanced than for

the other objects examined. Despite this issue, RTI has allowed a thorough study of the engravings; difficulties with more unwieldy objects can be overcome by employing more advanced optical equipment and a more efficient lighting system, similar to those employed by Milner et al. in their study of the Star Carr pendant (2016, textitpassim).

The issue of readability of the engravings is strictly connected with the quality of the engravings themselves: as it is evident from the cases of Hands α2 and γ1, the quality of the stone and of the engraving surface are directly proportional to the level of skill demonstrated by the engravers; similary, the low-skilled Hand α4 produces its engravings on a poor quality stone the surface of which is uneven, cracked and not immune from natural markings; medium skilled engravers, such as β1, β2 and γ2, engraved on medium quality supports, with more even surfaces than beginners but with much grainier textures than fully skilled engravers.

There are, it has to be said, a few remarkable exceptions: α6, despite its relatively low skills, engraves on good quality stone, a situation similar to that of ε2, although the latter's skill appear inferior from those of the former. This seems to contradict what Rivero says about the quality of the support for engravings in relation to the level of skill (2015:152); for the case of α6, however, it can be argued that its mastery of the engraving tool, demonstrated by the low amount of mistakes it makes, would place it in the "medium skilled" category of engravers and, therefore, worthy of using a higher quality support than, for example, α4. Hand ε2, instead, faces a completely different challenge: frontal representation. As opposed to what happened for animals, (Rivero, 2015:135), human representation has not reached the same level of formalization; it is therefore more difficult to trace a similar regularity in the chain of apprenticeship; in other words, the possibility of an "uncommon" representation is much higher for human-themed engravings than it would be for animal-themed representation. Marginally, it can be noted that a full frontal portrait, together with a much higher level of difficulty in execution than a profile portrait, is open to conveying deeper, "metaphysical" meanings: as opposed to a profile portrait, a frontal one "returns" the gaze of the artist, investing it of peculiar significance in a context where art is never for its own sake.

Given the above, I believe there is enough margin to say that the RTI exam of

the sample does, at this stage, validate the original attributions carried out on the tracings by Pales. Furthermore, after macroscopic observation and sample-based RTI exam, I am becoming more and more convinced that La Marche represents an attempt at creating a formula for the representation of the human form and, therefore, at creating an apprenticeship peculiarly devoted to this type of representation.

Figura 89: Examples of Expert engraver: Obs. 19 (MH 50-7-407).

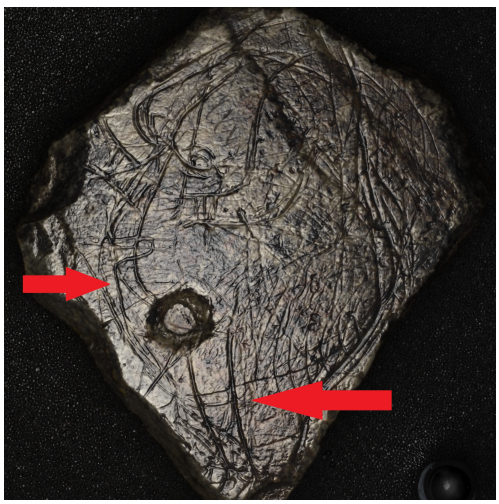

Figura 90: Examples of Expert engraver: Obs. 29(II) (MAN 77684).

Figura 91: Example of Training engraver: Obs. 27 (MH 50-7-676).

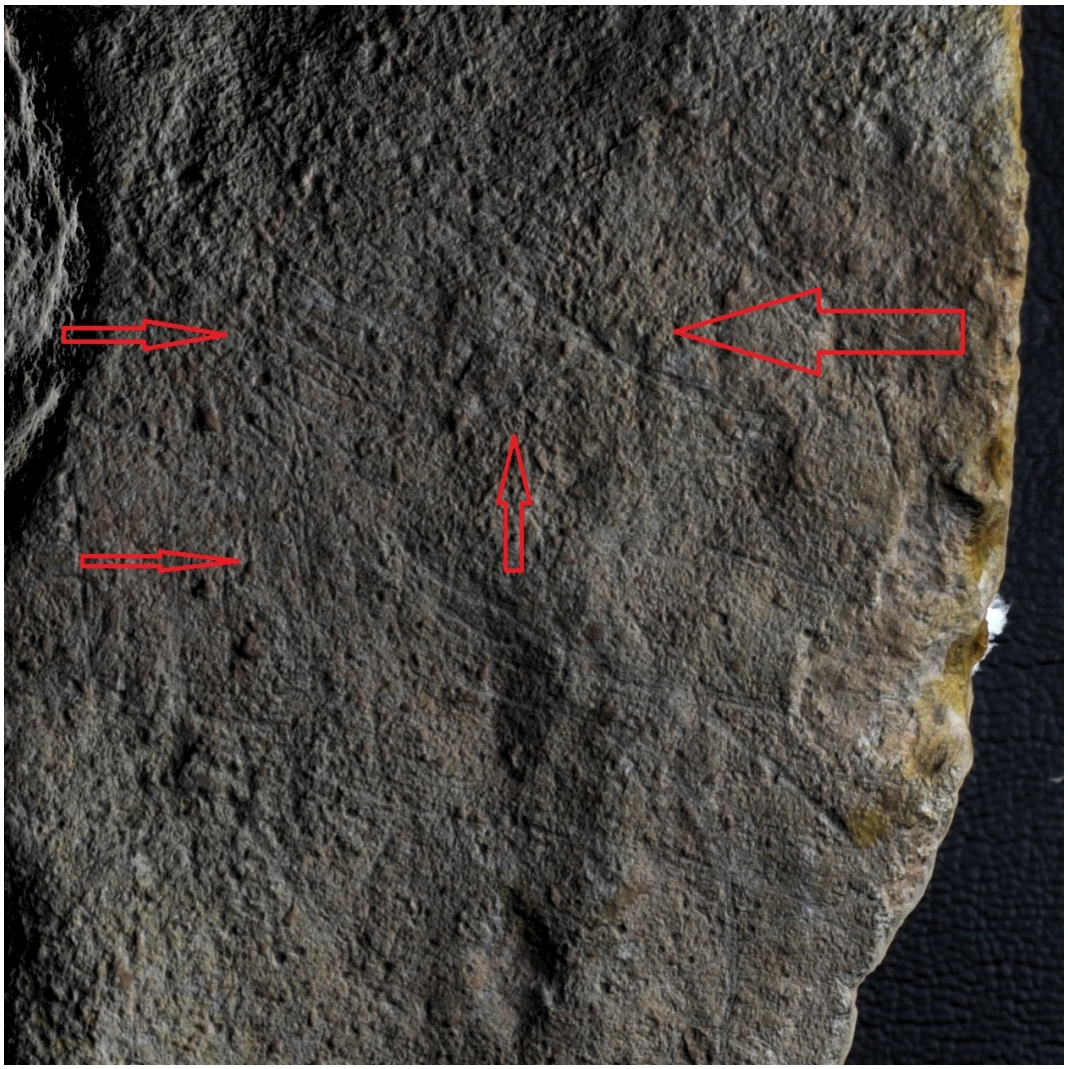

Figura 92: Example of Training engraver: Obs. 7 (MH 50-7-398).

Figura 93: Examples of Beginner engravers. Left: Obs. 22 (MAN 77679). Right: Obs. 63 (MAN 83339).

Item	Accidents	Corrections	Incision profile	Groove depth	Expertise
Obs. 7 (MH 50-7-398)	None. The profile is engraved with a sure hand, even in difficult passages such as the eye sockets. No slips of the tool have been identified	None. The engraver does not make mistakes and there are no identifiable "second thoughts".	V-shaped, symmetrical	Generally shallow and consistent - no visible variations in depth.	TR
Obs. 19 (MH 50-7-407)	None. The profile is executed in one, continuous line without mistakes or "slips of the tool".	None.	V-shaped, symmetrical	Consistently deep for the profile and head. Shallow for the hair.	E
Obs. 27 (MH 50-7-676)	All profiles are affected by frequent "slips of the tool".	Profiles I and IV are both affected by frequent mistakes in the description of, respectively, the occipital and the frontal regions of the skull.	V-shaped, asymmetrical.	Inconsistent for all profiles: facial profiles are defined by a deep groove that becomes shallower from the top of the forehead and further down towards the back of the skull and top of the neck.	TR

Tabella 3: Results of the RTI analysis of the plaquette sample from La Marche - Musee de l'Homme, Paris.

Item	Accidents	Corrections	Incision profile	Groove depth	Expertise
Obs. 22 (MAN 77679)	First profile - None. Second profile - two very evidents "slips of the tool": one on the occipital region of the skull, the other at the base of the skull.	First profile - one clear "second thought" involving the occipito-temporal region of the skull. Second profile - None.	First profile - Flat-shaped. Second profile - Flat-shaped.	Irregular for both profiles: the deep groove used for the head contrasts sharply with the shallow groove used for the facial features.	B
Obs. 29(II) (MAN 77684)	None. The profile is outlined with one continuous groove with no sign of "slips of the tool".	None. The engraver does not show any "second thoughts".	V-shaped, symmetrical.	Uniformly deep, even on complex details such as the nose and mouth profiles.	E
Obs. 38(I) (MAN 77678 *verso*)	None. The entire profile is executed with a single stroke, without noticeable "slips of the tool".	None. The engraver does maintain precision even in the definition of the head wear.	V-shaped, symmetrical. Only in one small portion it briefly becomes flat-shaped.	Varied: consistently deep for the facial profile and head wear; consistently shallow in the definition of the hair.	E
Obs. 58 (MAN 83330)	Only one evident case in the definition of the upper body. Otherwise, no noticeable accidents.	At least two visible cases in the definition of the head: one on the right-hand side, describing the facial contour; another over the left eye, aiming at reshaping the socket.	Flat-shaped.	Consistently deep for the contour and facial features; shallower for describing the plumage details.	TR

Tabella 4: Results of the RTI analysis of the plaquette sample from La Marche - Musée d'Archeologie Nationale, St. Germain-En-Laye, Paris.

Item	Accidents	Corrections	Incision profile	Groove depth	Expertise
Obs. 59 (MAN 83331)	Several "slips of the tool" are observable across the engraving; in particular, in the definition of the eye sockets.	Major "second thoughts" appear in the definition of the head contour, where at least two attempts have been made to achieve symmetry.	Flat-shaped.	Consistently deep, even in areas where mistakes have been made.	TR
Obs. 63 (MAN 83339)	Several "slips of the tool" for all three profiles, especially the third one for which the entire contour is an almost uninterrupted sequence of accidents.	First profile - the contour of the nose has been completely re-engraved larger; Second profile - the eye has been re-engraved larger and in a more "inland" position compared to the original, smaller and more circular eye; Third profile - second and third passages over the same groove.	Flat-shaped.	Inconsistent across the three profiles: deep for the first profile, it becomes shallower across the remaining two.	B

Tabella 5: Results of the RTI analysis of the plaquette sample from La Marche - Musée d'Archeologie Nationale, St. Germain-En-Laye, Paris.

Chapter IX
The experimental protocol

The aim of this experimental protocol was to verify my conclusions on the attributions drawn from the archaeological engravings described *supra*, Ch. VI and VII; it follows both logically and chronologically the macroscopic observation and microscopic analysis of the engravings.

In order to replicate different levels of skill in executing engraved portable art, volunteers with varying levels of artistic skill were recruited; they were asked to reproduce on a slab of stone an image of a human profile, using tools available in the Late Magdalenian. Data have then been reviewed by the author in order to confirm or disprove the starting hypothesis.

1. Outline of the experiment

Phase 1: The Author got in touch with the possible volunteer pool for the experiment. Once selected, the Author met the Participants and gave a summary description of the experiment - Information sheets and consent forms have been provided and returned. Subsequently, a preliminary questionnaire has been administered, in which some information have been gathered about the Participants' personal history and engagement with the arts. Participants have also been given the choice of providing their names or nicknames and have been explained that, should they wish at any moment to withdraw from the experiment, they will be allowed to. The questionnaire is attached in appendix to this thesis.

Phase 2: the Participants gathered where the experiment has to take place. The requirements were explained to them again: to reproduce, on a slab of stone and with flint tools, a human profile from models. Each one of them was provided with the necessary materials, together with a brief explanation on how to use the flint tools safely - hands and eyes protections were provided. They were then allowed to perform the task.

Phase 3: Following the execution of the experiment, the resulting plaquettes underwent the same RTI analysis adopted for the original engravings from La Marche (see *supra*, Ch. VIII, §1). The analysis has been carried out by the author in the spaces of King's Manor at the University of York.

2. Results and discussion

The first set of charts illustrates the answers provided by the participants to the questionnaire on art interests and engagements.

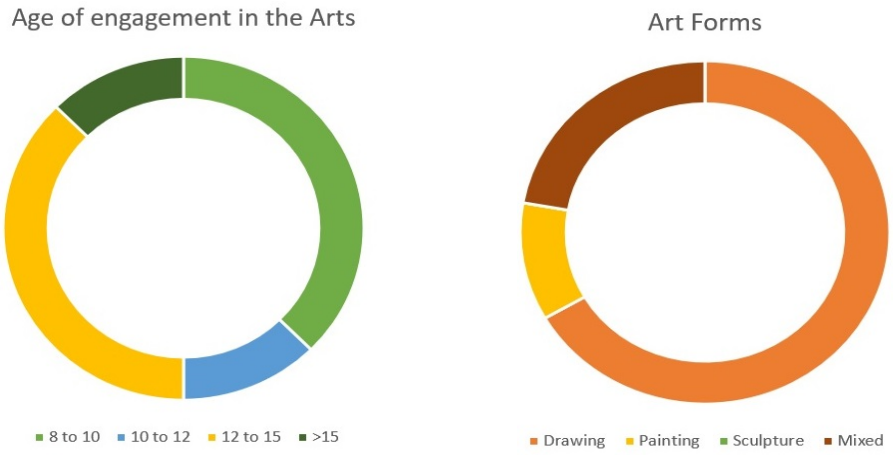

Figura 94: Age of initial engagement in the Arts and preferred art forms among participants.

The most striking element emerging from these answers is the general homogeneity of the volunteer pool: the vast majority of them, in fact, seems to have engaged in the Arts in their early-to-mid teens and to hold drawing as their main form of artistic expression (Fig. 23); conversely, art is mostly an individual

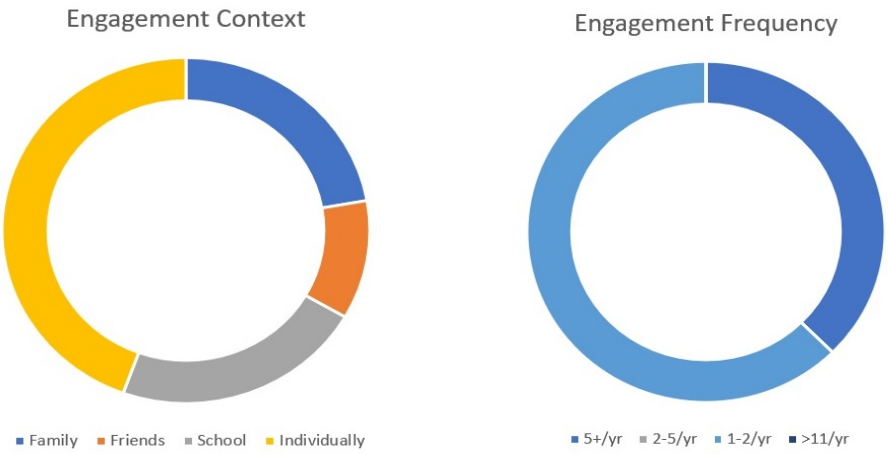

Figura 95: Context and frequency of engagement in the Arts among participants.

pursuit, cultivated mainly as a hobby (Figg. 24, 25). On the other hand, however, such uniformity is much less apparent when family history of art engagement is considered: as we can observe in Fig. 25, there seems to be a fairly even spread of the volunteers over different categories of relations, including a small minority of single-person engagement.

A similarly even spread is reflected in Tables 6-8, showing the results of the RTI analysis on the plaquettes from the experimental protocol, classified in the same way as the originals from La Marche, following Rivero's criteria (See *supra*, Ch. VIII, §2): the numbers of Beginners and Trainees, in fact, are almost identical, with a remarkable absence of Expert engravers. The pool shows further homogeneity when the characteristics of the groove are concerned: every volunteer has shown a consistent recourse to several strokes of the tool to leave a mark on the support, together with a general struggle to leave a sufficiently readable mark on the surface of the plaquette; despite this, it is worth noting that the number of "slips of the tool", corrections and "second thoughts" is consistently low across the group, together with the parallel occurrence of deep grooves for vertical strokes and shallow grooves for horizontal and curved strokes. If read in the light of the questionnaire answers, these results should not be surprising: the volunteers' predominant preference for drawing implies a level of control of drafting tools and steady-handedness, which translates in the ability to trace a profile on a support without making too many mistakes; at the same time, lack

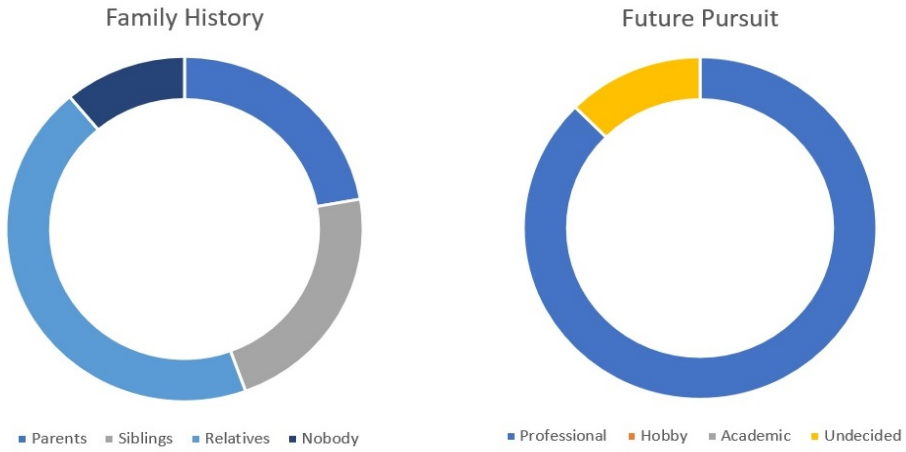

Figura 96: Engagement in the Arts within the wider family context and future pursuit plans among participants.

of acquaintance with sculpting and engraving techniques (Fig. 23) can explain the difficulty in leaving a readable mark on an unfamiliar surface, thus resulting in the "over-engraved" effect of multiple strokes on the same line. This same lack of technical knowledge, paired with the absence of formal training - all volunteers were amateur artists - can also ultimately explain the absence of any Expert-level engraving among the RTI results.

The comparison with the archaeological plaquettes from La Marche revealed striking similarities as well. As we can observe in Fig. 26, the flat-shaped incision profile by the Trainee of Obs. 58 (MAN 83330) overlaps almost perfectly with that of experimental volunteer TB; conversely, the number of accidents in both engravings is very close to none, which is consistent with the steadiness of the hand and the uniformity of groove depth. The same similarities can be observed, still among the Trainee engravers, also in the case of V-shaped asymmetrical profiles, as it is the case of Obs. 27 (MH 50-7-676) and volunteer AC (Fig. 27). The parallels are not limited to the higher skilled among engravers, as a comparison among the Beginners - both archaeological and experimental reveals. For example, if we compare Obs. 63 (MAN 83339) and volunteer Leo, we will notice the same shallow depth of the groove (Fig. 28).

I think it is possible, after the results exposed above, to draw a few conclusions. The very first thing to be noticed is that the experiment was conducted

on a "doubly reduced scale": the actual number of participants was much lower than originally planned and the volunteer pool presented a general lack of internal variety in skills level; the presence of Expert-level engravers - either amateurs or professionals - would have provided a more complete set of results and a broader subject of comparison. This notwithstanding, I believe it can be said that the experimental artifacts reflect the same characteristics of the engravings found at La Marche. The unfamiliar technique the volunteers have been called to use has turned out to be, rather than a hindrance, an enhancement: in fact, it has recreated the position of "absolute beginner" in the craft of engraving to a higher level of accuracy, as the resemblances among Beginners show. Along similar lines, those of the volunteers who already had some familiarity with drawing have displayed a somewhat better command of the technique, very similar to their counterparts at La Marche. Therefore, in light of these results, I think it is fair to say that the experimental protocol is consistent with the results obtained by the RTI analysis of the original plaquettes. In the next chapter, I will draw together the results of the three stages of my method and draw the final conclusions of my research.

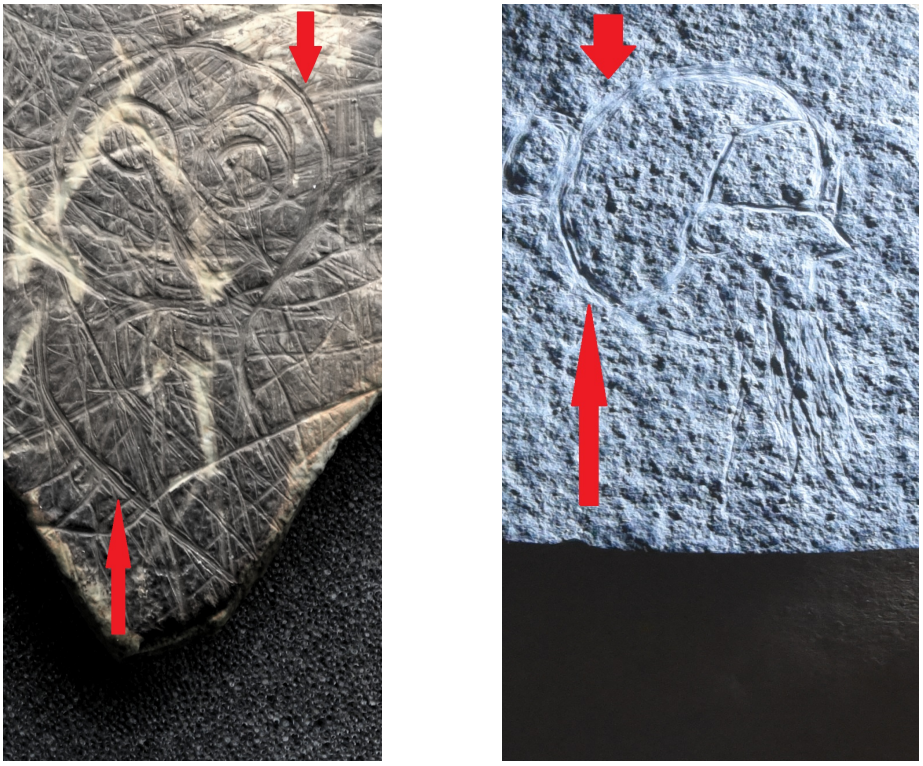

Figura 97: Examples of flat incision profile. Left: Obs. 58 (MAN 83330). Right: volunteer TB.

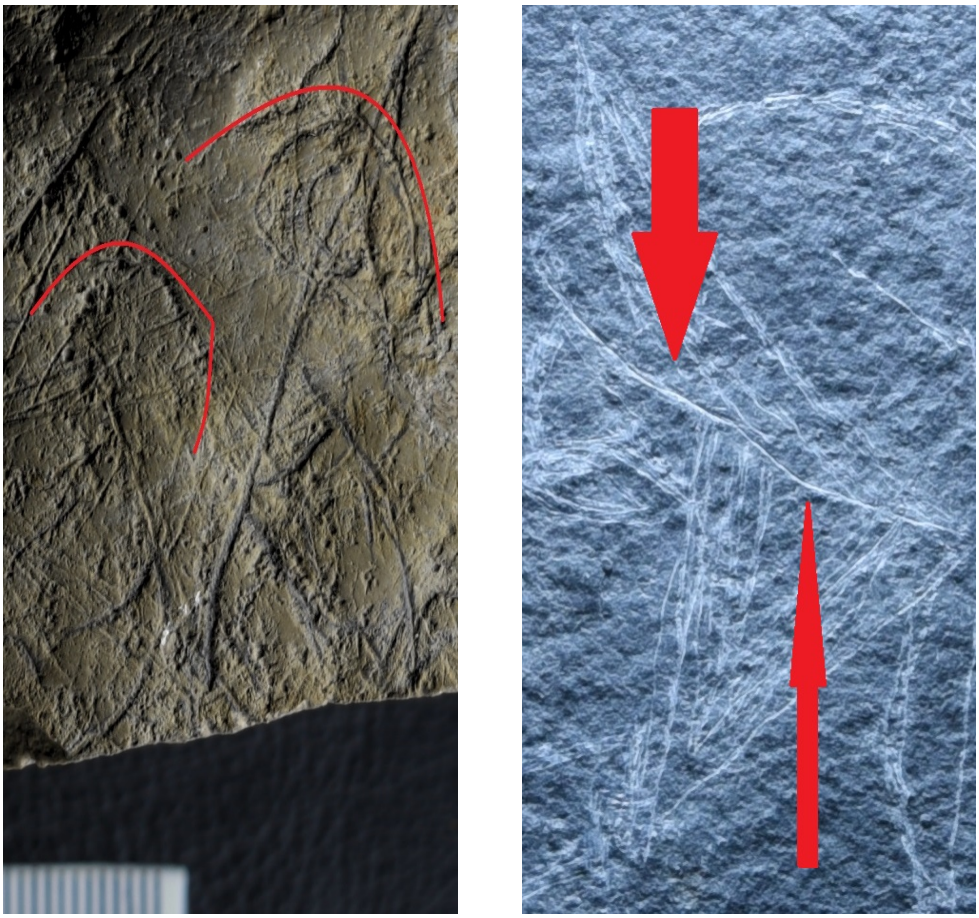

Figura 98: Examples of asymmetrical incision profile. Left: Obs. 27 (MH 50-7-676). Right: volunteer AC.

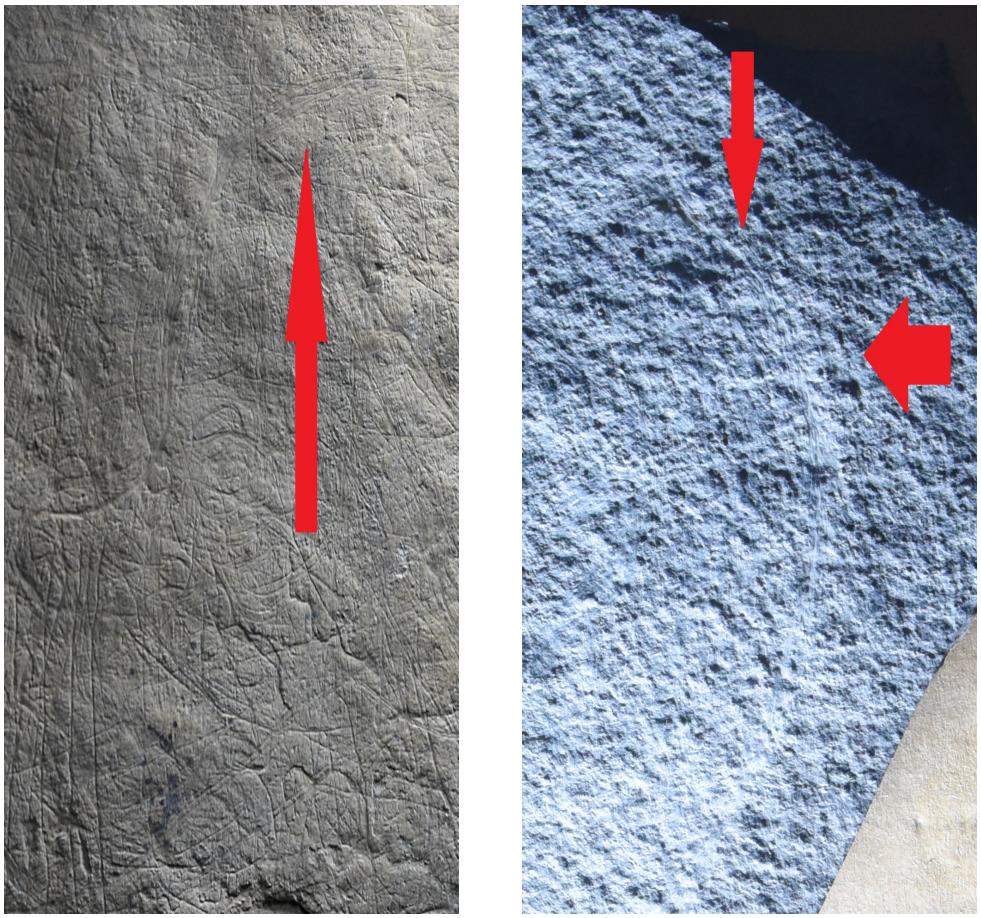

Figura 99: Examples of shallow groove. Left: Obs. 63 (MAN 83339). Right: volunteer Leo.

Name	Accidents	Corrections	Incision profile	Groove depth	Expertise
AC	Very few "slips of the tool", esp. in the definition of facial features (eyes, nose and chin).	No visible corrections or "second thoughts".	V-shaped, asymmetrical.	Inconsistent: deep for vertical strokes, shallow for horizontal and curved strokes. In several points, many strokes are used to leave a mark, often unsuccessfully.	TR
Ash	None.	No visible corrections or "second thoughts".	Inconsistent: mainly V-shaped and asymmetrical, with several flat-shaped occurrences.	Consistently shallow, with very few occurrences of single-stroke groove. Many strokes are generally used to leave a mark, often barely visible.	B
Han	None. A fairly sure hand shows throughout the engraving, with no "slips of the tool".	No visible corrections or "second thoughts".	Consistently V-shaped, symmetrical.	Consistently deep for vertical strokes (esp. in the description of facial features), much shallower for curved and horizontal strokes.	TR

Tabella 6: Results of the RTI analysis of the experimental plaquettes.

Item	Accidents	Corrections	Incision profile	Groove depth	Expertise
Leo	None - no visible "slips of the tool".	No visible corrections or "second thoughts".	V-shaped, symmetrical.	Consistently shallow for all types of strokes across the whole profile. Many strokes are generally used to leave a mark, often barely visible.	B
SC	A fairly sure hand throughout, with very few "slips of the tool" in the description of headwear and clothing.	A few "second thoughts", in the description of headwear and clothing.	V-shaped, asymmetrical.	Inconsistent: deep for vertical strokes, shallow for horizontal and curved strokes, for which many strokes are used to leave a mark.	TR
TB	None - a very sure hand throughout, with no "slips of the tool".	Only one major "second thought" in the definition of the occipito-frontal region.	Mainly flat-shaped, with a few V-shaped occurrences.	Consistently deep throughout, despite the incision profile inconsistencies.	TR

Tabella 7: Results of the RTI analysis of the experimental plaquettes (cont'd).

Item	Accidents	Corrections	Incision profile	Groove depth	Expertise
Anon	Only one visible "slip of the tool" in the definition of the nose.	No visible corrections or "second thoughts".	Flat-shaped.	Inconsistent: deep for vertical strokes, shallow for horizontal and curved strokes. Many strokes are used throughout to leave a mark.	B
TGM	Very few "slips of the tool" in the description of the nose and the chin.	No visible corrections or "second thoughts".	V-shaped, symmetrical.	Consistently shallow throughout, with many strokes are used throughout to leave a mark.	TR

Tabella 8: Results of the RTI analysis of the experimental plaquettes (cont'd).

Chapter X
Final conclusions

After describing the theoretical background and development of my research, it is necessary to draw the final conclusions and answer the questions stated in Ch. I. In this chapter, I will proceed in a specular way compared to the rest of this work: In the main body of the work, I have progressively narrowed my focus from the broader context of Magdalenian Poitou-Charentes down to the human-themed collection of La Marche; in this chapter, I will initially draw conclusions pertinent to the collection and site, before broadening the horizon to the possibilities available for further research on the subject of prehistoric art. I will present the conclusions in the form of answers to the research questions: firstly, with regards to the possibility of attribution of prehistoric artworks; secondly, with reference to the broader spectrum of information that such a study can bring; finally, I will describe future possibilities for this line of research, including interdisciplinary research horizons for archaeologists and art historians alike.

1. Is it possible to attribute prehistoric artworks to their author(s)?

Possibly the most remarkable statements pronounced on the subject of prehistoric art authorship are those proposing single authorship for large complexes (See Ch. II, §3.i). While these can be, at least conditionally, accepted from scholars that approached prehistoric art as a whole, without any particular focus on an individual context or assemblage (it is the case of Lorblanchet, Nougier and

Leroi-Gourhan), it is less easy to receive them from Leon Pales who - *absit iniuria verbis* - single-handedly examined the entirety of La Marche collection and prepared the tracings of every single engraving for publication. The sheer size of the collection itself, in fact, would justify the dismissal of such a hypothesis: it would have been impossible, for an individual, to be able to produce such a large collection of artifacts without causing serious detriment to the community's economy,as the activity would have taken up so much of the individual's time to render them unable to perform any other task. To partial justification of Pales' stance it has to be said that, at the time he compiled his publication of La Marche's collection, he was unaware of the existence of a further group of engravings, discovered during the Airvaux campaign of 1988-93 (see Ch.IV, §2) and belonging to a different archaeological layer from the main collection.

Dismissed therefore this option, is it possible to affirm that multiple authorship of a large complex of prehistoric art can be empirically investigated? The response arising from La Marche, I believe, is a resounding "yes": as the theoretical work by Apellaniz and the research practice of other branches of archaeology have postulated (see Ch. II), individual style is at its most visible against the reproduction of a common subject or theme, which in the case of La Marche is the human face; furthermore, as the work of Olivia Rivero on bone and antler engravings has demonstrated, this style is not just "line deep", but extends to the ability individuals have developed in the technique of choice, which can be effectively investigated by imaging techniques (see Ch. VII); finally, as the experimental protocol has so clearly demonstrated, any conclusion on authorship derived from the investigation of archaeological materials receives empirical confirmation in modern reproductions. It could be said that the methods applied to La Marche are deeply rooted in the study of engraved artifacts and, therefore, hardly applicable to cave paintings or figurines; however, as I will discuss *infra*, the strength of this method is its adaptability, which would allow for its application to different art forms across the prehistoric record.

The most important aspect to consider, however, is that all obstacles to the application and improvement of this or any other authorship investigation method can be overcome once an important principle has been established: that of the necessity of these studies. What clearly transpires from the opinions of the

more skeptical scholars mentioned *supra* is the entire lack of interest for such an investigation, derived in all likelihood from a distrust in the effectiveness of the tools available at the time (see See Ch. II, §3.ii). The research I have conducted on La Marche demonstrates quite clearly, I believe, that this distrust has no reason to be anymore and that the potential these studies have can be embraced with full confidence by scholars, particularly because they can lead to a better understanding of the intra-group dynamics relative to the transmissions of skills without a direct, practical application to the daily life of prehistoric communities. We have, for example, an established tradition of studies around the production of lithic tools (e.g. the work of J.M. Geneste on *chaine operatoire*) that allowed us a much deeper understanding of how these skills were learnt and passed on to the newest members of the community (Sellet, 1993); we have currently no equally established tradition of studies in the field of prehistoric art; however, this tradition is starting to form as consolidate, as the works I have cited in Ch. II (§5.i and 5.ii) demonstrate. It is my belief, as I have explained in Ch. II, that if properly carried out this investigation can reveal a lot about the internal dynamics between "experts" and "beginners" and, consequently, between the levels of group hierarchy. As the controversy I have mentioned in Ch. II and VI demonstrates, however, there is a parallel issue that runs at a much deeper level than the simple advancement of the research and that invests our "collective unconscious" as a discipline: over the course of our history as a science - intended here in its Aristotelian sense of discipline seeking the truth - we have accumulated a series of "narcissistic wounds" from the confrontations we have had with other disciplines and other branches of archaeology; this in turn has made us very wary of methods and concepts that we consider "alien" to our tradition. I have all confidence, however, that if the self-critique and the opening to new methods continues, these wounds can be successfully healed to the benefits of our pursuit of knowledge on our most remote past.

The importance of this research emerges even more clearly if read within the context of the direction the studies on Magdalenian art have taken in the last twenty years. As I have mentioned in Ch. II and as it has been confirmed by several scholars (see Ch. III, §5.1) the human-themed artistic tradition of which La Marche is the most eminent representative seems to have been "forgotten" by

the exchange networks that have been detected across South-West France: there is in fact no evidence for the iconographic motifs and subject choices identifiable at La Marche to be found anywhere else outside the Vienne valley; furthermore, the region of Poitou-Charentes seems to be "impenetrable" to the symbolic currents that have been identified by scholars within those exchange networks with regards to animal representations (especially horses, see Ch. III, §5.ii). As I have mentioned in Ch. III (§6) the blame for this cannot be laid at the foot of the region's geographic position, as its location lies well within the routes of those same exchange networks whose traces we find in neighbouring Dordogne/Perigord and Aquitaine; net of a non-existent geographic isolation, there is no consensus among scholars as to the reason why certain traditions do not seem to enter the flow of information of Magdalenian Western Europe - the humans of the Vienne valley being only one of several other traditions in the same situation (Ch. III, §5.i). However, if the subject of this research cannot explain its absence from the exchange networks, the application of this method of analysis of portable art fits rightly within the most recent trends of the scholarship, as demonstrated not just by the work of Rivero cited in Ch. II and VIII, but also by the joint work of Rivero and Sauvet (Ch. III, §5.ii): on the one hand, if the technical analysis of a (chronologically and thematically) homogeneous cross-regional sample of portable and parietal art can prove the movements of symbolic behaviours and conventions across a broad spectrum of land, the technical analysis of an equally homogeneous sample within a smaller, self-contained region can prove the circulation of symbolic conventions among individuals within the same community; on the other hand, as Rivero and Sauvet themselves admitted (Sauvet and Rivero, 2016:141-2) there is margin to explain the differences in treatment of horse representations within a region and a site on the basis of skill levels fluctuations among individual artists, something that the research I have carried out not just addresses but, I believe, brings to a satisfying conclusion.

2. What information does attribution of prehistoric artworks provide about the lives of prehistoric artists?

Even when carried out on the original engravings' tracing by Pales, the macroscopic observation of La Marche's collection immediately reveals the existence of "currents" with regards to subject choices, an evidence that takes physical form in the Groups I have outlined in Ch. VII. The very existence of the Groups pose a series of questions: do they reflect a deliberate choice of a physical model - in the form of an individual posing for representation - or were they originated from "stereotypical" ideas of human faces and - therefore, modules rather than models? Furthermore, would the components of each Group - the Hands - work independently from a physical model or rather "copy" from an "original" engraving?

However fascinating a speculation, the hypothesis of a model posing for their portrait would be difficult to prove, despite solid evidence for the use of art as a bond-forming social glue and the archaeological record at La Marche at least suggesting that the plaquettes had been engraved during a social moment - e.g. the presence of fire pits, but not in the levels returning the engraved objects - although both Lwoff and Pales testify of the high level of disturbance of the site and, therefore, it is possible such evidence has been lost to tampering. So far as the evidence goes, therefore, we are to conclude that what is being reproduced on the plaquettes is not a model but a module - an abstract, stereotypical representation of the human face. This in turn poses a further question: how is such module transmitted across the members of the human community of La Marche engaged in the production of these plaquettes? Are individual artists working n an entirely independent way or is possible to hypothesize some form of "schooling", i.e. a teacher-led approach to art production?

The very existence of the Groups is, I believe, a strong indicator for the latter; however, further light is cast from the results of the microscopic analysis and consequent experimental protocol (Ch. VIII-IX). The RTI technique has returned unequivocal evidence for the varying degrees of skill among the Hands constituting

the Groups, a disparity that has been confirmed by the experimental evidence with contemporary engravers; this internal variation is directly proportional to the quality of the engraved support, with locally sourced stone destined for low-skilled artists and higher quality, non local slabs for more experienced engravers (as evidenced by the geological analyses mentioned in Ch. V). This combined "sliding scale" is reflective of the intrinsic nature of engraving and, more in general, of visual arts as a mixture of manual and intellectual abilities; in this sense, La Marche is a unique context within the prehistoric art record as it preserved in physical form the very development of such abilities, from their roughest form to the most refined. If the individual artists were to work independently from each other and self-teach, the expenditure of time and resources needed would have accounted for a much larger collection of engravings showing marks of lower skill; furthermore, for the very principles of strict subsistence economy of hunter-gatherers (see *supra*, Ch. IV) such an approach would have been unsustainable for the community; finally, without any guidance from experts, there would have been no assurance that the engraving skills would have been properly learned or adherence to a module followed through.

The broader archaeological evidence retrieved from La Marche provides further insights to corroborate these conclusions. First and foremost, the anthropological evidence recovered during the three campaigns at the cave points in the direction of a varied human group along generational lines (see Ch. IV, §2.v), an aspect consistent with the potential resence of a cross-generational learning environment, with older, more skilled individuals acting as teachers for the younger, unskilled (and physically less strong) ones. How high this level of skill could have been can be observed in the array of objects in hard animal materials retrieved at the site: the personal ornaments fashioned out of teeth and bone, in fact, demonstrate the ability of their makers in producing consistent geometric patterns and, consequently, a strong command of the flint tools necessary for their creations - tools that, in turn, are consistent with the processing of bone and antler and with the practice of engraving (see Ch. IV, §2.iii-iv).

It is therefore my belief, given all of the above, that La Marche can be reliably described as a "workshop", where artistic skills are not only practiced extensively but also taught by experts to beginners and intermediate practitioners: it is safe

to hypothesize that learning took place via the reproduction of modules offered to the learners in the form of "original" engravings, created by the most accomplished engravers; these modules could then be reproduced with degrees of ability correspondent to the mastering of the manual aspect of the art; it is also reasonable to suggest that, having achieved fully mastery of the art, a learner would have in turn become a teacher to the younger generations, thus transmitting the skill further and keeping it alive.

3. Ideas for future research

As I have cursorily mentioned in Ch. II, this work has no pretense to be conclusive on the matter of prehistoric art attribution; I am fully conscious of how difficult the subject is and how complex and time-consuming the analyses involved with it are. This work always wanted to be a first practical attempt to apply authorship identification techniques to an Upper Palaeolithic art collection. As it is the case for all pioneering works, I am aware of its limitations and margins for improvements, both practically and theoretically; in the following paragraphs I will try to briefly sketch the possible directions along which further research in this field could develop.

i. Fieldwork and methodology

As mentioned *supra* and elsewhere (Chisena and Delage, 2018:244), La Marche is a peculiar context presenting exceptionally favourable characteristics for an exercise such as that attempted in these pages; this notwithstanding, granted the necessary case-related minor adaptations, the methods exposed here can be fruitfully applied to other assemblages of prehistoric art. Of course, the first and most natural application would be to the remainder of the La Marche context, portraying animal subjects; a similar classification of Groups and Hands could be devised and comparisons between human-themed and non human-themed engravers drawn, with possible overlaps of Hands between the two. Furthermore, as it emerges clearly from the work of Melard, Airvaux and, in part, Lwoff (see Ch. VI), there is still a consistent portion of the engraved assemblage of La Marche

still unpublished and kept under custody in local museums and private collections (the extent of the latter still to be precisely determined); it would be of pivotal importance to produce an inventory of these collections to evaluate exactly their consistency; subsequently, it would be possible to further apply the three-stages method to classify them within the Groups and Hands system.

As I have suggested at the end of Ch. V (§4), there is scope in further investigating the geological and morphological aspects of the supports for the engravings of La Marche in relation to the subjects of the engravings themselves. As the two different types of stone present at the site present, alongside their intriscic characteristics, a series of peculiar challenges in their procurement, it is legitimate to deduce that their utilization for artistic purposes would have been undertaken with these challenges in mind; on the one hand, locally-sourced, easy to procure slabs and boulders could have been used as supports for beginning-to-intermediate engravers; on the other hand, non-local stones could have been reserved for those engravers whose skills granted reasonable value against the difficulties of procurement of the raw material. Following the application of the three-stage method to identify the levels of skill, a statistical analysis could be applied to the supports to successfully identify the occurrences of high quality stones associated with highly-skilled engravers and, conversely, those of local stone with low-skilled individuals. In this sense, it is important to highlight how vital this study would be - in combination with the three-stages method - if applied to the still unpublished collections: this research has the potential to identify varieties of geological materials yet unencountered in the known collections and, once the nearest source of said geological material is identified, to shed further light on the mobility and procurement strategies of La Marche's inhabitants. Furthermore, an ulterior set of data could be gathered - without prejudice to the challenges highlighted in Ch V - with a subsequent, extensive investigation on the occurrence of traces of pigmentation on both the published and unpublished engravings, only partially carried out to date (see Ch. V, §2.iii).

In its original intentions, this research was not to be limited to the sole cave of La Marche. As I have mentioned in Ch. IV (§3), La Marche is part of a wider group of caves in the Lussac-les-Châteaux area, two of which have returned examples of engraved art; it would be reasonable, given their geographical proximity, to imagi-

ne contacts between the different human groups inhabiting the caves; it is equally plausible, therefore, that these contacts involved an exchange of skills investing the artistic sphere as well. The insurgence of Covid-19 prevented me to carry out such an investigation; however, a systematic study of the human-themed engravings from Les Fadets and Reseau Guy-Marin along the methodological lines I have devised have the potential to indicate how far outside La Marche these prehistoric artists have operated or, in other words, how far the "school of La Marche" has spread. Naturally, a parallel work could be conducted on non-human engravings from both La Marche and from neighbouring caves, alongside any artistic artifact to be discovered in the future.

The recent trends in the field of prehistoric art research I have described in Ch. III could definitely be successfully applied to further expand the field of research from La Marche to the other caves in the Lussac-les-Châteaux area and in the other caves within the Vienne and Poitou-Charentes that have returned human-themed engravings. As the work of Sauvet and Rivero have shown (Ch. III, §5.ii) the application of technical analysis combined with statistical methods has proven very effective to identify the direction taken by specific stylistic practices across several regions. On those premises, the research in the region could evolve under three main directions: the expansion of the geographical area to be studied to the full extent of Poitou-Charentes; the inclusion in the sample to be analysed of all examples of engraved portable art representing humans, including bodies with facial features not represented or broken; the inclusion of parietal art alongside portable art within the sample. The results of such a research could clearly illustrate the tendencies across sites for representing the human face or the human body and in which particular form, whether portable or parietal; these results, read alongside those from the three-stage attribution method, would provide a clearer picture of how the artistic skills are distributed across the region and within the same community, therefore offering even more information on the way the "artistic workshop" of La Marche operated in terms of training its "pupils" and how far they have transported their art across the broader region. As I have mentioned *supra*, the research should not limit itself to the sole human-themed engravings. Once the three-stage attribution process has been applied to the animal-themed engravings, the technical-statistical analysis of the plaquettes,

carried out alongside the parietal art, could provide even richer results: firstly, the comparison between the Hands of the human-themed engravers and the Hands of the animal-themed engravers would allow to clarify whether the same authors at work on human-themed plaquettes are also responsible for the animal-themed plaquettes (a result that would prove precious in cases of multiple engravings on the same plaquette, often the case in La Marche); secondly, given the much larger amount of animal-themed engravings and scupltures across the region of Poitou-Charentes, the study of the circulation of the same stylistic choices for animal representations could further clarify how far the "pupils" from La Marche might have travelled across the region; thirdly, the inclusion of Poitou-Charentes in the sample of animal-themed engravings studied via CFA (Ch. III, §5.ii) could cast further light on how much the region has been interested by the exchange networks that appear so clearly in the archaeological record of the neighbouring areas of Perigord/Dordogne and Aquitaine, thus dhisproving the impressions that this region has been left "cut off" from the main events of the Middle and Upper Magdalenian.

One of the most valuable characteristics of the three-stage method I have adopted in this research are, in my opinion, its adaptability and relative "portability". So far as the essential character of the three stages is preserved (macroscopic, microscopic and experimental), they can be bent to fit different techniques and, therefore, be applied at the most diverse types of prehistoric art: RTI, for example, has proven very effective for the study of engravings, but it might not prove equally effective for cave painting; it would be necessary to adopt a different imaging technique allowing in-depth reading of the painted cave surface and consequent understanding of the direction and consistency of the strokes, construction of the image and potential mistakes or corrections. As the work of Olivia Rivero has shown (2015:62-3) SEM has proven even more effective for the study of engraved surfaces and, I believe, could produce excellent result for all-round sculpture as well; further application of this technique could produce more accurate results than the ones obtained so far with RTI and provide deeper insights into the identity of the artists at work (e.g. left or right-handedness, grove analysis-based estimated age etc.). Once these possible adaptations are taken into account and implemented, there is much margin of application to investigate

the authors of the most diverse contexts, including those deemed "impossible" such as the great complexes of Lascaux, Chauvet or Altamira. The portability of the technique, of course, lends to the application of the three stage method well beyond the boundaries of Poitou-Charentes or, for that matter, of Europe: every archaeological context with prehistoric art in sufficient quantities could be studied with this technique.

Finally, a brief note on the experimental stage of the method. As mentioned in Ch. VIII, this research has been carried out with the help of volunteers from the departmental student cohort, all of which with a relatively uniform set of skills consistent with their status of "amateurs"; while this in itself does not influence the effectiveness of the experimental protocol's results, it is undeniable that a larger, more differentiated pool of participants - ideally ith varying degreesof artistic instruction, such as the pupils of an art college or academy - would provide even more conclusive evidence for the effectiveness of the method.

ii. Theoretical horizons

All I have described in this chapter so far could easily be dismissed by an external observer as a debate of exclusive pertinence of archaeological disciplines. However, as I have briefly, mentioned in Ch. II (§3.iii), prehistoric artworks have been occasionally of interest for art historians as well, although with controversial results. Despite its parochial appearance, however, the development of a cooperation between the two disciplines of archaeology and art history would be the most beneficial theoretical development scholars could desire. I will try and show why in the paragraphs that follow.

It would be fair to say that the roots of the difficulties between prehistoric archaeology and art history reach very far back in time. As R. Bianchi Bandinelli notes, for quite a long time, both art historians and classical archaeologists dismissively described prehistory as the "science of the illiterates"(a definition attributed to Th. Mommsen), due to the lack of written sources for the most ancient periods of human history (Bianchi Bandinelli, 1976:xxi). This form of academic prejudice, if on one side encouraged the progressive alignment of prehistory to the natural sciences from 1859 – publication year of *On the Origin of Species* –

on the other created a distance between the two worlds that was to have long lasting consequences.

In an almost prophetic 1953 paper, W. Abell describes what the relationship is at the time between art historians and prehistorians, nearly 13 years after the discovery of Lascaux. Even though some of the issues he laments have come to change over time – we now have colleges and universities that offer courses and degrees in prehistory and prehistoric art (Abell, 1953:223) – it is still true to this day that respected art history journals rarely host papers discussing problems of prehistoric art. Furthermore, in his approach to H. Breuil and the collections of prehistoric art, the author – an art historian himself – demonstrates his concern with all those problems peculiar to the art historical mindset: chronology and style succession, for which he laments not being able to find a solution (Abell, 1953:224-6). Undeterred, he recognizes that this state of things is only temporary, due to the fact that prehistoric art is a field of study only recently open to art historians and even offers advice as to what they could contribute to a field left, to that very day, only to "anthropologists": help with preservation of collections, identification of fakes and assistance in the creation of adequate reproductions (1953:227). He further concludes by saying that "In any event growth in these directions, slow if not rapid, seems to be foreordained for art history during the years to come" (1953:231).

Lamentable indeed that Dr. Abell's prophecy was never to become a reality! More than 60 years have passed since the publication of his paper and the tone of the debate between prehistorians and art historians is much close to that quoted in Ch. I than to what he hoped: to this day, prehistoric art is only marginally mentioned in art history manuals and seldom discussed in school curricula; professional art historians prefer not to get involved with the field, preferring to leave prehistorians alone to develop their own approaches and methodologies.

The above-mentioned external observer would be authorized to think, at this point, that the possibilities to bridge the gap between prehistoric archaeology and art history are extremely limited: grown far apart in theoretical frameworks and practical methodologies, the two disciplines appear irreparably distant. Yet, as the experiences of Riegl, Warburg and Panosfsky indicate, this divergence in aims is only apparent: once the self-fulfilling aesthetic research is abandoned, both

disciplines aim at investigating art as the mean to access the material, intellectual and spiritual lives of past societies. For prehistoric archaeology and art history alike, the figure of the "artist" needs to be reconciled with the society - or, in more general terms, with the culture - from which it has emerged, its role investigated as the conveyor of a stratified collection of metaphysical instances for which, at one point, it becomes the outlet into the physical world.

The difference of methodologies, however, remains: if a prehistorian has to rely exclusively on a small and often fragmentary record to draw its conclusions about the significance of visual images for prehistoric humans, an art historian dealing with fully historical periods has the advantage of written records to test his conclusions against and corroborate them, together with a generally more abundant and better preserved collection of materials (Bianchi Bandinelli, 1976:xxi). This in turn produces consequences on the research practices: while an art historian will rely on more philological methods such as connoisseurship and the hexegesis of written sources, a prehistorian will have to seek the help of what once were called, in a moderately disparaging way, "auxiliary disciplines" to fully investigate its materials.

In what ways then can these two methodologies combine to create a third way, a unitary and unique practical approach to study prehistoric art? There are two areas that are particularly - but by no means exclusively - suitable to become a "common ground" for investigation: that of the production of art - in the form of a research on artist's individuality, explored in this work - and that of the fruition of art - in the form of iconography.

Alongside the work on authorship investigation, the subject of prehistoric iconography is perhaps the most inherently theoretical aspect of building a common methodology for prehistoric art. On a superficial examination, it could appear that the scholar has little to no chance to understand the meaning of the imagery depicted on Palaeolithic caves or portrayed in items of portable art: in which measure can we substantiate our claims to have understood the meaning of a particular image, without the support of external sources?

Nonetheless, attempts in this sense have been made by notable scholars whose hypotheses have stood for a long time before being replaced. The most famous of them – now largely replaced – has been that offered by H. Breuil for the inter-

pretation of Magdalenian art: in order to explain the striking naturalism of animal representation on cave walls, he resourced to the concept of "hunting magic", by which the representation of an animal confers to the artist a power over the subject represented (Lorblanchet, 1999:13). According to this theory, therefore, we could read representations of herbivores as an attempt to propitiate their capture and,in the case of carnivores, to take possession of their hunting energy and capabilities.

Even more telling – and no less dense of contradictions – is the debate around the interpretation of female anthropomorphic figurines. For many years considered no more than a form of prehistoric erotica created by men for men's enjoyment (Nowell and Chang, 2014:563-4; McDermott, 1996:233-4), this anthropomorphic representations have been largely reconsidered in their meaning in the past few decades, to the point of seeing the emergence of strikingly fascinating hypotheses, one of which sees them as a form of female self portrait during pregnancy; if we are to follow this hypothesis, we could consider a possible interpretation of female figurines as, practically, an instrument for women to learn about their bodies and, symbolically, a self-conscious representation of their motherhood (McDermott, 1996:237-48).

This two examples are quite suggestive of how much prehistoric art is a fertile terrain for iconographic investigations. It is worth considering, however, that these examples refer to interpretive attempts from within the archaeological context; that is, without drawing ideas apart from the record itself. An ulterior source that could be profitably deployed for the study of prehistoric iconography is ethnographic comparisons, which could provide, for example and with careful critical attention, a useful term of paragon for the more abstract forms of prehistoric art such as theriomorphic figurines and depictions (such as Holenstein-Stadel and Trois Freres). It is also worth noting that, despite such a research having yet to be attempted for European prehistoric art, successful attempts have been made for the art of non-historical people from other continents: a very interest example of this is the volume of V.J. Knight Jr., *Iconographic Method in New World Prehistory*, in which he tries systematically to apply the art-historical method to a prehistoric archaeological context.

4. Final remarks

It is time, at the end of this work, to revisit the aims set forth *supra* (Ch. I), in order to verify if they have been reached.

At the beginning of this work I proposed to bring two contributions to the scholarship, distinct but complementary: to demonstrate that attribution of prehistoric artworks is not just possible but also necessary; to bring together the attempts made so far by scholars into one unitary method. With regards to the first contribution, it is my belief that it has been unquestionably reached: as I have summarised *supra* (§1), by adopting the appropriate theoretical approach and a method suitable for the investigation at hand (see Ch. II) it is possible to empirically investigating authorship in prehistory. The demonstration of the possibility, in turn, has lifted the veil of Maya and revealed its necessity, testified by the array of data that can be extrapolated from the results of the attribution process. Furthermore, the necessity of this research is made even more evident by the work yet to be done on the unpublished materials, the investigation of which will inevitably lead to the acquisition of further information about the social life of Magdalenian groups (see *supra*, §1-3).

With regards to the second contribution, treading carefully is in order. As I have repeatedly mentioned *passim* throughout my work, I am aware of the limitations that emerge from my research: limitations in the respective methods I have tried to bring together in my approach and, consequently, of the approach itself as a whole. The problem of attribution in prehistoric art is a peculiar beast that cannot be successfully tamed with the weapons available exclusively to either of the two camps that attempt to face it:on the one hand, art historical methods are ill-equipped to approach figurative artworks that are self-contained in therms of secondary sources, that is, cannot find external confirmation for the hypotheses formulated upon them; on the other hand, archaeological methods still struggle, to an extent, to conceive individuality to such an extent to effectively investigate it. Hence the necessity to draw on the experience of those researchers who have worked across the divide (as those I have mentioned in Ch. II, §2) to create a composite method capable of dealing with the peculiarities of the problem and the context. It is my conviction, at the end of this work, that the three-stages

method I have proposed is a valid, effective compromise capable of throwing the "much needed bridge" (as I have called it in Ch. I) between us archaeologists and art historians.

In his 1953 paper, W. Abell describes with these words the possibility for art historians to measure up with prehistoric art:

> "Prehistoric art offers the student a field for robust pioneering effort; a field bristling with major problems and, I believe, rich in opportunities for major contributions". (Abell, 1953:223)

The theoretical and methodological aspects described in this thesis would like to offer an initial stimulus for such a pioneering effort. An attempt was made to cast some light on what work has been done in the field thus far, not lastly by the author of this work. For the future, the archaeological method would have to accommodate a more art-historical approach, whereas the art historian would have to fit into the archaeologist's framework. Given the nature of the record, a much larger employment of imaging and optical technology will have to be taken on board – something archaeologists have used for many years and that are no strangers in art conservation's laboratories either; on the other hand, it might be necessary to re-discuss several points of theory that are currently taken for granted and that, in their current form, simply would not offer a valid interpretive tool for such a peculiar context. We are under no illusion that this would be a rapid and effortless journey; however, we believe firmly that both disciplines have all to gain from such a journey, which will be most fruitful if done, rather than separate, together.

Appendix

1. Experimental Protocol - Ethics

Name of Applicant: Simone Chisena

Email Address: sc1818@york.ac.uk

Is this a collaboration with another researcher? No

Staff/Student Status: PhD Student

Name of 1st Supervisor: Penny Spikins

Email address: penny.spikins@york.ac.uk

Title of Project: The Masters of the Past: artists and art learning in the Upper Palaeolithic

Project Start Date: 2021-06-07

Duration: 1 week

Is this research under the jurisdiction of any other external ethics board? (e.g. the European commission; Human Subjects Review in the USA): No

Funded: No

Please briefly outline the questions or hypotheses that will be examined in the research. This can normally be copied from your research proposal.:

The project aims at verifying the possibility to attribute prehistoric works of engraved portable art to their authors. In particular, it tries to determine the skill level of a prehistoric engraver by microscopic analysis of the engraving and, by comparison with other works from the same context, attempt a skill-based

attribution. Experimental work is necessary to provide a comparison to an analysis already carried out by the applicant on archaeological artefacts.

Methods of data collection:

Face to face interviews, Execution of an engraving on a stone slab using a reproduction flint tool.

How many participants will take part in the research?:

20 plus the applicant.

How will they be invited to take part in the study?:

A "call for participants" email will be circulated to seek volunteer participation. I am planning to use mailing list for the initial call; once volunteers have been selected, it will be in an individual email basis.

Confirm that you will obtain confirmed consent before subjects participate in the study: I will provide consent sheets for subjects to sign before participating in the study, I will retain these forms for the duration of the research.

Are the results to be disseminated to the participants? : Yes

How will you be disseminating your results to your participants?:

The results of the project will be published in a paper on a peer-reviewed journal; the publication - together with RTI pictures of the engravings - will be made available to the participants, should they so wish.

Are you ensuring anonymity for your participants?: I will offer anonymity, but participants have the option to be named as participants

Please explain how you plan to anonymise data or pseudonymise data during the project to minimise data protection risk.

With the exception of consent forms, participants can choose between using their personal names, pseudonyms or remain anonymous during the experiment. In case they decide for the latter, their questionnaire will be marked by the word "Anon" (followed by a number in case of multiple anonymous participants) - this measure is only for data management purposes. At the end of the experiment, the participants will be asked to use their chosen name/pseudonym/Anon to mark the engraving they have produced, so they can be associated with the questionnaires they have filled in previously - this is a necessary step to associate the data about their skill level to the art they have produced.

Please explain the measures in place to ensure that you are capturing the minimum amount of personal data/special category data necessary for your research project.

Participant's personal names will only be recorded on the consent forms they will be asked to sign. They will also be offered the choice to fill the questionnaires with either their names or nicknames. No further details enabling an identification of single participants will be collected.

Please detail the types of data you will be collecting.:

Questionnaires, Engraved artwork produced by participants.

Where will the data be stored electronically?: Password-protected University Cloud Storage.

Where is the data to be stored in paper form?: Locked filing cabinet

At what point are you proposing to destroy the data, in relation to the duration of this project?: Ten years after the research is completed

How will you destroy this data?: Secure delete it electronically

If you are sharing your data with others outside your department, what steps are you taking to ensure that it is protected?: I am not sharing the data with others

If you are sharing personal or special category personal data with others outside your department, what steps are you taking to ensure that it is protected? If you are working collaboratively with third parties or sharing data with non-University personnel, please ensure that you have consulted the Information Governance Office and/or IP and Legal to ensure appropriate contracts and/or data sharing arrangements are in place.:

N.A.

Are you exporting this data outside the EU?: I am not exporting it outside the EU

If the data is to be exported outside the European Union, what steps are you taking to ensure that it is protected? Note: you must identify how you will comply with General Data Protection Regulation requirements. https://www.york.ac.uk/records-management/dp/: N.A.

Risks to participants (e.g. emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information). All research involving human participants can have adverse effects. The answer of "none" will not be accepted.

Potential physical harm from usage of engraving tool made of flint - scratches/cuts.

Please state how you will mitigate these risks to participants.: Training will be provided ahead of the experiment on how to handle the tools; protective equipment (gloves) will be provided.

Risks to researchers (e.g. personal safety, physical harm, emotional distress, risk to accusation of harm/impropriety, conflict of interest....) The answer of "none" will not be accepted.:

Potential physical harm from usage of engraving tool made of flint - scratches/cuts.

Please state how you will mitigate these risks to the researcher.:

Protective equipment (gloves) will be worn.

University/institutional risks (e.g. adverse publicity, financial loss, data protection....) The answer of "none" will not be accepted.:

Potential damage to University property derived from use of sharp flint tools - surface abrasion. Potential reputational damage derived from accident during the project's execution.

Please state you will mitigate these risks to the university.

Training will be provided ahead of the experiment on how to handle the tools; protection for surfaces (plastic sheets) will be deployed. Supervisor will be included in the project design and decision-making process; H& S and Data Management protocols from the University will be followed.

Financial conflicts of interest (perceived or actual with respect to direct payments, research funding, indirect sponsorship, board or organisational memberships, past associations, future potential benefits, other....): None.

Please draw our attention to any other specific ethical issues this study raises.: None in particular.

Please tick if true, otherwise leave blank:

Informed consent will be sought from all research participants, All data will be treated as anonymously as possible and stored in a secure place, All relevant issues relating to General Data Protection Regulation have been considered (see https://www.york.ac.uk/records-management/generaldataprotectionregulation/) & , if necessary, the Data Protection office contacted (Dr Charles Fonge, Borthwick Institute, charles.fonge@york.ac.uk), All quotes and other material obtained from participants will be anonymised in all reports/publications arising from the study where appropriate, All reasonable steps have been taken to minimise risk of physical/psychological harm to project participants, All reasonable steps have been taken to minimise risk of physical/mental harm to researchers, Participants have been made aware of and consent to all potential future uses of the research and data, Any relevant issues relating to intellectual property have been considered (see https://www.york.ac.uk/staff/research/external-funding/ip/policy/), There are no known conflicts of interest with respect to finance/funding, The research is approved by the Supervisor, Head of Department or Head of Research

Please explain in the space below, why if any of the above items have not yet been confirmed: N.A.

Are there any issues that you wish to draw to the Committee's attention? It is your responsibility to highlight any ethical issues that may be of perceived or actual interest. : No.

Type your name to sign the document: Simone Chisena

2. Experimental Protocol - Information Sheet for Volunteers

Information about the project

Title of the study: The Masters of the Past: artists and art learning in the Upper Palaeolithic

Description: The project studies art production and learning from the Magdalenian period of the European Upper Palaeolithic (12k-10k years Before Pre-

sent); in particular, it tries to establish how varying level of artistic skill are reflected and can be read in portable artworks such as stone engravings, with the ultimate goal to attempt an attribution to artists of varying levels of skill (from experts to beginners). Each participant will be asked to fill a questionnaire aimed at getting an overview of their artistic skill and general relationship with art, after which they will be asked to reproduce a human profile on a small stone slab, using a reproduction prehistoric flint tool - preliminary training and PPE will be provided. Afterwards, the engravings will be analyzed and compared with original prehistoric ones.

Researcher: Mr. Simone Chisena BA MSc, doctoral student in Archaeology at the University of York.

Confidentiality, anonymity and data protection: Participants may withdraw from the project and withdraw their consent at any stage. A report on the results of the questionnaires and the study of the engraving created by the participants will be published in a paper on a peer-reviewed journal and will form part of the PhD thesis. Participants will be offered the option of completing the questionnaires under their name or a nickname.

All questionnaires will be stored confidentially on secure University Cloud Storage and destroyed after submission of the PhD thesis or unconditionally after 10 (ten) years from the completion of the experiment. The completed engravings will form part of the University's Department of Archaeology experimental collections.

Results of the study: The outcome of the analysis of the engravings produced by the participants will be published in a paper on a peer-reviewed journal – together with an condensed version of the questionnaire answers in fully anonymous form – and will form one chapter of the PhD thesis. Photographs and drawings of the engravings may also be used in other publications and public presentations by Simone Chisena. Copies of the main publication containing the results of the experiment will be made available to the participants, should they so wish.

Contact details: For any questions or concerns, please contact Simone Chisena at sc1818@york.ac.uk or 07570105794.

3. Experimental Protocol - Consent Form for Volunteers

The Masters of the Past: artists and art learning in the Upper Palaeolithic

1. Consent Signatures

Participant's Name:

Signature:

Researcher's Name:

Signature:

Date:

2. Please circle YES or NO:

I have read and understood the project's information sheet: YES / NO

I have been informed that participants may withdraw from the project and withdraw their consent at any stage: YES / NO

I consent to my participation in this project: YES / NO

I give permission for my questionnaire to be saved anonymously: YES / NO

I give permission for all questionnaire responses and images/drawings of material produced by me to be used in Simone Chisena's PhD thesis as well as quoted, alluded to or shown in research papers, publications and public presentations given by Simone Chisena: YES / NO

I would like to receive a copy of the main publication containing the results of the project: YES / NO

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