

PREHISTORIC ART AS PREHISTORIC CULTURE

STUDIES IN HONOUR OF PROFESSOR
RODRIGO DE BALBÍN-BEHRMANN

edited by

**Primitiva Bueno-Ramírez
and Paul G. Bahn**

ARCHAEOPRESS ARCHAEOLOGY

ARCHAEOPRESS PUBLISHING LTD

Gordon House
276 Banbury Road
Oxford OX2 7ED

www.archaeopress.com

ISBN 978 1 78491 222 2
ISBN 978 1 78491 223 9 (e-Pdf)

© Archaeopress and the individual authors 2015

Cover: "Galería de los Antropomorfos" Tito Bustillo cave, Asturias, Spain.
Photos by Rodrigo de Balbín

All rights reserved. No part of this book may be reproduced, stored in retrieval system,
or transmitted, in any form or by any means, electronic, mechanical, photocopying or otherwise,
without the prior written permission of the copyright owners.

Printed in England by Oxuniprint, Oxford
This book is available direct from Archaeopress or from our website www.archaeopress.com

Contents

List of Figures and Tables	iii
List of contributors	v
Prehistoric Art as Prehistoric Culture	vii
Primitiva Bueno-Ramírez and Paul Bahn	
‘Science’ versus Archaeology: Palaeolithic Rock Art at the beginning of the 21st century	1
José-Javier Alcolea-González and César González-Sainz	
Raman spectroscopy of prehistoric pictorial materials	11
Antonio Hernanz	
Prehistoric rock art and non-invasive analysis. Rouffignac as a case study	21
Patrick Paillet	
Reasoning processes in prehistoric art interpretation	25
Sophie A. de Beaune	
Are hand stencils in European cave art older than we think? An evaluation of the existing data and their potential implications.....	31
Paul Pettitt, Pablo Arias, Marcos García-Diez, Dirk Hoffmann, Alfredo Maximiano Castillejo, Roberto Ontañon-Peredo, Alistair Pike and João Zilhão	
Regional ontologies in the Early Upper Palaeolithic: the place of mammoth and cave lion in the ‘belief world’ (Glaubenswelt) of the Swabian Aurignacian	45
Shumon T. Hussain and Harald Floss	
Aurignacian art in the caves and rock-shelters of Aquitaine (France).....	59
Brigitte and Gilles Delluc	
Fuente del Trucho, Huesca (Spain): Reading interaction in Palaeolithic art	69
Pilar Utrilla and Manuel Bea	
Open-air Ice Age art: the history and reluctant acceptance of an unexpected phenomenon	79
Paul G. Bahn	
Decorated sites and habitat: social appropriation of territories	93
Denis Vialou	
Deep caves, ritual and graphic expression: a critical review of the archaeological evidence on hypogean human activity during the Upper Palaeolithic/Magdalenian	99
Pablo Arias	
Magdalenian settlement-subsistence systems in Cantabrian Spain: contributions from El Mirón Cave	111
Lawrence G. Straus, Manuel González Morales, Ana B. Marín-Arroyo and Lisa M. Fontes	
The Upper Palaeolithic rock art of Portugal in its Iberian context	123
André Tomás Santos, Maria de Jesus Sanches and Joana Castro Teixeira	

Old panels and new readings. La Pileta and pre-Solutrean graphics in Southern Iberia	135
Miguel Cortés Sánchez, María D. Simón Vallejo, Rubén Parrilla Giráldez, and Lydia Calle Román	
Palaeolithic art in the Iberian Mediterranean region. Characteristics and territorial variation	145
Valentín Villaverde	
Small seeds for big debates: Past and present contributions to Palaeoart studies from North-eastern Iberia ...	157
José María Fullola, Ines Domingo, Didac Román, María Pilar García-Argüelles, Marcos García-Díez and Jorge Nadal	
Throwing light on the hidden corners. New data on Palaeolithic art from NW Iberia	171
Ramón Fábregas Valcarce, Arturo de Lombera-Hermida, Ramón Viñas Vallverdú, Xose Pedro Rodríguez-Álvarez, and Sofia Soares Figueiredo	

'Science' versus Archaeology: Palaeolithic Rock Art at the beginning of the 21st century

José-Javier Alcolea-González¹ and César González-Sainz²

¹ Área de Prehistoria, Departamento de Historia y Filosofía. Universidad de Alcalá. javier.alcolea@uah.es

² Departamento de Ciencias Históricas, Universidad de Cantabria. cesar.gonzalez@unican.es

Abstract Our main objectives will be (1) explaining –necessarily very briefly– the state-of-the-art concerning some fundamental aspects of Palaeolithic rock art research, such as the chronological debate, the notion of 'style', or the relations between graphic expressions and Upper Palaeolithic archaeological contexts, and (2) discussing our positions –not always coincident with each other– with regard to these topics. This panoramic view will be first based on a historiographical reading of Palaeolithic rock art research, aimed at understanding the deep changes that have occurred in this field during the last three decades.

Keywords Palaeolithic art; C14; Style

Introduction

In a recent paper, Rodrigo de Balbín-Behrmann (2014) defended the use of archaeological reasoning in opposition to the interpretative abuses derived from the uncritical application of 'hard-science' analytical methods to the study of the Palaeolithic rock art phenomenon. This critique will be used as the common thread of this work, which we present as a humble contribution in tribute to a person who has been our professor, colleague and friend during the last three decades. We thus link our reflections with the scientific work of the honoree, whose proposals are, to different extents, in consonance with ours.

The 1980s and 1990s. The crisis of structuralist orthodoxy and the opening of new avenues of research for the study of Palaeolithic rock art

At the beginning of the 1980s, research on Upper Palaeolithic rock art was entirely dominated by the structuralist paradigm created by A. Leroi-Gourhan in the 1960s (Leroi-Gourhan 1965). This paradigm reached its culmination in 1984, when the monumental work *L'Art des Cavernes* was published (Ministère de la Culture ed. 1984). This publication presented, as a kind of 'vademecum', the state-of-the-art of French Palaeolithic rock art, with its methodological framework completely based on the systematics proposed by Leroi-Gourhan.

The structuralist paradigm was progressively adopted in Spain from the late 1970s onward. Then, a new generation of prehistorians started to adopt the new methods and objectives coming from France, and thus refused to continue using the unsystematic methodology previously established in Spain since the first works of H. Breuil. Rodrigo de Balbín was one – if not the

main one – of those young Spanish archaeologists who started to consider Palaeolithic graphic expressions as archaeological objects, in consonance with Leroi-Gourhan's proposals. His work in Tito Bustillo (Balbín-Behrmann 1989) or La Pasiéga (Balbín-Behrmann & González-Sainz 1993, 1995) included the systematic treatment of depictions by means of complex recording protocols based on descriptive sheets, tracings, precise geo-location and photographs of all kinds of graphic evidence found on the cave walls. This methodological renovation was an important breakthrough for the field of the Spanish Palaeolithic, since it contributed to changing the consideration of graphic assemblages as mere products of a collateral phenomenon, away from the archaeological reality of the Upper Palaeolithic.

The crisis of the structuralist paradigm broke out in the late 1980s. Paradoxically, this was not an epistemic crisis, but it arose as a consequence of the deepening of the methodological system established by Leroi-Gourhan, who had been the main supporter of applying archaeological methods to the study of rock art. Thus, the development of new analytical methods applied to the delicate rock art motifs, especially radiocarbon dating (Valladas *et al.* 1992) and pigment analyses (Clottes *et al.* 1990), together with some spectacular findings, such as the graphic expressions of Cosquer (Clottes & Courtin 1993) and Chauvet (Clottes 2001) caves, showed results that came into conflict with the chronological system of Leroi-Gourhan. As a consequence of these results, there was a virulent reaction against the system in question, especially within the French discipline (Lorblanchet 1993). In fact, some clarifications to the chronology proposed by Leroi-Gourhan came out earlier, but they questioned only partial aspects of the system. From the early 1990s, critiques became stronger, being especially directed at potentially pre-Magdalenian graphic

PREHISTORIC ART AS PREHISTORIC CULTURE

expressions, for which well-dated portable artworks were scarce compared to earlier times.

In previous papers (Alcolea-González & Balbín-Behrmann 2007: 442; González-Sainz 1999: 141), we have discussed the fact that the impact of direct chronometric dating, despite its undeniable relevance, causing the abandonment of the chronological framework established by Leroi-Gourhan by most rock art scholars, was probably exaggerated. Yet it is also relevant that the verification of methodological problems in the structuralist chronological framework had an impact on the progressive establishment of contextual analysis as a relevant methodology for studying cave art depictions (Lorblanchet 1995; Moure & González-Morales 1988; Pastoors & Weniger 2011) and, more importantly, on the definitive understanding of graphic expressions as a relevant part of the Upper Palaeolithic archaeological record. Therefore, this new view came as a – probably unwanted – support for one of the methodological bases of Leroi-Gourhan's systematics: rock art expressions were also archaeological.

The crisis in the 'orthodoxy' led to unprecedented research activity on Palaeolithic graphic expressions during the 1990s and the 2000s. Once the temporal framework of Leroi-Gourhan had been strongly called into question, this activity was mainly centred on the chronological review of the most important graphic assemblages of Southwest Europe, and especially those of the Cantabrian Cornice (Northern Spain). In this area, an important database of direct radiocarbon datings on pigments has been gathered (Valladas *et al.* 1992; Moure *et al.* 1996; Fortea 2002; Balbín-Behrmann *et al.* 2003), although some other chronometric methods have been also applied. The limits of the radiocarbon method, especially when it comes to dating engravings or paintings made with inorganic pigments, but also in the case of dating potentially old motifs, have led scholars to attempt to use methods such as thermoluminescence (González-Sainz & San Miguel 2001) and, more recently, uranium series (Pike *et al.* 2012) — after some specific and preliminary attempts in Covalanas and La Garma caves — to propose a direct age for graphics in caves.

At the same time, this intensive activity has resulted in an important increase in the Palaeolithic rock art inventories of Southwest Europe, as shown in several recent compilations dealing with the Cantabrian area (ACDPS 2002, 2010; Ríos *et al.* 2007). More importantly, it has also brought to light some outstanding finds, among which the open-air assemblages of Western Iberia are the most relevant (Alcolea-González & Balbín-Behrmann 2006; Baptista 2008). Thus, the network of rock art sites in Southwest Europe has increased exponentially with respect to the previous 20th-century syntheses by Breuil (1974) and Leroi-Gourhan (1965). For instance, in the Cantabrian region, in comparison with the 55

decorated sites compiled by González-Echegaray (1978), today we recognise a total of 135 (although in 20 of them a post-Palaeolithic chronology cannot be ruled out). Although the proportion of what we currently know with respect to the potential Palaeolithic reality is undoubtedly negligible, and the preservation problems continue to be the same as they were years ago, this increase in the network of sites has led scholars to (1) consider the necessity of abandoning excessively unilinear frameworks for the temporal development of Palaeolithic graphic expressions, and (2) consider the existence of greater graphic variability at the synchronic level than was previously thought.

The Iberian open-air decorated sites have had an essential impact on the opening-up of new ways of approaching the meaning of Pleistocene graphic expressions. This meaning was traditionally limited to religious behaviour, an interpretation that was recently boosted by the re-introduction of shamanism as a universal mechanism for explaining Palaeolithic graphic activity (Clottes & Lewis-Williams 1996). The work of Rodrigo de Balbín is again of the maximum relevance for this renovation, due to some publications that set the basis for overcoming the exclusively religious interpretations of Palaeolithic graphic expressions (Balbín-Behrmann & Alcolea-González 1999). In this sense, his works propose an open reading of the depictions as communication codes bearing messages of different kinds – that is, a communication system used to codify and transmit information, shared beliefs or even feelings (Bueno-Ramírez *et al.* 2003), which was not limited to the darkness of the caves, but was also present in the visible – and not very mysterious – rocks of the river shores (Alcolea-González & Balbín-Behrmann 2006).

Many of the above-mentioned reflections, and also those that we are now offering in this paper, began to take shape, always together with Rodrigo de Balbín, in the study of La Pasiega cave, a major and very complex site of the Cantabrian region, in which we worked during several summer campaigns in the 1980s (Balbín-Behrmann & González-Sainz 1993, 1995). In La Pasiega we started to observe some contradictions between the data we were collecting and the structuralist orthodoxy. Among these contradictions, the most relevant were the existence of paintings in totally external areas of the two mouths of the cave, a totally unexpected order of figures in the interior spaces, or the recurrent appearance of the Bison/Horse theme throughout the cavity. Concerning the meaning of graphic expressions, a minimum analysis of the interior spaces where Upper Palaeolithic humans chose to produce their depictions prevented us from proposing univocal interpretations. Within the complex topography of La Pasiega we found everything from isolated and peculiar representations to clusters of figures in clear compositions, sometimes showing recurrent iconographic structures that seemed

to repeat a well-known message directed at the human community. Furthermore, differences in the visibility and formal complexity of figures and compositions, or the great variability in the accessibility and dimensions of decorated spaces, also suggested the need for considering purposes and meanings different from those assumed until then.

Leroi-Gourhan's interest in syntax, and its expression in underground spaces, led him to focus on animal themes and their topographic location within the caves. Yet he always encountered major difficulties when trying to establish clear and particular topographic categories, given the specific nature of the karstic environments where motifs were depicted – very different, for instance, from those used in historical artistic cycles, in which a strict topographic categorization is easy to define. This emphasis on the topographic location of figures meant that some other aspects that we now tend to consider to be part of the transmitted message were neglected. Thus, for instance, in assemblages that are undoubtedly contemporary with La Pasiega, we noticed important typometric differences depending on the animal themes or the technical procedures, as well as a large variability in formal complexity. These aspects, which we would later confirm in the large open-air site of Siega Verde (Alcolea-González & Balbín-Behrmann 2006: 265-92), and also in some other Cantabrian caves, strongly suggested that Palaeolithic graphic expressions had a large variety of meanings, although they also strengthened some of Leroi-Gourhan's proposals concerning the spatial hierarchization of animal motifs.

The final balance of three decades of changes (Fig. 1), based on the review of many previously known graphic assemblages, but also on the study of some recently discovered sites, leads us to a current state-of-the-art in which our knowledge is far greater than in the early 1980s. Furthermore, the new recording and research techniques implemented basically since the 1990s, have also increased the quality of available data. This technological improvement in our techniques has been progressively modifying our working procedures in each research phase (lighting, topography, photography and databases). As a consequence, direct chronometric dating, pigment analysis based on non-invasive techniques such as Raman microscopy (Ospitali *et al.* 2006; Hernanz *et al.* 2012), 3D scanning techniques (González-Aguilera *et al.* 2009; Pastoors & Cantalejo 2014), and advanced methods of digital photography, are now usual in the study of Palaeolithic graphic sites.

However, although this process of increasing reliance on technology has greatly enlarged our knowledge of Palaeolithic graphic expressions, it can also be related to the appearance of new problems that still remain unsolved. On the one hand, concerning methods, the frequent bad use of graphic design software tools

based on digital photography has caused a relative decline in the quantity and quality of data recorded by researchers. On the other hand, and quite surprisingly in our view, some of the most prickly problems in the study of Palaeolithic art have been produced due to the blind adoption of results yielded by the new archaeometric analyses used in the recording and study of rock depictions. In the next section we will briefly discuss some of these problems.

The stylistic debate and its chrono-cultural implications. Back to Culture History?

The main problem in current research on European Palaeolithic rock art is of a chronological nature. Furthermore, many other problems under discussion, to some extent, depend on the chronological debate. As a consequence of the general dismissal of the stylistic dating system established by Leroi-Gourhan in *Préhistoire de l'Art Occidental* (1965), there are now several debates about the general chronology of European Palaeolithic rock art. These discussions can be grouped around three main topics: (1) the chronometric origin of graphic expressions and their initial stylistic nature, (2) the role of stylistic analysis for organizing chronological frameworks, and (3) the possible existence of general evolutionary trends driving the development of graphic expressions.

Concerning the first point, it seems that nowadays there is a partial consensus. Once the geographically limited view, in some way French-biased, derived from Leroi-Gourhan's Style I, has been abandoned; there is now wide recognition of the multi-regional existence of graphic expressions on rocks from the beginning of the Upper Palaeolithic (Broglio *et al.* 2009; Fortea *et al.* 2004; González-Sainz *et al.* 2013; Sauvet *et al.* 2007; Pike *et al.* 2012), and some geo-cultural systematizations have even been attempted (Delluc & Delluc, 1991, 1999; Sauvet *et al.* 2008). It is also evident that these representations were produced in a variety of locations, including the deepest areas of the caves, and that they respond to a greater technical and stylistic variability than was assumed by Leroi-Gourhan (González-Sainz 2002). However, this generic consensus on the oldest Palaeolithic graphic expressions still features a number of controversies, especially with regard to their stylistic nature.

Some researchers, in consonance with the first prehistorians who refused Leroi-Gourhan's legacy *en bloc* (Lorblanchet 1993, 1995), currently maintain that the Palaeolithic graphic cycle arrived or originated in Europe in an advanced stage of development concerning techniques and style. The main basis for this statement is found in the chronometric results attributed to the black series of Grotte Chauvet (Clottes [ed.] 2001; Clottes & Geneste 2007; Geneste [ed.] 2005), whose complexity

Graphic activity in the European Upper Palaeolithic Changes in research approaches since 1985

Single artistic cycle throughout time (38–11,5 ka. BP) and space (Europe) It is maintained with minor changes:

- Existence of Palaeolithic figurative art outside Europe.
- Relevance of the open-air artistic phenomenon.
- Increase in the stylistic and iconographic variability.

Geographic development. Change of model:

1985 Model Centre / Periphery

- Core regions (Dordogne-Quercy, Pyrenees and Cantabrian Cornice) vs. peripheral areas.
- Spread of figurative behaviour from the core regions to the rest of Europe.
- Maintenance of the Franco-Cantabrian cluster as spreading area throughout the Upper Palaeolithic.



Current model Mosaic

- Aurignacian-age graphic expressions present in different European regions.
- Phases of artistic emergence in different regions and periods throughout the Upper Palaeolithic.
- Variable degree of inter-regional cultural interactions throughout the Upper Palaeolithic.

Temporal development Change of model:

1985 Model

- Evolutionary model based on the idea of progress. From simple to complex.
- Linear process oriented to mastery (styles I, II, III, aIV & rIV).
- Style is conceived as closely related to chronology.



Current Model

- General graphic evolution or different trends of temporal development.
- "Ancient" vs. "Magdalenian" art: from synthetic and minimalist naturalism to visual naturalism.
- Trends of graphic temporal evolution nuanced, to different extents, by intra and inter-regional variability.

Meaning Change of model:

1985 Model

- Search for unique and general explanations.
- Graphic expressions inextricably associated with the transcendental or religious sphere.
- Message is expressed by iconographic structure (A. Leroi-Gourhan)



Current Model

- Abandonment of unique and general explanations. More diversified meanings and functions, based on:
 - Impact and analysis of open-air rock art.
 - Internal analysis of underground contexts (different degrees of compositional diversity and complexity, variability of used spaces).
 - Assessment of formal treatment ('style') and context of representation as parts of the transmitted message.

FIGURE 1. SCHEMATIC SUMMARY OF THE MAIN CHANGES OCCURRING IN THE RESEARCH APPROACHES ADOPTED IN THE STUDY OF PALAEOGRAPHIC EXPRESSIONS DURING THE LAST 30 YEARS.

is taken as a virtually definitive proof. This purported maturity of the graphic expressions since the beginning of the Upper Palaeolithic is also used to support the idea of the possible existence of a large variety of independent graphic traditions in Southwest Europe bearing different stylistic features. This view is undoubtedly close to anthropological particularism, and it has deep implications for the study of the Upper Palaeolithic in Southwest Europe, as we will discuss below.

For some other researchers, including ourselves – although we disagree on some minor points – (Alcolea-González & Balbín-Behrmann 2007; González-Sainz 1999), the techno-stylistic definition of the first stages of European Palaeolithic rock art is quite different. Although it is true that variability concerning themes, techniques, style, and even location of depictions, is greater than was assumed in the structuralist paradigm, it is also true that so-called Aurignacian graphic expressions – including those defined not only on radiometric grounds, but also on stylistic comparisons (Delluc y Delluc 1991, 1999; Fortea *et al.* 2004; Sauvet *et al.* 2008) – display a notable techno-stylistic homogeneity, which significantly contrasts with the black series of Grotte Chauvet. These techno-stylistic features are very different from those used by Leroi-Gourhan (1965) to define analytical figurative styles, and they are based on the repetition of some specific thematic and stylistic models. The insistence on producing depictions by means of red linear paintings or through deep engravings in the outer areas of caves, the repetitions of perspective models in discord with visual reality, and the generalized absence of complex details and conventions in zoomorphic figures, are all traits more easily related to the other graphic pole defined by Leroi-Gourhan: the synthetic figurative. In our view, the first European graphic expressions do possess a style, a set of defined formal traits which are even present in some thematic features recently proposed, such as the insistence on representing specific animals (felines, carnivores, etc).

It is evident that this debate entirely depends on the discussion of the chronology of Grotte Chauvet's paintings, and the never-ending diatribe between the supporters of assuming an Aurignacian age for this cave's black series (Clottes 2001; Clottes & Geneste 2007; Geneste 2005; Sauvet *et al.* 2008; Petrognani 2013; Von Petzinger & Howell 2014), and those questioning the validity of the results yielded by the direct chronometric dating of the figures (Alcolea-González & Balbín-Behrmann 2007; Pettitt & Bahn 2003, 2014, 2015; Pettitt *et al.* 2009; Züchner 1996, 2014; Combier & Jouve 2012). This controversy is so pronounced that it shows to what extent the interpretation of physicochemical data may interfere in archaeological analysis, affecting even the authors of this paper. One of us (JJAG) strongly disagrees with the 'official' reading of the results yielded by Grotte Chauvet's datings, while the other (CGS),

after a long process based both on the direct inspection of the cave and on the fact that, in his view, the purported Aurignacian age of the black series is no longer an isolated case, but can be integrated into a network of coherent data (including the rock art of L'Audène – Ambert *et al.* 2005 – and even that of the upper level of Altxerri – González-Sainz *et al.* 2013 – the Initial Upper Palaeolithic portable artworks of Central Europe, and some contextual information from Chauvet cave itself), has now accepted an Aurignacian chronology for the black series.

It seems evident that our opposing positions on the controversy around the chronology of Grotte Chauvet's black series make clear how different are our views concerning the relevance that these paintings present for discussing the origins and first development of European Palaeolithic rock art. For one of us (JJAG), Chauvet should be excluded from the discussion, whatever its actual chronology may be, since the rest of Aurignacian art never shows the formal models found in the black series, apart from some very generic thematic parallels in sites such as L'Audène and Arcy-sur-Cure, which nonetheless present quite different stylistic features. However, for the other (CGS), considering Chauvet's black series in this debate is not so problematic, since the great formal complexity of the composition, similar to some of the most elaborate ones of the Final Upper Palaeolithic, is produced in very different stylistic terms, and it includes some conventions which are also found in other figures of the same cave whose Aurignacian age is not under discussion.

This is not the place for taking sides, again, in one way or the other. However, in our view a relevant corollary of this discussion is that neither radiocarbon nor any other physicochemical analytical method, whatever their quantity, is able, in itself, to solve the chronological problems of current Palaeolithic rock art research. Even in a case on which the two authors of this paper disagree, such as that of Grotte Chauvet, there is a basic consensus between them: problems of chronology (or any other topic) affecting Palaeolithic graphic expressions need to be approached by means of a comprehensive archaeological study including a formal, technical and compositional analysis, and cannot be reduced to a technical debate on the reliability of chronometric data.

The discussion on the antiquity of Grotte Chauvet's representations is, furthermore, a paradigmatic example of the 'Science versus Archaeology' conflict. This conflict is expressed through the opposition of an unquestionably poor archaeological context, both local and regional, to the purportedly indisputable evidence yielded by physicochemical analyses. The basis of this conflict actually lies in the way one interprets analytical results, in this case chronometric dates. On the one hand, those researchers who, using a 'scientific' approach, take

PREHISTORIC ART AS PREHISTORIC CULTURE

these dates as pivotal and indisputable elements of the discussion, tend to support the Aurignacian age of the black series. On the other hand, researchers defending a more comprehensive archaeological analysis tend to question the dating results obtained in Chauvet. The latter scholars highlight the contamination and error problems that could affect chronometric methods (Pettitt & Bahn 2003: 135-36), and they point out the high number of wrong and contradictory results yielded by them (Moure *et al.* 2006: 318). Therefore, when trying to solve the chronological problems affecting Palaeolithic rock art, they propose considering chronometric results not as definitive data in themselves, but as a substantial part of a comprehensive archaeological approach to the record.

The debate around the stylistic nature of the first Palaeolithic rock art expressions in Europe is directly related to the other topics currently under discussion, as mentioned above: the usefulness of the notion of style for dating, and the existence of an evolutionary process driving the graphic expressions throughout the Upper Palaeolithic. The first of these aspects needs a preliminary clarification: our use of the term 'style' is different from the notion of style coined by Leroi-Gourhan. The latter was not limited to the formal traits of representations, but also included technical, compositional and topographical aspects. The validity of this notion for chronological analysis has already been questioned (Alcolea-González & Balbín-Behrmann 2007: 460). In contrast, we limit the notion of style to the formal appearance of representations, and in this sense we consider it a useful tool for the archaeological analysis of rock art depictions. And this is so because for us, and also for Professor Balbín, it is possible to document evolutionary trends within European rock art throughout the Upper Palaeolithic.

However, despite the fact that both of us accept the existence of a graphic evolutionary process, we need to point out that there is some minor discussion between us concerning certain aspects. For instance, we disagree slightly on the convenience of proposing either a general evolutionary process driving the development of Upper Palaeolithic graphic expressions, or just a certain tendency for change from a prevailing synthetic or minimalist naturalism in the first phases to a more visual naturalism fully dominant during the Tardiglacial. Another topic under discussion is the degree of synchronic variability present in the first phases of the Palaeolithic graphic cycle, although we agree that this variability was not an exclusive phenomenon of the advanced phases, as was stated in the classic interpretations. In any case, we both maintain that these tendencies for change or general evolutionary trends were not developed in a gradual and linear way, as was derived from the idea of progress assumed in the classic evolutionist proposals. Also, we maintain that they were not equally developed in the different regions of Southwest Europe, since while

in some artistic areas, such as the Cantabria-Pyrenees-Périgord cluster, the techno-stylistic modifications throughout the Upper Palaeolithic were more clearly patterned, in others, such as Central or Western Iberia, formal survivals were more pronounced.

Problems with the validity and treatment of the notion of style arise when the above-mentioned evolutionary patterns are denied. Researchers doing so usually also support the old chronology of the black series of Grotte Chauvet (Lorblanchet 1993, 1995). For them, there is only a myriad of different styles responding to the multiple local traditions originating throughout the Upper Palaeolithic. These scholars conceive style in descriptive or archaeographic terms, claiming that it is only useful for describing the graphic activity of a given epoch and place, and that such style is due to the historical and unique nature of that specific tradition. Therefore, according to this view, style would be a totally useless element for dating parietal graphic expressions.

While it is true that the evolutionary nature of Leroi-Gourhan's stylistic systematics virtually dismissed the inevitable historical nature of Palaeolithic graphic expressions, it is also true that reclaiming the old and dogmatic methods of Historical particularism to take them into account is another abuse which, furthermore, is in discordance with the archaeological record. We have documented the existence of regional sequences in the Iberian plateau (Alcolea-González & Balbín Behrmann 2003, 2006) or the Cantabrian region (González-Sainz 2002; González-Sainz & San Miguel 2001), which are supported in archaeological data, including both stylistic and radiometric evidence. These sequences admittedly question the stylistic systematics of Leroi-Gourhan, but they also point to the existence of general trends of evolution within the European Palaeolithic graphic expressions, whose acceleration and deceleration mechanisms are, nonetheless, still poorly known. These trends, most probably geographically heterogeneous, show a very generic process in which we detect temporal changes concerning the treatment of some stylistic features, such as perspective, movement, and an increasing naturalism of representations. The existence of this evolutionary process clearly shows that formal traits can be used as diagnostic elements in the process of dating Palaeolithic graphic expressions, even though their accuracy is not as great as one would wish.

This discussion on the chronological value of stylistic features also presents some implications for the cultural interpretation of rock art expressions. Supporters of the denial of global evolutionary trends within European Pleistocene graphic expressions propose that these expressions must theoretically correspond to an unknowable myriad of local and regional traditions (Lorblanchet 1995: 279). Paradoxically, these scholars have found a simpler way of systematizing

these traditions: re-assign them, once they have been 'objectively dated', to the technocomplexes of the Upper Palaeolithic.

Again, this 'new' tendency must be related to the virulent response to Leroi-Gourhan's work that occurred in France after his death. The distinction between technological and graphical developments established by Leroi-Gourhan was one of the hardest blows to the prior culture-historical understanding of Upper Palaeolithic cultures, which was then also under attack by proponents of Processual Archaeology. Thus, dismantling the work of the French scholar could not be complete without solving this issue, and this was finally addressed with the help of 'Science'. In consonance with the archaeographic sense of 'style' explained above, and based on the radiometric dating of some graphic expressions, the Upper Palaeolithic graphics have been re-assigned to the Aurignacian, Gravettian, Solutrean or Magdalenian, endowing these concepts with a new cultural substance. In this sense, the current use of frameworks similar to the ancient diagrams of comparative chronology in use at the beginning of the 20th century (Fortea *et al.* 2004: 173, Table 1), shows this return to Culture History: Style I is now Aurignacian Art, Style III is Badegoulian Art.

In our view, this epistemic return to the past is one of the biggest paradoxes to have occurred in the last few decades in the field of Palaeolithic rock art research. In the face of modern and sophisticated data coming from the hard sciences, any reasoning using the notion of 'style' has been proscribed, while Palaeolithic graphic expressions have been framed in consonance with old constructs, which are in fact 'archaeological cultures' built upon deeper stylistic criteria. Thus, while the validity of concepts internal to the graphic activity, such as 'stepped mane', are denied, some others completely external to it, such as 'split-base antler point' are – indirectly – used with the same purpose. For us, this might be the most deleterious consequence of the abuses committed in the application of hard-science analyses to the study of Upper Palaeolithic graphic expressions. In fact, results from these analyses are still incipient, since they have been applied to a very reduced number of figures in relation to the large number of depictions currently known. Therefore, the paradigmatic shift proposed by the post-stylistic researchers, which implies rethinking the very nature of Upper Palaeolithic technocomplexes, is not justified.

Conclusion

Three decades of research on European Palaeolithic art have resulted in a profound revision of our certainties about this subject. Today we possess a richer image of this phenomenon, based on its chronological expansion to the very origins of the Upper Palaeolithic, a larger geographic and spatial variability, and a new and more

open reading of its possible meanings. The introduction of modern physicochemical analyses to the study of Palaeolithic graphic expressions has caused both an important breakthrough in our understanding of the phenomenon, and an opening up of new debates which will enlarge our knowledge in the coming years.

However, the main leap forward has been to include the study of Pleistocene graphic expressions in the framework of the archaeological analysis of the Upper Palaeolithic, thus abandoning the 'metaphysical' and 'immaterial' realm to which they had been relegated throughout the 20th century. Yet, as we pointed out at the beginning of this paper, we have to be wary of the abuses that can be committed in the name of data coming from the hard science, and reclaim a real archaeological treatment of Palaeolithic parietal expressions, in which the images composing those expressions cannot be excluded.

That treatment was always taught to us – and we sincerely hope he will continue to do so – by Professor Balbin, without a doubt one of the main figures of these three exciting decades of research which have forever changed our knowledge and understanding of European Palaeolithic parietal art.

Translated from Spanish by Manuel Alcaraz-Castaño

References

- Alcolea-González, J. J. & Balbin-Behrmann, R. de 2003. El Arte Rupestre Paleolítico del interior peninsular. Elementos para el estudio de su variabilidad regional, pp. 223-53 in (R. de Balbin & P. Bueno, eds) *El Arte Prehistórico desde los Inicios del Siglo XXI*. Primer Symposium Int. de Arte Prehistórico de Ribadesella. Asociación Cultural Amigos de Ribadesella.
- Alcolea-González, J. J. & Balbin-Behrmann, R. de 2006. Arte Paleolítico al aire libre. El yacimiento rupestre de Siega Verde, Salamanca. *Arqueología en Castilla y León*, 16. Valladolid.
- Alcolea-González, J. J. & Balbin-Behrmann, R. de 2007. C14 et Style. La chronologie de l'art pariétal à l'heure actuelle. *L'Anthropologie* 111: 435-66.
- Ambert, P., Guendon, J. L., Galant, P., Quinif, Y., Gruneisen, A., Colomer, A., Dainat, D., Beaumes, B. & Requirand, C. 2005. Attribution des gravures paléolithiques de la grotte d'Aldène (Cesseras, Hérault) à l'Aurignacien par la datation des remplissages géologiques. *Comptes Rendus Palevol*. 4-3: 275-84.
- Balbin-Behrmann, R. de 1989. L'Art de la grotte de Tito Bustillo (Ribadesella, Espagne). Une vision de synthèse. *L'Anthropologie* 93: 435-62.
- Balbin-Behrmann, R. de 2014. Chauvet, chronologie et archéologie. *L'Anthropologie* 118: 159-62.

PREHISTORIC ART AS PREHISTORIC CULTURE

- Balbín-Behrmann, R. de & Alcolea-González, J. J. 1999. Vie quotidienne et vie religieuse. Les sanctuaires dans l'Art Paléolithique. *L'Anthropologie* 103: 23-49
- Balbín, R. de, Alcolea, J. J. & Gonzalez, M. A. 2003. El Macizo de Ardines, Ribadesella, España. Un lugar mayor del Arte Paleolítico Europeo, pp. 91-151 in (R. de Balbín & P. Bueno, eds) *El Arte Prehistórico desde los Inicios del Siglo XXI*. Primer Symposium Int. de Arte Prehistórico de Ribadesella. Asociación Cultural Amigos de Ribadesella.
- Balbín-Behrmann, R. de & Gonzalez-Sainz, C. 1993. Nuevas investigaciones en la cueva de La Pasiega (Puente Viesgo, Cantabria). *Boletín del Seminario de Estudios de Arte y Arqueología* LIX: 9-38.
- Balbín-Behrmann, R. de & Gonzalez-Sainz, C. 1995. L'ensemble rupestre paléolithique de 'La Rotonda' dans la galerie B de la grotte de La Pasiega (Puente Viesgo, Cantabria). *L'Anthropologie* 99 (2-3): 296-324.
- Baptista A. M. 2008. *O paradigma perdido. O vale do Côa e a Arte Paleolítica de ar livre em Portugal*. Edições Afrontamento e Parque Arqueológico do Vale do Côa: Vila Nova de Foz Côa/Porto.
- Breuil, H. 1974. *Quatre cents siècles d'Art Pariétal*. Editions Max Fourny: Paris.
- Broglio, A., De Stefani, M., Gurioli, F., Pallecchi, P., Giachi, G., Higham, T. & Brock, F. 2009. *L'art aurignacien dans la décoration de la Grotte de Fumane*. *L'Anthropologie* 113: 753-61.
- Bueno, P., Balbín-Behrmann, R. de & Alcolea-Gonzalez, J. J. 2003. Prehistoria del lenguaje en las sociedades cazadoras y productoras del sur de Europa, pp. 9-22 in (R. de Balbín & P. Bueno, eds) *El Arte Prehistórico desde los Inicios del Siglo XXI*. Primer Symposium Int. de Arte Prehistórico de Ribadesella. Asociación Cultural Amigos de Ribadesella.
- Clottes, J. (ed.) 2001. *La Grotte Chauvet. L'art des origines*. Le Seuil: Paris.
- Clottes, J. & Courtin, J. 1993. *La Grotte Cosquer; peintures et gravures de la caverne engloutie*. Le Seuil: Paris
- Clottes, J. & Geneste, J. M. 2007. Le contexte archéologique et la chronologie de la grotte Chauvet, pp. 363-78 in (H. Floss & N. Rouquerol, eds) *Les Chemins de l'Art Aurignacien en Europe. Das Aurignacien und die Anfänge der Kunst in Europa. Colloque International-International Fachtagung Aurignac 2005*. Editions Musée-forum Aurignac, Cahier 4.
- Clottes, J. & Lewis-Williams, D. 1996. *Les Chamanes de la Préhistoire. Transe et magie dans les grottes ornées*. Le Seuil: Paris.
- Clottes, J., Menu, M. & Walter, P. 1990. La preparation des peintures magdaléniennes des cavernes ariégeoises. *Bulletin de la Société Préhistorique Française* 87 (6): 170-92.
- Clottes, J., Valladas, H, Cachier, H. & Arnold, M. 1992. Des dates pour Niaux et Gargas. *Bulletin de la Société Préhistorique Française* 89: 270-74.
- Combiér, J. & Jouve, G. 2012. Chauvet Cave's art is not Aurignacian: a new examination of the archaeological evidence and dating procedures. *Quartär* 59: 131-52.
- Delluc, B. & Delluc, G. 1991. *L'art pariétal archaïque en Aquitaine*. XVIIIe supplément à Gallia Préhistoire. CNRS: Paris.
- Delluc, B. & Delluc, G. 1999. El arte paleolítico arcaico en Aquitania. De los orígenes a Lascaux. *Edades. Revista de historia* 6: 145-65.
- Fortea, F. J. 2002. Trente-neuf dates C14-SMA pour l'art pariétal paléolithique des Asturies. *Bulletin de la Société Préhistorique Ariège-Pyrénées* LVII: 7-28.
- Fortea, F. J., Fritz, C., García, M., Sanchidrián, J. L., Sauvet, G. & Tosello, G. 2004. L'art pariétal paléolithique à l'épreuve du style et du carbone-14, pp. 163-75 in (M. Otte, ed.) *La Spiritualité*. Actes du Colloque de la Commission 8 de l'UISPP. ERAUL 106: Liège.
- Geneste, J. M. (ed.) 2005. *Recherches pluridisciplinaires dans la grotte Chauvet*. S.P.F. Travaux 6: 135-44.
- González-Aguilera, D. Muñoz, A. L., Lahoz, J. G., Herrero, J. S., Corchón, M. S. & García, E. 2009. Recording and modeling Paleolithic caves through laser scanning. *GEOVS* 7: 19-26.
- González-Echegaray, J. 1978. Cuevas con Arte Rupestre en la región cantábrica, pp. 49-77 in *Curso de Arte Rupestre*. UIMP: Zaragoza.
- Gonzalez Sainz, C. 1999. Sobre la organización cronológica de las manifestaciones gráficas del Paleolítico superior. Perplejidades y algunos apuntes desde la región cantábrica, pp. 123-44 in (R. Cacho & N. Gálvez) *32.000 BP: Una odisea en el tiempo. Reflexiones sobre la definición cronológica del arte parietal paleolítico*.
- Gonzalez Sainz, C. 2002. Unidad y variedad de la región cantábrica y de sus manifestaciones artísticas paleolíticas, pp. 39-45 in (Various authors) *Cuevas con arte paleolítico en Cantabria*. ACDPS.
- Gonzalez-Sainz, C. & San Miguel, C. 2001. *Las cuevas del desfiladero. Arte rupestre paleolítico en el valle del río Carranza (Cantabria-Vizcaya)*. Santander
- González-Sainz, C., Ruiz-Redondo, A., Gárate-Maidagán, D. & Iriarte-Avilés, E. 2013. Not only Chauvet: Dating Aurignacian rock art in Altxerri B Cave (northern Spain). *Journal of Human Evolution* 65: 457-64.
- Hernanz, A., Gavira-Vallejo, J. M., Ruiz-López, J. F., Martín, S., Maroto-Valiente, A., Balbín-Behrmann, R. de, Menéndez, M., Alcolea-González, J. J. 2012. Spectroscopy of Palaeolithic rock paintings from the Tito Bustillo and El Buxu Caves, Asturias, Spain. *Journal of Raman Spectroscopy* 43: 1644-50.
- Leroi-Gourhan, A. 1965. *Préhistoire de l'Art Occidental*. Mazenod: Paris

- Lorblanchet, M. 1993. From Style to Dates, pp. 61-72 in (M. Lorblanchet & P. G. Bahn, eds) *Rock Art Studies: the Post-stylistic Era or Where do we go from here?* Oxbow: Oxford.
- Lorblanchet, M. 1995. *Les grottes ornées de la Préhistoire: nouveaux regards*. Errance: Paris.
- Lorblanchet, M. & Bahn, P. G. (eds) 1993. *Rock Art Studies: the Post-stylistic Era or Where do we go from here?* Oxbow: Oxford.
- Ministère de la Culture (ed.) 1984. *L'Art des Cavernes. Atlas des grottes ornées paléolithiques françaises*. Ministère de la Culture: Paris
- Moure, A. & González Morales, M. R. 1988. El contexto del arte parietal. La tecnología de los artistas en la cueva de Tito Bustillo (Asturias). *Trabajos de Prehistoria* 45: 19-49.
- Moure, J. A., González Sainz, C., Bernaldo de Quirós, F. & Cabrera, V. 1996. Dataciones absolutas de pigmentos en cuevas cantábricas: Altamira, El Castillo, Chimeneas, pp. 295-324 in (J. A. Moure, ed.) *El Hombre Fósil 80 años después. Homenaje a Hugo Obermaier*. Servicio de Publicaciones, Univ. de Cantabria: Santander.
- Ospitali, F., Smith, D. C. & Lorblanchet, M. 2006. Preliminary investigations by Raman microscopy of prehistoric pigments in the wall-painted cave at Roucadour, Quercy, France. *Journal of Raman Spectroscopy* 37 (10): 1063-71.
- Pastors, A. & Cantalejo, P. 2014. Aplicaciones con escáner a los grabados prehistóricos, pp. 115-18 in (J. Ramos, G. C. Weniger, P. Cantalejo & M. M. Espejo, eds) *Cueva de Ardales. Intervenciones arqueológicas 2011-2014*. Ediciones Pinsapar. Junta de Andalucía/Ayuntamiento de Ardales.
- Pastors, A. & Weniger, G. C. 2011. Cave Art in Context: Methods for the Analysis of the Spatial Organization of Cave Sites. *Journal of Archaeological Research* 21 (4): 377-400.
- Pettitt, P. & Bahn, P. G. 2003. Current problems in dating Palaeolithic cave art: Candamo and Chauvet. *Antiquity* 77 (295): 134-41.
- Pettitt, P. & Bahn, P. G. 2014. Against Chauvetism. A critique of recent attempts to validate an early chronology for the art of Chauvet Cave. *L'Anthropologie* 118 (2): 163-82.
- Pettitt, P. & Bahn, P. G. 2015. An alternative chronology for the art of Chauvet cave. *Antiquity* 89 (345): 542-53.
- Petrognani, S. 2013. *De Chauvet à Lascaux. L'art des cavernes, reflet de sociétés préhistoriques en mutation*. Editions Errance: Paris
- Pettitt, P., Bahn, P. G. & Züchner, C. 2009. The Chauvet conundrum: are claims for the birthplace of art premature?, pp. 239-62 in (P. G. Bahn, ed.) *An Enquiring Mind. Studies in Honor of Alexander Marshack*. Oxbow Books: Oxford.
- Pike, A., Hoffmann, D., García-Díez, M., Pettitt, P., Alcolea-González, J. J., Balbín-Behrmann, R. de, González-Sainz, C., Heras, C. de las, Lasheras, J. A., Montes, R. & Zilhao, J. 2012. U-series dating of Paleolithic Art in 11 caves in Spain. *Science* 336: 1409-13.
- Ríos, S., García de Castro, C., Rasilla, M. de la & Fortea, J. 2007. *Arte rupestre prehistórico del Oriente de Asturias*. Consorcio para el desarrollo rural del Oriente de Asturias: Oviedo
- Sauvet, G., Fritz, C. & Tosello, G. 2008. Emergence et expansion de l'art aurignacien. *Préhistoire, Art et Sociétés. Bulletin de la Société préhistorique Ariège-Pyrénées* LXIII: 33-46.
- Valladas, H., Cachier, H., Maurice, P., Bernaldo de Quirós, F., Clottes, J., Cabrera, V., Uzquiano, P. & Arnold, M. 1992. Direct radiocarbon dates for prehistoric paintings at the Altamira, El Castillo and Niaux caves. *Nature* 357: 68-70.
- Various authors 2002. *Las cuevas con Arte Paleolítico en Cantabria*. Asociación Cántabra para la defensa del Patrimonio Subterráneo (ACDPS) y Cantabria en Imagen: Santander (2nd ed. 2010)
- Von Petzinger, G. & Howell, A. 2014. A place in time: Situating Chauvet within the long chronology of symbolic behavioral development. *Journal of Human Evolution* 74: 37-54.
- Züchner, C. 1996. La Grotte Chauvet: radiocarbone contre archéologie-the Chauvet cave: radiocarbon versus archaeology. *INORA* 13: 25-27.
- Züchner, C. 2014. Comments and additional remarks on the paper by Jean Combier and Guy Jouve: New investigations into the cultural and stylistic identity of the Chauvet Cave and its radiocarbon dating. *L'Anthropologie* 118 (2): 186-89.