

# Narratives and Journeys in Rock Art: a Reader

edited by

George Nash and Aron Mazel



Archaeopress Publishing Ltd  
Summertown Pavilion  
18-24 Middle Way  
Summertown

Oxford OX2 7LG

[www.archaeopress.com](http://www.archaeopress.com)

ISBN 9781 78491 560 5

ISBN 978 1 78491 561 2 (e-Pdf)

© Archaeopress and authors 2018

Cover illustrations: Front: Sorcerer's Rock, uKhahlamba-Drakensberg, South Africa

Back: Har Michia, The Central Negev, southern Israel

All rights reserved. No part of this book may be reproduced, 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](http://www.archaeopress.com)

---

# Contents

<b>1. Seeing and Construing: The Making and ‘Meaning’ of a Southern African Rock Art Motif.....</b>	<b>1</b>
J.D. Lewis-Williams	
<b>2. An Introduction to the Problems of Southern African Rock Art Regions: The Rock Art of Bongani Mountain Lodge and its Environs .....</b>	<b>27</b>
Jamie Hampson, William Challis, Geoffrey Blundell and Conraad De Rosner	
<b>3. Fluvial erosion of inscriptions and petroglyphs at Siega Verde, Spain .....</b>	<b>56</b>
Robert G. Bednarik	
<b>4. The Location of Prehistoric Rock Art in North-East England: An Experimental Approach to Field Survey .....</b>	<b>70</b>
Richard Bradley, Tess Durden and Nigel Spencer	
<b>5. Beyond Art and Between the Caves: Thinking About Context in the Interpretive Process .....</b>	<b>75</b>
Margaret W. Conkey	
<b>6. Transculturation, Rock Art and Cross-Cultural Contact .....</b>	<b>96</b>
Thomas Heyd	
<b>7. The Cultural Context of Hunter-Gatherer Rock Art .....</b>	<b>110</b>
Robert Layton	
<b>8. Who Thought Rock Art Was About Archaeology? The Role of Prehistory in Algeria’s Terror.....</b>	<b>129</b>
Jeremy Keenan	
<b>9. The power of a place in understanding southern San rock engravings .....</b>	<b>148</b>
Janette Deacon	
<b>10. Acoustic elements of (pre)historic rock art landscapes at the Fourth Nile Cataract.....</b>	<b>158</b>
Cornelia Kleinitz	
<b>11. Unsettled times: shaded polychromes and the making of hunter-gatherer history in the southeastern mountains of southern Africa .....</b>	<b>174</b>
Aron D. Mazel	
<b>12. Engraved in Place And Time: A Review of Variability in the Rock Art of the Northern Cape and Karoo .....</b>	<b>205</b>
David Morris	
<b>13. Rock art and the material culture of Siberian and Central Asian shamanism ....</b>	<b>225</b>
Ekaterina Devlet	

---

<b>14. Chronological Trends in Negev Rock Art: The Har Michia Petroglyphs as a Test Case</b> .....	238
Davida Eisenberg-Degen and Steven A. Rosen	
<b>15. Making sense of obscure pictures from our own history: exotic images from Callan Park, Australia</b> .....	262
John Clegg	
<b>16. Religious Spatial Behaviour: Why Space is Important to Religion</b> .....	273
Matthew Kelleher	
<b>17. Bedrock notions and isochrestic choice: evidence for localised stylistic patterning in the engravings of the Sydney region</b> .....	298
Jo McDonald	
<b>18. Rainbow Colour and Power among the Waanyi of Northwest Queensland</b> .....	322
Paul S. C. Taçon	
<b>19. Caves as Landscapes</b> .....	340
Jean Clottes	
<b>20. Landscape representations on boulders and menhirs in the Valcamonica-Valtellina area (Alps, Italy)</b> .....	357
Angelo Fossati	
<b>21. Roaring Rocks: An Audio-Visual Perspective on Hunter-Gatherer Engravings in Northern Sweden and Scandinavia</b> .....	375
Joakim Goldhahn	
<b>22. Rock Art and Archaeological Excavation in Campo Lameiro, Galicia: A new chronological proposal for the Atlantic rock art</b> .....	408
Manuel Santos Estévez and Yolanda Seoane Veiga	
<b>23. The Shore Connection: Cognitive landscape and communication with rock carvings in northernmost Europe</b> .....	421
Knut Helskog	
<b>24. Rock art as visual representation – or how to travel to Sweden without Christopher Tilley</b> .....	443
Liliana Janik	
<b>25. A discovery of possible Upper Palaeolithic Parietal art in Cathole Cave, Gower Peninsula, South Wales</b> .....	459
George Nash, Peter van Calsteren, Louise Thomas and Michael J. Simms	
<b>26. Images as Messages in Society: Prolegomena to the Study of Scandinavian Petroglyphs and Semiotics</b> .....	469
Jarl Nordbladh	

---

<b>27. Approaches to Passage Tomb Art.....</b>	<b>484</b>
Muiris O’Sullivan	
<b>28. Ritual Landscapes: Toward a Reinterpretation of Stone Age Rock Art in Trøndelag, Norway .....</b>	<b>501</b>
Kalle Sognnes	
<b>29. Excavation of a rock art site at Hunterheugh Crag, Northumberland.....</b>	<b>523</b>
Clive Waddington with Benjamin Johnson and Aron Mazel	
<b>30. From natural settings to spiritual places in the Algonkian sacred landscape: an archaeological, ethnohistorical, and ethnographic analysis of Canadian Shield rock-art sites .....</b>	<b>549</b>
Daniel Arsenault	
<b>31. In Small Cupules Forgotten: Rock Markings, Archaeology, and Ethnography in The Deep South .....</b>	<b>577</b>
Johannes H. N. Loubser	
<b>32. Shamanism, Natural Modeling and the Rock Art Hunter-Gatherers.....</b>	<b>603</b>
David S. Whitley	
<b>33. Tsagiglalal, She Who Watches: Rock Art as an Interpretable Phenomenon .....</b>	<b>636</b>
James D. Keyser	
<b>34. Rocks in the landscape: managing the Inka agricultural cycle.....</b>	<b>645</b>
Frank Meddens	
<b>35. On-Site and post-site analysis of pictographs within the San Pedro Viejo de Pichasca rock shelter, Limarí Valley, North-Central Chile .....</b>	<b>673</b>
Francisca Moya, Felipe Armstrong, Mara Basile, George Nash, Andrés Troncoso and Francisco Vergara	



# Introduction

George Nash and Aron Mazel

'Africa's rock art is the common heritage of all Africans, but it is more than that. It is the common heritage of humanity' (Nelson Mandela, in TARA 2010: 2)

In fact, Nelson Mandela's comment applies to rock art worldwide. It is a global treasure, which we need to cherish; we need to remind ourselves, and others, about the need to do this constantly. We must continue to record it, research it, write about it, talk about it, celebrate it, and safeguard it. For, once examples of this ancient part of global humanity are destroyed or fade away, they are lost forever!

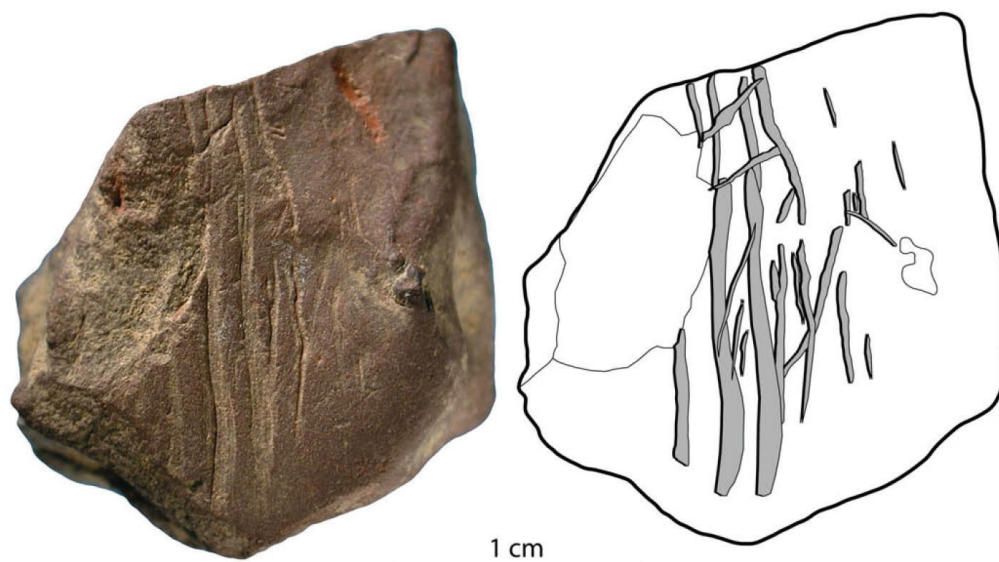
We don't know when rock art was first recognised as ancient. This could go back hundreds, if not thousands of years. In some societies people have believed for a long time – maybe thousands of years – that the rock art was made in ancient times without attributing an age to it. In other instances, however, there is a recorded process of 'discovery'. In Northumberland, in the UK, for example, close on 200 years ago, in the early 1800s, rock carvings were first recognised as being ancient. The antiquarian, George Tate (1865:3), described the process as follows:

'J.C. Langlands discovered some worn and defaced figures incised on a rude sandstone block, near to the great camp on Old Bewick Hill in north Northumberland. Though strange and old-world looking, these figures then presented an isolated fact, and he hesitated to connect them with by-past ages; for they might have been the recent work of an ingenious shepherd, while resting on a hill; but on finding, some years afterwards, another incised stone of a similar character on the same hill, he then formed the opinion, that these sculptures were very ancient. To him belongs the honour of the first discovery of these archaic sculptures...'

No matter how or when rock art came to be recognised and accepted as representing a tangible creative manifestation of ancient people, we do know that it is found on all the continents, except Antarctica, and in great profusion. An astonishing number of individual images – painted, engraved or carved–have been made, and in a few regions rock art continues to be produced (Figure 1). The number of images that have been created is likely to number in the tens of millions and perhaps even more, especially, if we consider that countries and regions such as Australia and southern Africa respectively each have a minimum of 100,000 rock art places, and that many new examples of rock art are being located and recorded annually (Agnew *et al.* 2015).



**Figure 1.** Image of Dogon painting photographed at Songo, in Mali, in 2001.



**Figure 2.** Photo and tracing of a piece of engraved ochre from M1-4 at Blombos Cave, South Africa (from Henshilwood *et al.* 2009)

While new rock art is still being found and recorded, it needs to be appreciated that many specimens of rock art have been obliterated through ongoing erosional processes, which are currently being accelerated through the vagaries of climate change. Furthermore, there is increasing human impact on rock art through, for example, intensified agricultural and industrial activities, and even nature conservation activities, such as the burning of vegetation in protected areas to encourage new plant growth, which has a deleterious impact on rock art. The loss of imagery and continuing threats highlights the urgency to record and study this fragile resource. A resource, which according to Jean Clottes (1997: 3), a contributor to this Reader, is the ‘only cultural manifestation of humankind...continued without interruption for several tens of thousands of years until the present day.’ While we may never know exactly when our ancestors first created images on rock, we now appreciate that it was an extraordinarily long time ago. Recently published dates suggest that Neanderthals in Spain might have started making parietal rock art as far back as 70 000 years ago (Hoffmann *et al.* 2018), although there has been a call for caution regarding these dates (Pearce and Bonneau 2018). Though the veracity of the new Spanish dates needs to be confirmed, we can be certain about the long record of human image making: Blombos Cave, at the southern tip of Africa, has yielded decorated pieces of ochre between 75 000 and 100 000 years old (Figure 2, Henshilwood *et al.* 2009).

Although we might not know the circumstances which led to initial creation of images on rock, it remains an ever present and tangible reminder that humans have, for an extensive period of time, had a strong desire to express themselves on rock, either by applying paint or another material to the rock or by cutting into it in some way. We are fortunate that some, perhaps much, of what was created has survived. But plenty has also been lost, and continues to be



lost, which presents us all but especially the policy makers, owners and managers of rock art places with a responsibility to safeguard this precious gift to us from our ancestors as best we can. This is an ongoing challenge. It is mostly an uphill battle with victories accompanied by severe setbacks. We have, for example, lost some, or even much, rock art completely without it ever being recorded and, therefore, not even realising the basic premise of ‘preservation by record’, which would allow researchers now and, in the future, to at least reflect on the record and construct knowledge about past societies accordingly.

It is, therefore, critical that we work towards ensuring that as much rock art as possible survives for as long as possible, especially as Taçon and Chippindale (1998: 9), have emphasised, it embodies:

‘a great and shared legacy: a visual, illustrated history of human endeavour, aggression, co-operation, experience and accomplishment. As Australian Aboriginal colleagues of ours... are fond of pointing out to us, these sites are history; these are history books that tell of pasts more varied and more diverse than what declares itself in the written record. They give insight into the present...as well as into the past.’

This extensive and varied Reader, with 35 papers, tells a variety of the stories that have been constructed through the study of rock art. These papers, which derive from different parts of the globe, articulate ‘varied and diverse’ stories about human history and the way in which our ancestors interacted with each other and the landscape through time. The Reader also shows that there are many different approaches to studying rock art and constructing knowledge, which is a strength in rock art research.

We are cogniant that the Reader comprises a small proportion of rock art publications from the last few decades. In this respect, it is pleasing to note that there has been a phenomenal growth in rock art studies during the last sixty years as revealed in the comprehensive *Rock Art Studies: A Bibliographic Database* that has been painstakingly compiled by Leigh Marymor (Figure 3). Marymor’s database records 1077 rock art publications during the 1950s, rising to 7680 publications during the 2010s (up to 16 February 2018). This is a significant increase. If publication output continues at the same average rate of about 80 publications a month during the remainder of the 2010s, there will be close on 9000 publications during the current decade. This proliferation of papers gives us reason to hope that the study of rock art is in sound health although this cannot be taken for granted. We need to continue finding, documenting and researching, perhaps even at an increased pace. Furthermore, we know that there is still much work that needs to be done to raise awareness among the general public and at all levels of education – primary, secondary and tertiary – to convey the many and varied insights into humanity that rock art has to offer and to impress upon people the importance of protecting it. This requires capturing their imagination and encouraging them to support endeavours to safeguard rock art and, where appropriate, to become advocates and stewards for its protection.

It should be noted that the re-publication of 35 papers, which span a 35-year period from 1979 to 2014, has had many challenges including, for example, obtaining copyright permission to re-publish certain papers and using optical character recognition (OCR) to convert older papers

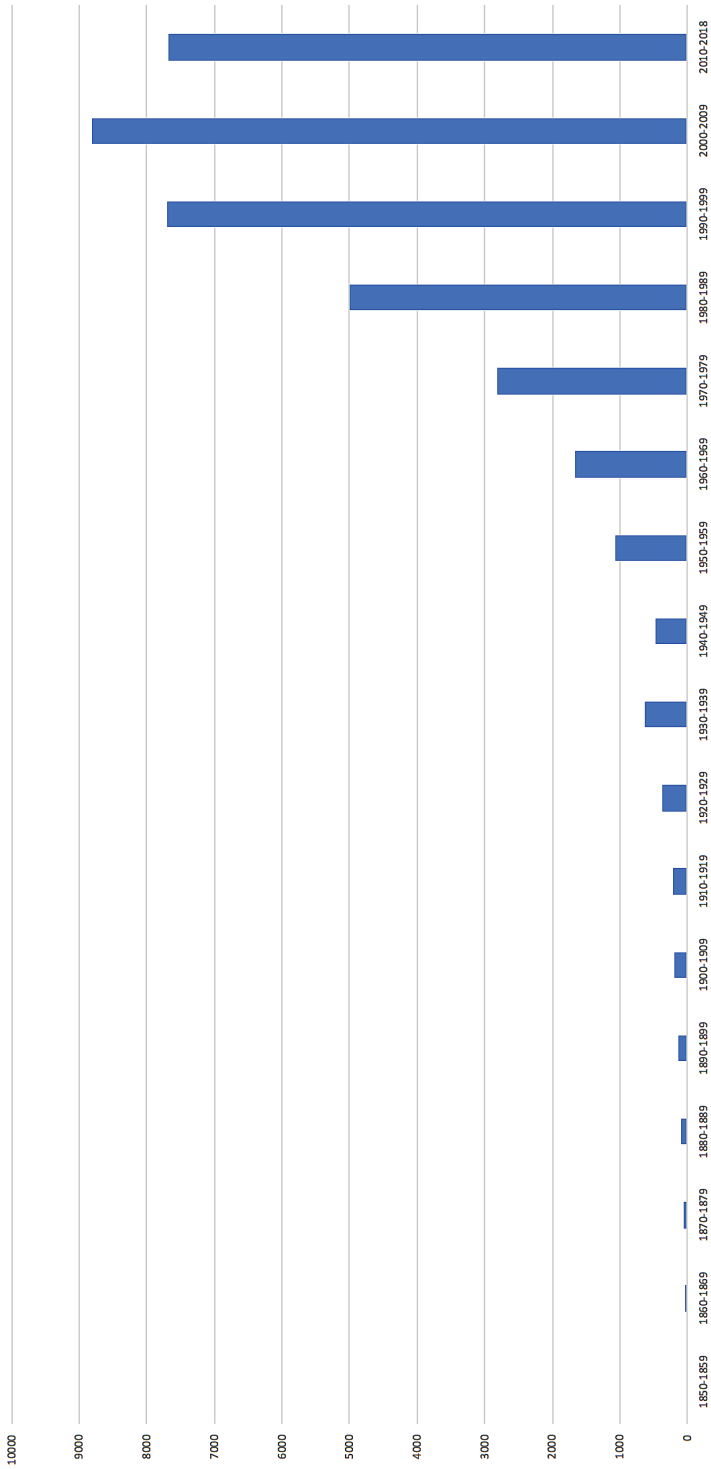


Figure 3. Rock Art Studies Bibliographic Database: Rate of Publication Over Time (Marymor 2018).

into digital format for re-publication. In some instances, the authors have requested changes in their titles to which we acquiesced. In a few cases there have also been slight modifications to the original text to strengthen the papers.

### What the papers say

We have carefully chosen 35 papers that reflect a sea-change in the way rock art has been perceived and interpreted over the last 35 years or so. As you the reader will notice, we have served a smorgasbord of material that caters for every inquisitive mind involved in the study of rock art. Saying this, the majority of the papers reflect a social sciences perspective rather than that of hard science. We were particularly interested in gathering those papers that have noticeably changed our way of thinking of how and why rock art was executed. In the early days of rock art research, much of the evidence portrayed on rock art panels was largely ignored by conventional archaeology and, both fixed rock art and mobiliary art was usually confined to the 'miscellaneous' sections in many journals. By the 1980s and following the discovery (and publication) of a number of important rock art sites, rock art research came of age. It is from this time of systematic research and a rethinking of archaeological research that our story, the Reader begins.

The book covers many of the so-called *hot spots* of the world where ancient rock art is in abundance. David Lewis-Williams starts the proceedings with an interpretive account of South African rock art. This paper, published in 1995, uses a variety of anthropological and ethnographic methods to explain the function of the shaman in San hunter-gatherer art and was probably a *follow-on* of his ground-breaking co-authored paper *The signs of all times: entoptic phenomena in Upper Palaeolithic art* (1988). In Chapter 2, Jamie Hampson, William Challis, Geoffrey Blundell and Conraad de Rosner take on a more general approach to South African rock art studies, focusing on several core rock art areas in the eastern part of the country. The authors are primarily concerned with the compartmentalization of rock art based on style and geography.

In Chapter 3, Robert Bednarik discusses the erosion rates for open-air rock art; the geographic focus being Siega Verde in central western Spain. Bednarik postulates about how erosion rates of incised engravings on slates and shales can be accurately calibrated, a methodology that was used in the NE Portugal during a controversial dam project during the early 1990s.

Richard Bradley, Tess Durden and Nigel Spencer explore, in Chapter 4, the various attributes that creates a rock art landscape and the field ethics involved in order to arrive at a way of understanding ancient landforms. In a slightly similar vein, Margaret Conkey, in Chapter 5, discusses the contextual issues of Upper Palaeolithic rock art and the caves in which it is found. The paper provides the reader with an interpretive account of the complexities of producing art within a sensory restricted environment.

In Chapter 6, Thomas Heyd takes a theoretical stance, looking at the cross-cultural contact that exists between rock art, the custodians, contemporary artists and the casual visitor. Concerns about cultural appropriation are central to the paper, along with understanding the ethics and etiquette associated with approaching and experiencing rock art. Similarly, Robert Layton, in

Chapter 7, guides the reader about how historic and contemporary rock art in Australia forms an integral role in the myth-making process. For this paper, Layton explores several regions in Northern Australia. Both papers use non-archaeological approaches to arrive at a number of plausible assumptions about the past, clearly showing that art is not only element motivating tribal communities to express themselves visually.

Staying with an anthropological theme, Jeremy Keenan, in Chapter 8, explores the *politik* of how the archaeological past in North Africa has influenced contemporary society with a particular focus placed on the Tassili-n-Aijer region of Algeria. Tassili-n-Aijer is one of Africa's most significant rock art areas which has recently witnessed unwarranted subversive attention, sometimes resulting in the deliberate defacement of a number rock art panels within this and other nearby rock art areas.

Janette Deacon's chapter, Chapter 9, uses a similar approach for the way folklore, myth and rock art may have assisted in creating powerful ritual landscapes; the rock art site being the focus for ritualized activity. Deacon's chosen landscapes are in the semi-desert areas of the northern Cape in South Africa. Staying on the African continent, Cornelia Kleinitz, in Chapter 10, investigates the acoustic qualities of the rocky landscape within Fourth Nile Cataract. Here, Kleinitz recognizes that the rock art within this region of north-east Africa was and continues today to be used as musical rock gongs.

In Chapter 11, and moving to the south of the African continent, Aron Mazel explores the shaded polychrome paintings of southeastern South Africa. The jagged mountains and steep valleys of the KwaZulu-Natal Drakensberg reveal a series of rock shelters that house some of Africa's finest rock art. Mazel suggests that these paintings emerged during times of stress. Staying in southern Africa, David Morris, in Chapter 12, discusses the varying artistic techniques and themes that occur between several areas within the Northern Cape. This is contextualised comparative analysis is set within a chronological framework.

Moving to the continent of Asia, Ekatrina Devlet, in Chapter 13, postulates the shamanistic representations of Siberia and Central Asia. This region does not have early written accounts of shamanistic behavior. Instead, much of the potential evidence is concealed in the rock art. From the available evidence Devlet provides the reader with a plausible account of shamanistic traditions that extend as far back as the (eastern Asian) Bronze Age, but is also witnessed in historical times.

The paper by Davida Eisenberg-Degen and Steven Rosen, Chapter 14, focuses on the rock art of the Negev Desert, southern Israel, concentrating on the well-known site of Har Michia and its complex chronology. The authors note that despite the economy being pastoral, the rock art portrays images of wild fauna such as ibex, suggesting interplay between the wildness of the desert and the taming of the human landscape; a theme that has been recognized within a European context.

We now shift our attentions to one of the world's most complex living traditions – Australia. In Chapter 15, the late John Clegg applies a semiotic approach to the engravings on an open-air site in Sydney Harbour, New South Wales. According to Clegg the engravings, mainly 19th

century in date reveal intriguing attributes about the artists placing the images into a wide historic context. As part of his study, Clegg explores the background of the artists, informing us that the production of rock art contains many plots and subplots.

Staying in Australia, Matthew Kelleher, in Chapter 16, provides an account of the inherent liminality of religious perceptions that are actuated through the use of sacred space in the Blue Mountains of New South Wales. The first part of Kelleher's essay looks at the identification of formulaic organisational trends, whilst the second looks at how theory and practice can be merged. An indicator model for religious spatial behaviour is the rock art and how it is distributed. Staying in the same region of Australia, Jo McDonald, in Chapter 17, explores the stylistic variability of engraved art in the Sydney area of New South Wales. The majority of open-air rock art produced from this region is alleged to have been used as a bonding mechanism between communities. In contrast, sheltered pigment art was produced within a social-domestic context and symbolised individual and localised group identity.

Still in Australia, Paul Taçon, in Chapter 18, discusses the rock art of the Waanyi community in Northwest Queensland, Australia using the tried and tested *informed methods* approach. In this paper Taçon concludes that colour pigmentation played an important role in binding both people and places together. Significant local differences in painting style and application are also explored.

From our European colleagues we now span the prehistoric chronological and the hot spots of Europe starting with Jean Clottes who, in Chapter 19, explores the concept of experiencing cave environments from the mindset of the ancient artist. Using the vast caves system of the Grotte de Niaux, for example, Clottes considers the way Upper Palaeolithic artists viewed and used such cave systems and the [fragmentary] material culture they left behind.

Moving forwards a few millennia, and to the southern European Copper Age of northern Italy, Angelo Fossati, in Chapter 20, investigates the repetitive engravings that occur on boulders, menhirs and *stalae* throughout the Valcamonica-Valtellina region of northern [Alpine] Italy. Fossati considers the chronology and interpretation of this rather enigmatic group of landscape monuments.

Moving northwards, Joakim Goldhahn, in Chapter 21, provides the reader with an account of the potential archaeoacoustic and visual experiences of hunter-gatherer artists and their audiences at selected rock art sites in Northern Scandinavia. The paper suggests that the *act* of engraving rock art was part of a much wider ritual experience that may have involved the artist choosing site based on its audible attributes.

From north-western Spain, within the Campo Lameiro Valley, Maunuel Santos Estévez and Yolanda Seoane Veiga, in Chapter 22, propose a potential chronology for Bronze Age [and Neolithic] Atlantic façade rock art. This chronology is based on the systematic excavation of several sites that have yielded secure radiocarbon dates within samples that were taken from deposits that overlay engraved rock art. This indirect but affectual approach has had far-reaching repercussions on better understanding the complex chronology for this part of Europe.

Moving northwards into Arctic and Sub-Arctic Scandinavia, Knut Helskog, in Chapter 23, discusses the way rock art acted as a means of ritual communication between communities and the spirit world. Helskog postulates the idea that the foreshore landscape, where the rock art is located is also where the three cosmic worlds meet – earth, sky and water. This tripartite meeting of the cosmos is reflected in the rock art narratives, albeit sometimes in a subtle way. Staying within the same area of Europe, Liliana Janik, in Chapter 24, discusses the theoretical approaches associated with two sites in northern Sweden – Nämforsen and Högsbyn; the former was also investigated by anthropologist Christopher Tilley. Janik states that Tilley used a variety of theoretical approaches that culminated in the assumption of a gender-bias towards the rock art. As a counter-argument, Janik proposed a hermeneutic approach to provide a more meaningful statement in understanding.

In Chapter 25, George Nash, Peter van Calsteren, Louise Thomas and Michael J. Simms venture into a limestone cave site in South Wales. It is within this cave that one of the authors (GHN) discovered an engraved Upper Palaeolithic cervid, possibly a reindeer (*Rangifer tarandus*), located in a tiny inaccessible niche towards the back of the cave. The paper charts the discovery and the scientific methods employed to record Britain's earliest rock art.

The oldest published contribution, Chapter 26, which was an influential contribution for its time is Jarl Norbladh's paper of 1979 that introduces the reader for the first time the potential role of how semiotics can assist in understanding the construction and spatial organisation of rock art. This paper, forms part of a vibrant social-theoretical movement in Europe and provides an important overview of how art works! Applying a similar approach, Muiris O'Sullivan, in Chapter 27, focuses on the style and distribution of passage grave art within the Boyne Valley Neolithic passage grave monuments of Southern Ireland. O'Sullivan tentatively promotes the concept of two principal engraving types, aptly described as *depictive* and *plastic* styles.

Moving across the North Sea, back to northern Scandinavia, Kalle Sognnes in, Chapter 28, turns his attentions to the ritualised landscapes of the Stone Age rock art area around the county of Trøndelag, central coastal Norway. In this paper, Sognnes recognises two distinct landscapes in which Stone Age rock art is found. Based on Sognnes's data, landscape settings ranged from sites that are within close proximity to distinct landscape features such as mountains, rivers, spurs and rocky valleys to sites that are in landscapes within a less-dramatic landscape setting, such as the fjord foreshore or among smooth rock outcropping areas.

Back in the British Isles, Clive Waddington, Benjamin Johnson and Aron Mazel in Chapter 29, provide the reader with an interpretive account of the excavation of Hunterheugh Crag in the country of Northumberland, northern England. This was one the first projects to reveal through careful systematic excavation *terminus post quem* dates for United Kingdom rock art. The dates place the site's earliest rock art firmly with the Neolithic period. The paper also provides the reader with a wider contextual understanding in terms of landscape, function and form.

Moving across the Atlantic, to the Canadian Shield, the late Daniel Arsenault, in Chapter 30, applies a series of ethnographic and ethno-historical approaches in order to interpret the

rock art of the Algonkian landscape in the province of Quebec. In this ground-breaking paper, Arsenaault brings together the contact history between the indigenous Indian communities and the first settlers, several of which refer to the rock art. Associated with the rock art are a series of orally-transmitted myths and narratives that define the landscape in which these rock art sites are located. From the same continent, Johannes Loubser, in Chapter 31, focuses his attention on the cupules (or cupmarks) that are found on the foothills of the southern state of Georgia, USA. In this study, Loubser concludes that cupules are associated with landscape, notably, close to sites that contain pottery; collectively both site types stand close to creeks and rivers.

David Whitley, in Chapter 32, discusses how shamanism was incorporated into the rock art of the hunter-gatherers of the north-western United States. This paper is concerned with how the relationship of certain rock art symbols was forged with trance or what is termed *altered states of consciousness* (ASC). Whitley investigates the relationship between ethnography, shamanism and rock art within this region of the United States. He concludes by calling for more research into regional differences. The final paper dealing with North America is from James Keyser. Keyser focuses entirely on the Tsagiglalal petroglyph representation, which is found at several sites in the lower Columbia River region, between Oregon and Washington. He is particularly concerned with how this image is presented to the public and how it is perceived.

In Chapter 34, the penultimate chapter, Frank Meddens provides the reader with an account of an extensive system of carved stones in Peru's Chicha valley. The paper identifies the local setting and the social and economic context in which these stones are located. Meddens postulates the idea that the engraved stones, which incidentally are dated to the Late Horizon period of Peruvian archaeology (c. AD 1438 to 1534) as forming part of a complex agricultural management system.

Finally, in Chapter 35, Francisca Moya, Felipe Armstrong, Maria Basile, George Nash, Andres Troncoso and Francisco Vergara takes the reader to central Andean Chile and the hunter-gatherer and agrarian rock art of the Limarí Valley. This fieldwork-based project involved the geo-prospection of the semi-arid landscape of the foothills and lower slopes of the western Andean range. The paper introduces the reader to a desk-based algorithmic programme that can identify red, yellow and black pigments that are not usually visible to the naked eye, known as *Decorrelation Stretch* (or *D-Stretch* – see Harman 2008 [2005]).

## References

- Clottes, J. 1997. *Rock art: A universal cultural message*. Paris: ICOMOS.
- Harman, J. 2008 [2005]. Using Decorrelation Stretch to Enhance Rock Art Images: <http://dstretch.com/AlgorithmDescription.html> (visitado 1-1-2014)
- Henshilwood, C.S., d'Errico, F and Watts, I., 2009. Engraved ochres from the Middle Stone Age levels at Blombos Cave, South Africa. *Journal of Human Evolution* 57(1): 27-47.
- Hoffmann, D.L., Standish, C.D., García-Díez, M., Pettitt, P.B., Milton, J.A., Zilhão, J., Alcolea-González, J., Cantalejo-Duarte, P., Collado, H., de Balbín, R., Lorblanchet, M., Ramos-Muñoz, J., Weniger, G.-Ch., and Pike, A. W. G. 2018. U-Th dating of carbonate crusts reveals Neanderthal origin of Iberian cave art. *Science*. 359 (6378): 912-915.

- Lewis-Williams, J.D. and Dowson, T.A., 1988. The signs of all times: entoptic phenomena in Upper Palaeolithic art. *Current Anthropology*, 29(2): 201–245
- Marymor, L., (Compiler), 2018, *Rock Art Studies: A Bibliographic Database*, [https://musnaz.org/search\\_rock\\_art\\_studies\\_db/](https://musnaz.org/search_rock_art_studies_db/) (Accessed 17/08/2018), Museum of Northern Arizona, Flagstaff
- Pearce, D.G. and Bonneau, A., 2018. Trouble on the Dating Scene. *Nature, Ecology & Evolution*. Apr 9. doi: 10.1038/s41559-018-0540-4. [Epub ahead of print]
- TARA. 2010. *The Dawn of Imagination: Rock Art in Africa*. TARA: Nairobi.
- Tate, G., 1865. *The Ancient British Sculptured Rocks of Northumberland and the Eastern Borders, with Notices of the Remains associated with these Sculptures*. Alnwick: Henry Hunter Blair
- Taçon, P.S.C. and Chippindale, C., 1998. An archaeology of rock-art through informed methods and formal methods. In C. Chippindale and P.S.C. Taçon (eds.), *The Archaeology of Rock-art: 1- 9*. Cambridge: Cambridge University Press.