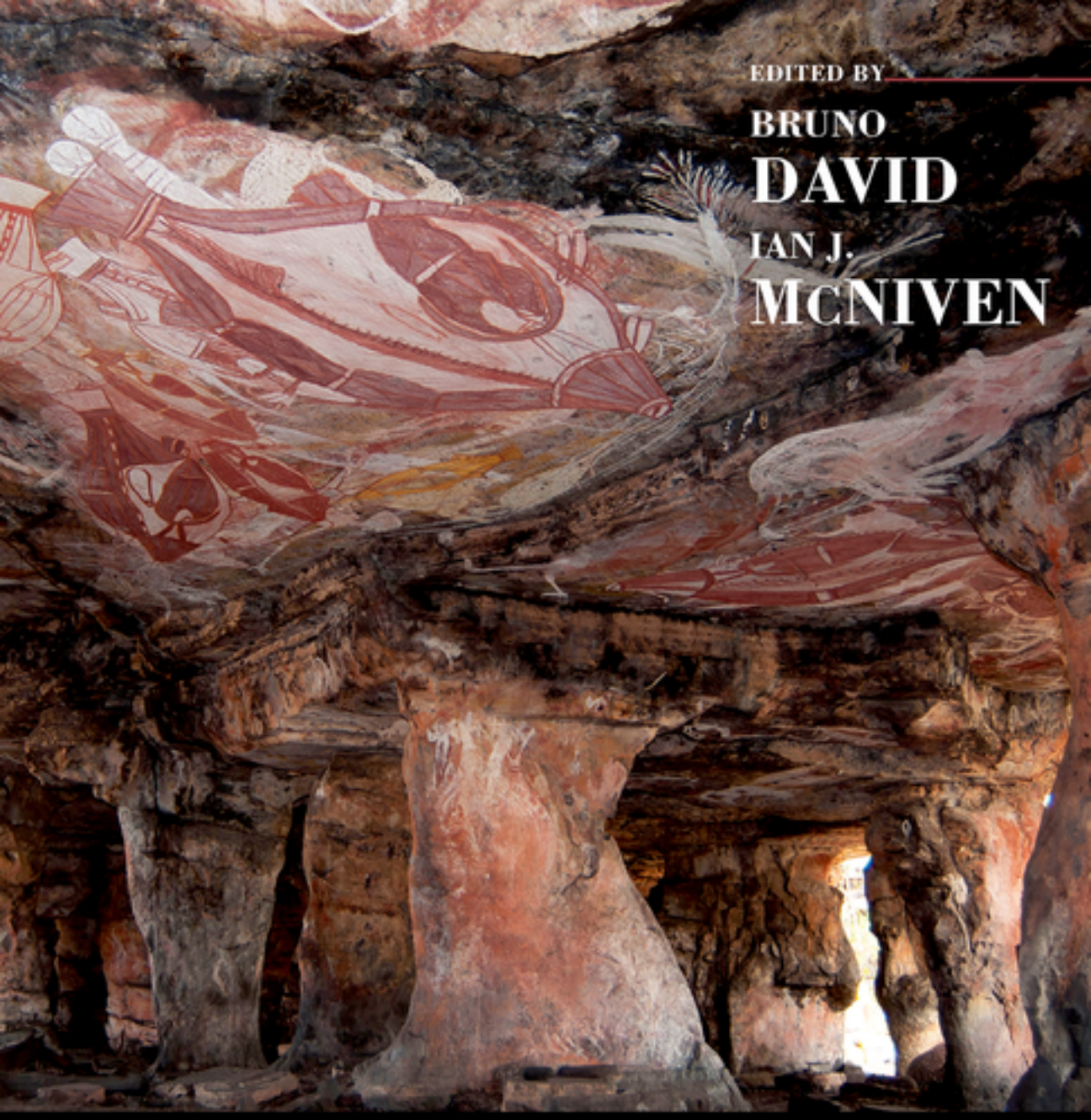

EDITED BY

BRUNO DAVID

IAN J. MCNIVEN

The Oxford Handbook *of* THE ARCHAEOLOGY AND ANTHROPOLOGY OF ROCK ART

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Online Supplementary Material

The digital versions of the chapters listed here contain additional figures and/or expanded text/references (the latter are marked in *italics*). This supplementary material has been published on *Oxford Handbooks Online* (available by subscription) at: http://dx.doi.org/10.1093/oxfordhb/9780190607357.001.0001

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Colour Insert 1

FIGURE 4.4 **A.** Slab engraved with geometric pattern, from Cueva de la Cocina (Valencia, Spain). Museo Arqueológico de Valencia. © Joanbanjo/Wikimedia Commons/CC BY-SA 3.0. **B.** Levantine-style depiction of a bull from Peña del Escrito II (Cuenca, Spain). The body of the bull is infilled with parallel lines, a convention characteristic of the Levantine style. Image enhanced with DStretch. © Juan F. Ruiz. **C.** Poorly-preserved Levantine stag with body infilled with parallel lines, from Cueva de la Vieja (Albacete, Spain). © Juan F. Ruiz. **D.** The rock shelter of Cueva del Tío Modesto (Cuenca, Spain) is well-known for its large number of superimpositions between paintings of different styles. Recent analyses of the superimpositions suggest that the Levantine depictions belong to the earliest artistic phase represented at this site (Viñas, Rubio & Ruiz 2016). © Juan F. Ruiz.

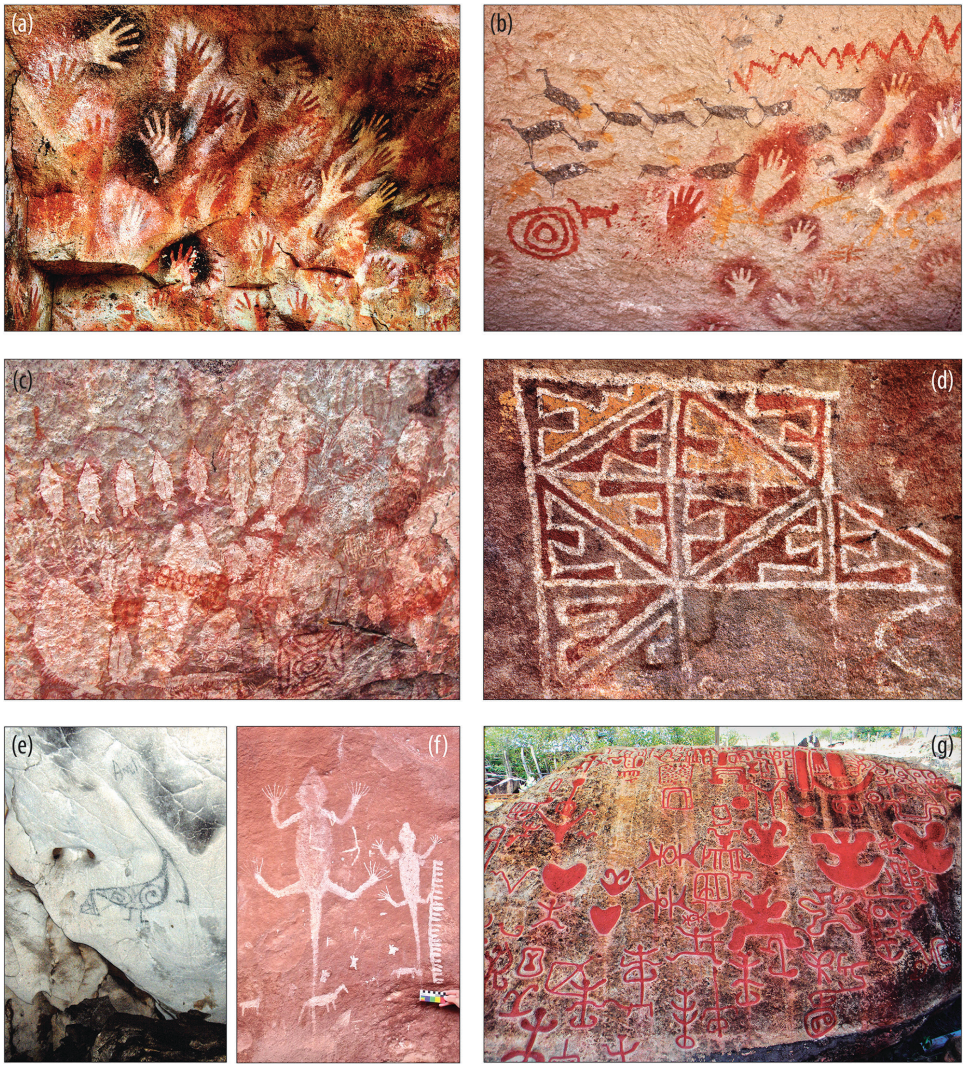

FIGURE 12.3 Examples of rock paintings from Central and South America. **A, B.** Cueva de Las Manos, Río Pinturas, Santa Cruz, Argentina (photographic archive of the Program for Documentation and Preservation of Argentinean Rock Art). **C.** El Gavilán Hill, Bolívar, Venezuela (photo: José R. Oliver). **D.** Los Emplumados rock shelter, Quebrada de Humahuaca, Jujuy, Argentina (photo: María Mercedes Podestá). **E.** El Lucero cave, Juana Díaz, Puerto Rico (photo: José R. Oliver). **F.** Las Planchadas site, Salta, Argentina (INAPL archive). G. Huila, South Colombia (photo: Pedro Arguello).

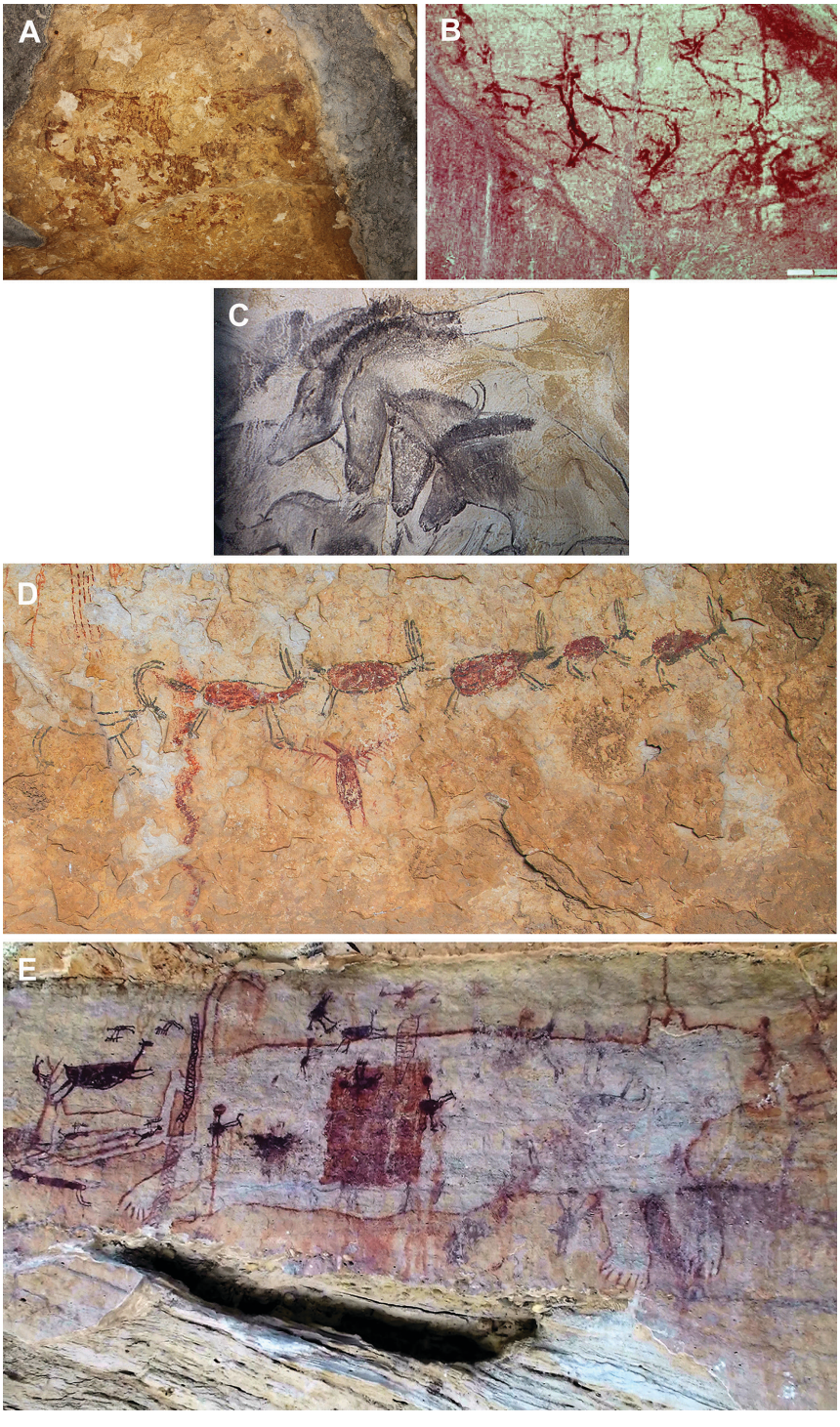

FIGURE 18.2 **A.** Bull from La Araña, Bicorp, Valencia. Photo: Trinidad Martinez Rubio. **B.** Cueva del Niño, Ayna, Albacete. Photo: Iain Davidson. **C.** Horses from Chauvet Cave. Photo: Jean Clottes. **D.** Deer from Halo Cave, Lowe Pecos, Texas. Photo: Timothy Murphy. Courtesy of Shumla Archaeological Research and Education Centre. **E.** Serra de Capivara, Brazil. Photo: Livio Dobrez.

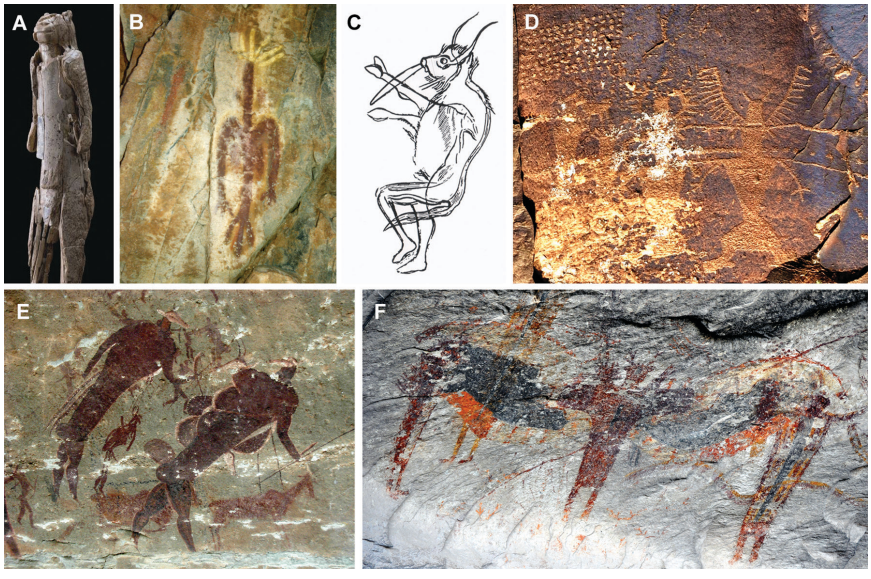

FIGURE 18.4 **A.** "Lion man" from Hohlenstein Stadel, Swabia. © Ulmer Museum and State Office for Cultural Heritage Baden-Württemberg. Photo: Yvonne Mühleis. **B.** Hawk anthropomoprh, Selwyn Ranges, Queensland. Photo: Iain Davidson. **C.** Sorcerer, Les Trois Frères, Montesquieu-Avantès, Ariège, France. From Clottes & Lewis-Williams 1998: 46. **D.** Shaman, Nine Mile Canyon, Utah. Photo: Iain Davidson. **E.** Shamans and people, Ukhahlamba Main Cave, Drakensberg Park, South Africa. Photo: Iain Davidson. **F.** Winged therianthrope from Fate Bell rockshelter, Lower Pecos, Texas. Photo: Jerod L. Roberts. Courtesy of Shumla Archaeological Research and Education Centre.

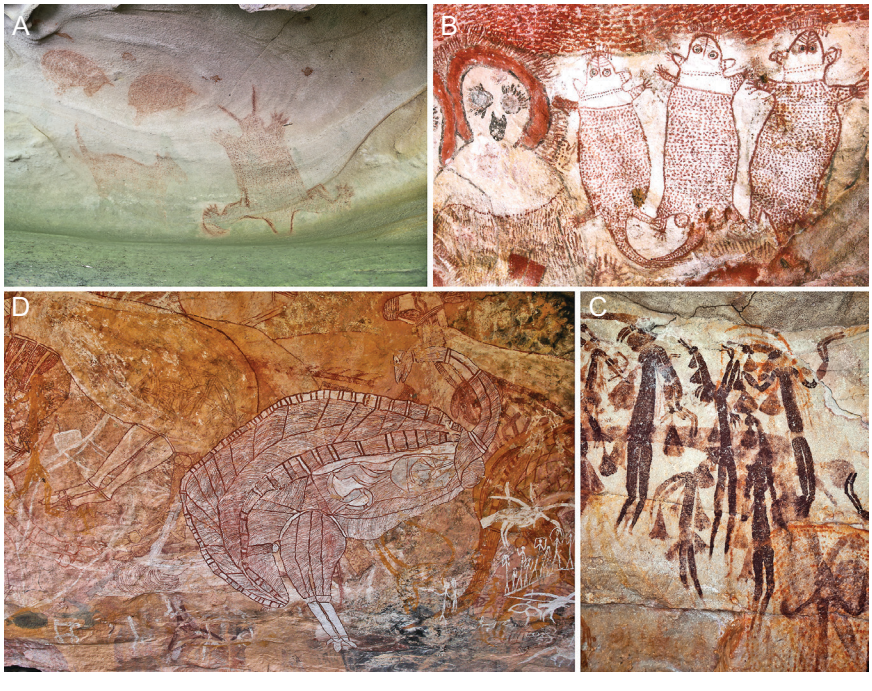

FIGURE 9.2 Examples of Australian pigment rock art showing diversity of styles. **A.** Dingo and Horned Anthropomorph shelter, Sydney. **B.** Wanjina from the Kimberley region. **C.** Gwion from the Kimberley region. **D.** X-ray art from Western Arnhem Land.

Photographs by author.

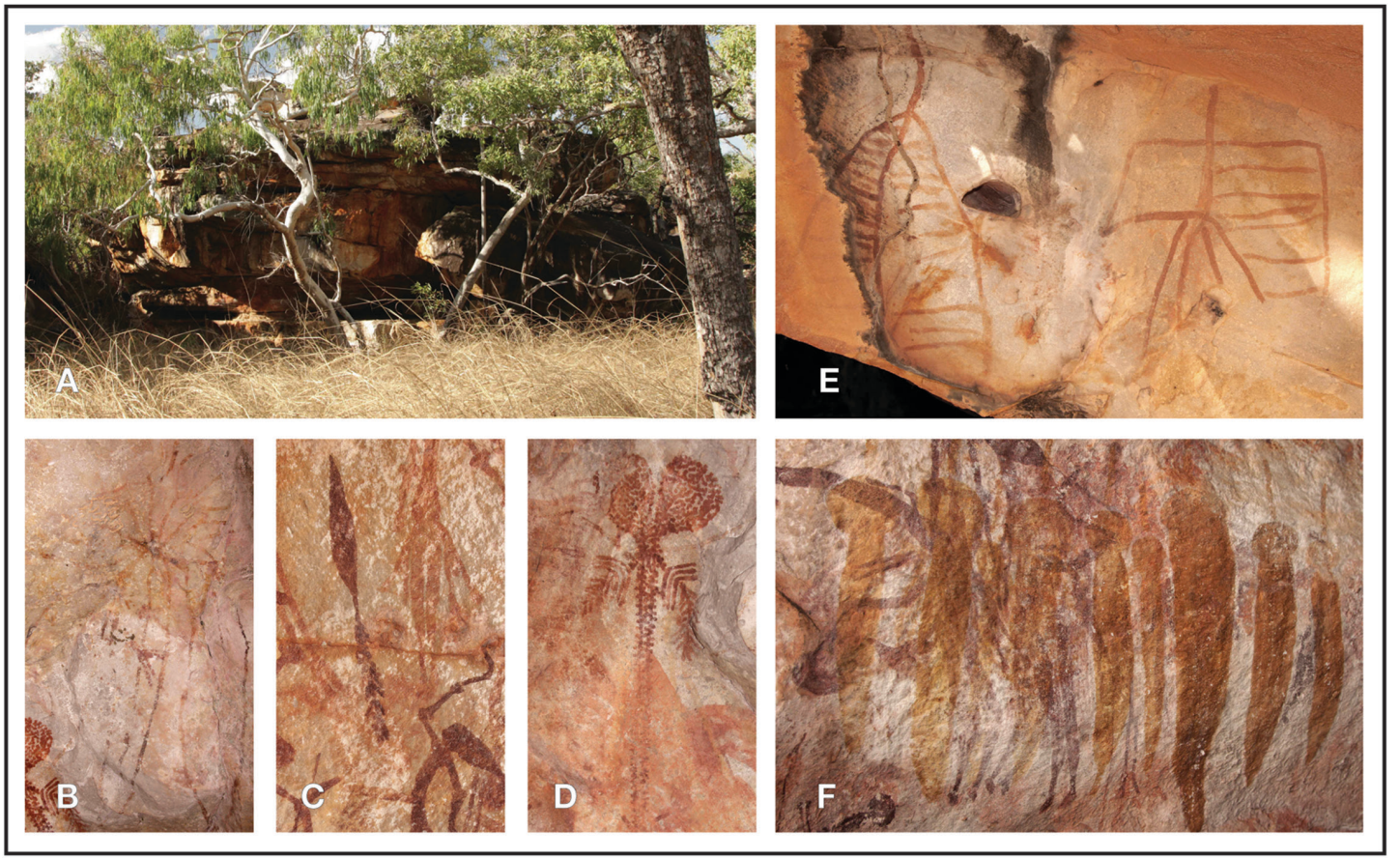

FIGURE 19.1 **A.** Typical Kimberley rock art shelter. **B–F.** Plant motifs from different art periods, from oldest to youngest: B: Irregular infill Animal Period; C: Gwion Period; D: Static Polychrome Period; E: Painted Hand Period; F: Wandjina Period.

Image by Pauline Heaney and Takarakka Nowan Kas archive.

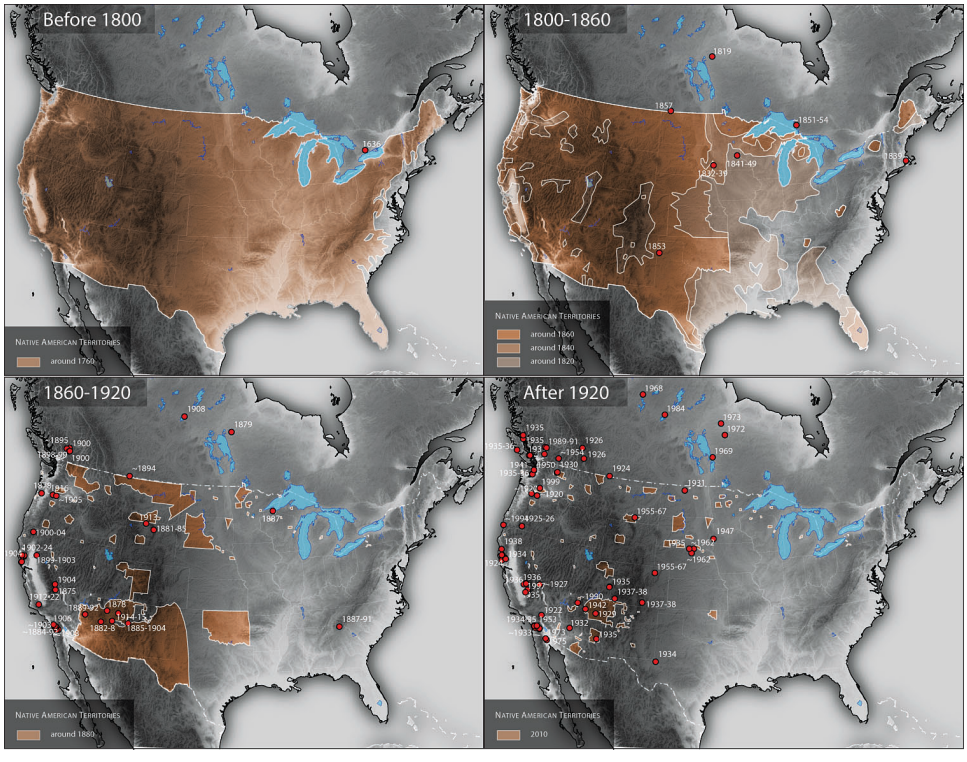

FIGURE 22.1 Distribution of ethnographic records relating the making of rock art with respect to the position of the colonial frontier in the United States (transfer of Native American lands to European settlers modified after Gibson 1988). Each date or interval corresponds to the date an account was recorded (Monney 2015: 144–148). There is here an east–west gradient in the density of recorded accounts with each record (represented by a dot on the map) standing at the intersection of a colonial expansion and the development of new conceptions of the Other. This map thus shows a sum of individual moments rooted in history and characterized by contact and interactions with Europeans. It also highlights the fact that ethnography does not present a timeless or ahistorical image. Although situations of contact were sources of external influences, they also led to studies of the peoples they were transforming.

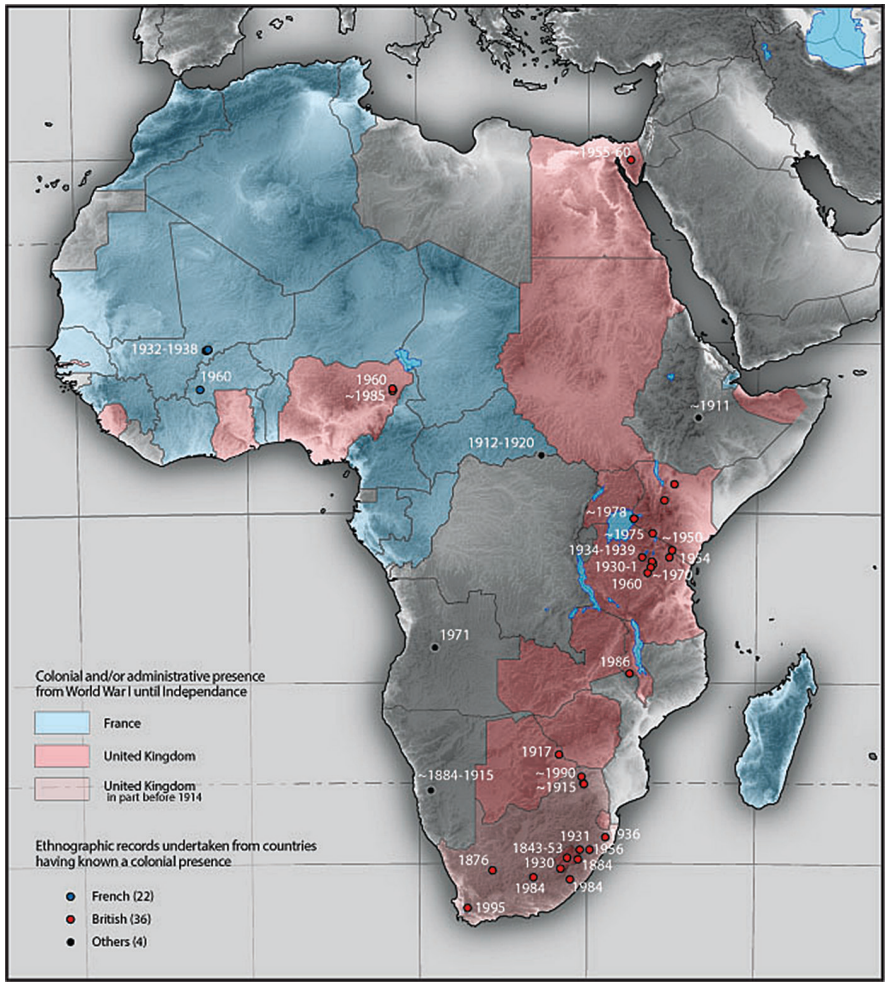

FIGURE 22.2 Distribution of ethnographic records relating the making of rock art in Africa to the nationality of the ruling colonial or administrative power (Monney 2015: 152–155). When the date of recording is specified or can be estimated, it is indicated on the map. While France and the United Kingdom used to administer territories of comparable size, only two-fifths of the ethnographic records mentioning the making of rock art in Africa come from regions that were or had been administered or colonized by France. This contrast is even more pronounced if we take into account the fact that 19 of the 22 cases recorded in French colonial contexts were recorded by a single team (under the direction of M. Griaule in Dogon country in the 1930s). Rather than pure coincidence, such a spatial correlation between the nationality of the colonial power ruling or administering a region and the subsequent recording of a specific type of ethnographic information could be related to different cultural practices and/or interests of the colonizing group (e.g., mode of land administration, density of the colonizing population, conception of the Other, ways of conceptualizing rock art, etc.).

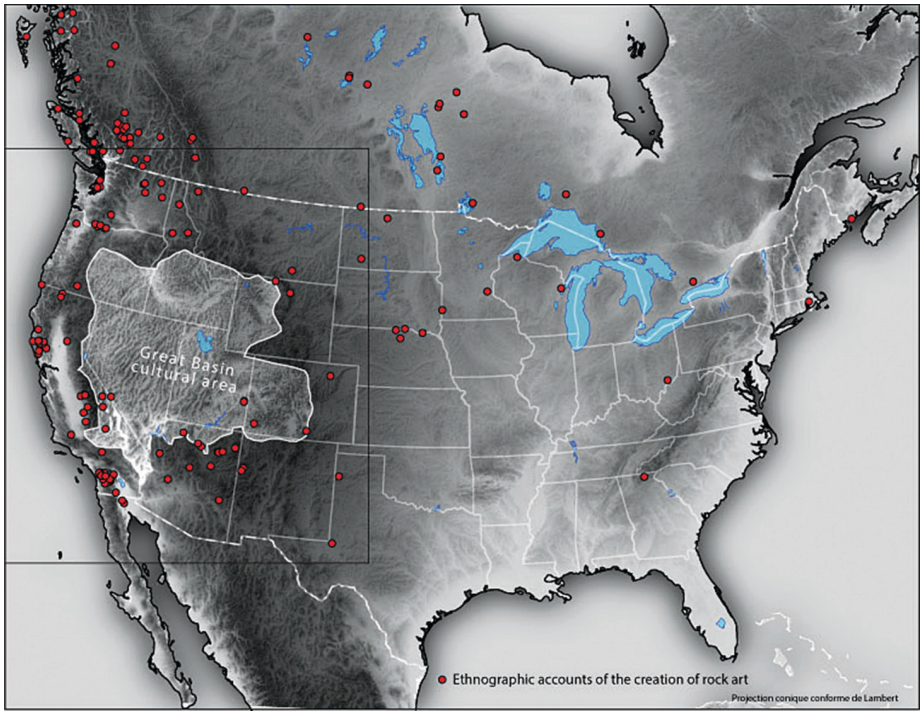

FIGURE 22.3 A vast area of the western United States, covering the Great Basin region, is almost entirely devoid of ethnographic records relating the making of rock art. However, this distribution must not be assumed to directly signal areas where rock art was or was not produced at the time of contact (e.g., Heizer & Baumhoff 1962: 14). In fact, the absence of ethnographic records relating to the making of rock art in the Great Basin region may be partly due to culturally defined ways of talking about rock art as the product of non-human or non-contemporary human actions in this area (Quinlan & Woody 2003: 372, 377, 386; Whitley 1987: 162–163; Monney 2015: 157–159; Great Basin cultural region, after Azevedo 1986).

FIGURE 24.4 An antelope-headed man and eland, KwaZulu-Natal, interpreted by proponents of shamanistic readings as representing a shaman's sense of 'fusing' with an animal of power. Alternatively, it may depict a spirit rainmaker controlling a rain animal at the request of the living.

Photo by Anne Solomon.

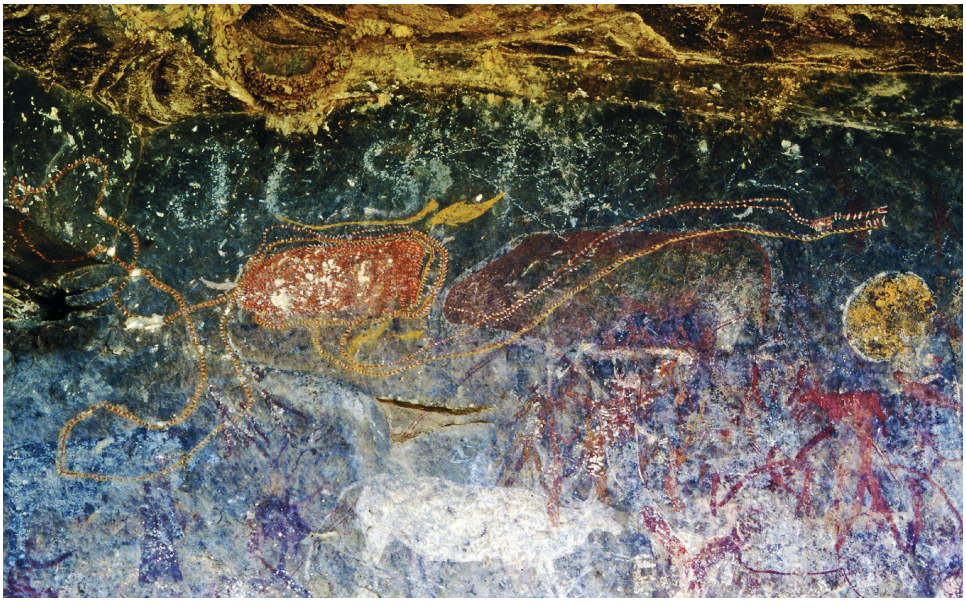

FIGURE 24.5 The recurrent motif of the 'thin red line fringed with white dots' has been interpreted as a visual hallucination. In my reading it relates rather to rainmaking, specifically the /Xam belief that where a slaughtered rain animal's blood flowed, rain would fall. The red (here red and yellow) line may be interpreted as depicting blood and the white dots as representing raindrops. This composition, from South Africa's Eastern Cape Province, shows two rain animals associated with the motif.

Photo by H. C. Woodhouse, courtesy of Woodhouse Rock Art Collection, University of Pretoria.

FIGURE 29.2 **A.** Painting of a crocodile at Kurrmurnnyini used to kill a Yanyuwa man who had the crocodile as his Dreaming. **B.** Painting of two Blue-Ringed Octopus Ancestral Beings from Mawarndarlbarndarl on South West Island. **C.** Black and white digital tracing of the Sorcery Stone Bird Ancestral Being from Mawarndarlbarndarl on South West Island. **D.** *Yalkawarru* design (white grid) from Linguwarangala-Wungkurr on Watson Island. **E.** *Rrungkal* design (stitched from individual photographs; inset: angled photograph of the *rrungkal*) from Mawarndarlbarndarl on South West Island. Photograph by authors.

FIGURE 30.3 Bark painting by Yirawala showing Mardayin initiates, *c.* 1973.

Collection National Gallery of Australia. Photograph: National Gallery of Australia.

FIGURE 30.4 Bark painting by Yirawala showing Mardayin waterholes and Ancestral beings, *c.* 1973. Note the various manifestations inside the waterholes.

Collection National Gallery of Australia. Photograph: National Gallery of Australia.

FIGURE 30.5 Bark painting of Barrk Rock Wallaroo associated with the Wubarr ceremony by Peter Marralwanga, 1979.

Collection Northern Territory Museum of Arts and Sciences. Photograph: Luke Taylor.

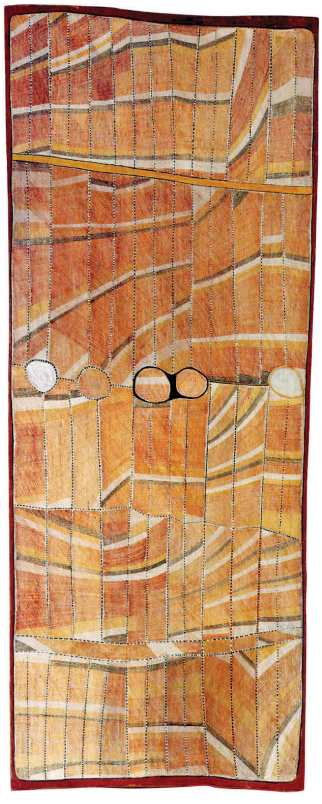

FIGURE 30.6 Bark painting by John Mawurndjul entitled *Mardayin Design at Kakodbebuldi*, 2002, showing *rarrk* patterning.

Private Collection. ©John Mawurndjul/Licensed by Viscopy, 2016.

FIGURE 30.7 Bark painting by Jimmy Njiminjuma showing the Ancestral woman Buluwana inside the earth, 2002.

Private collection.

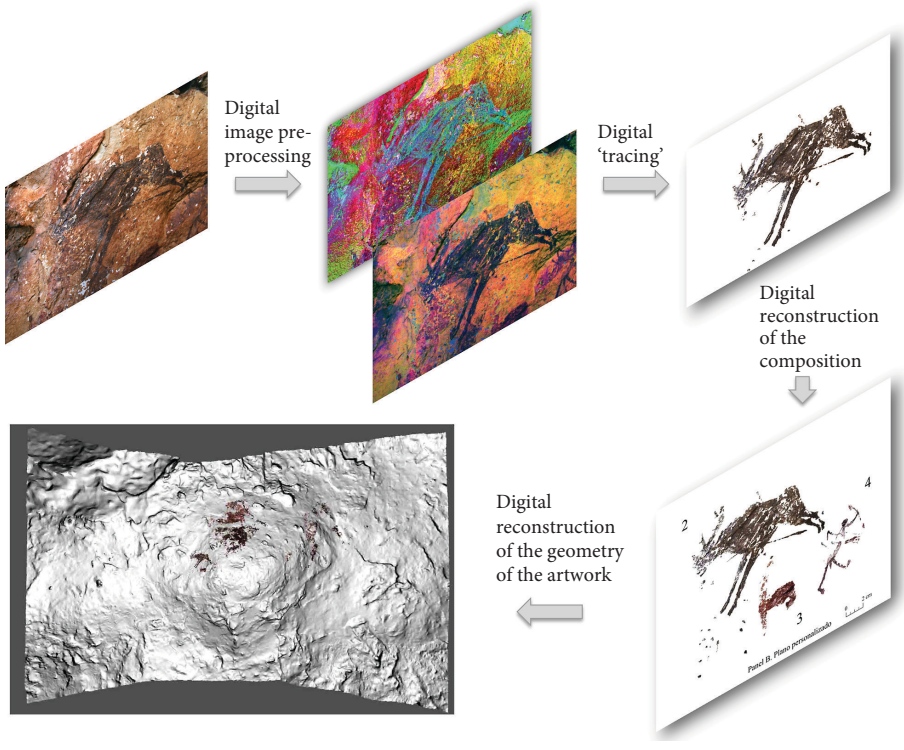

FIGURE 33.1 Example of the digital recording, enhancement, and reconstruction process involving a depiction of a Levantine Deer motif from the Carche site (Jalance, Spain).

Images prepared by Inés Domingo.

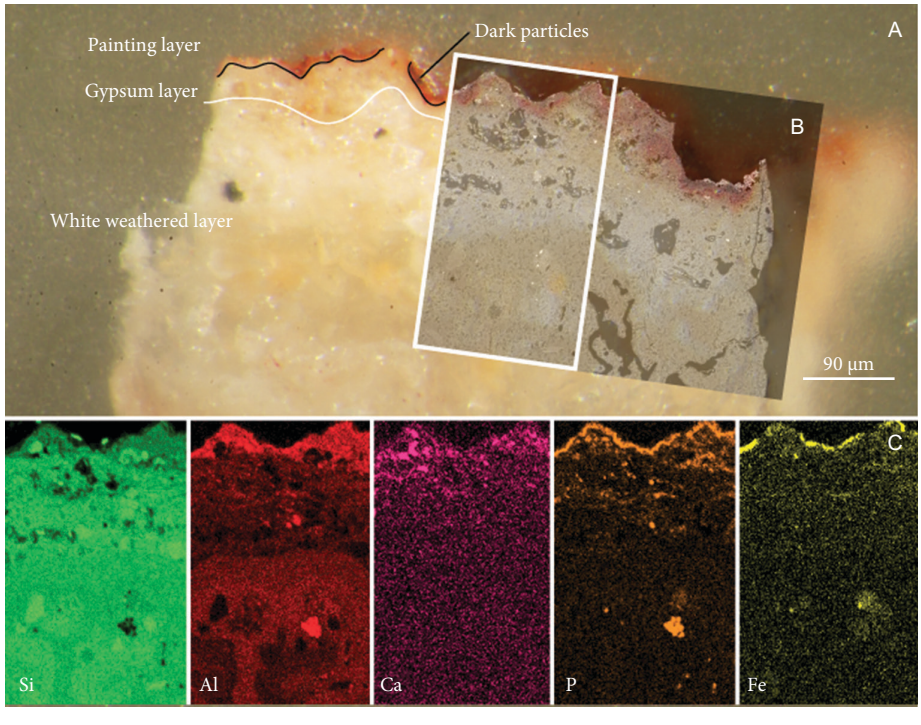

FIGURE 37.2 Site JSARN-124: cross-section of paint sample P3 from the smaller bird painting (red image #10, hindquarters) on Panel A. **A.** Optical microscopic view. **B.** SEM micrograph in backscattering electron mode. **C.** SEM-EDX chemical mapping.

After Barker et al. 2017.

N43 Pyrolusite Todorokite	J44 Clay Goethite	V45 Haematite Pyrolusite	N49 Cryptomelane (K, Ba, Fe) Todorokite	R50 Haematite	J51 Clay Goethite N52 Cryptomelane Todorokite
V46 Haematite Pyrolusite	N47 Romanechite Todorokite	N48 Pyrolusite Mn + Fe oxyde Goethite	R53 Haematite Underlayer of Pyrolusite	J54 Clay Goethite	R55 Haematite

FIGURE 38.1 Blazons at Lascaux (Dordogne, France). Top left photo: General view of the 'Black Cow' panel showing the blazons (© Jean-Michel Geneste—Centre National de Préhistoire—Ministère de la Culture et de la Communication). Centre row photos: Details of the left and right blazons with numbered compartments. Right-hand column: Transmission electron microscope images of samples from compartment N43 (black), V46 (violet) and R50 (red), and image obtained by optical microscope of a sample cross-section from compartment N52 (black). Bottom rows: Summary of identified minerals of each compartment from the two blazons.

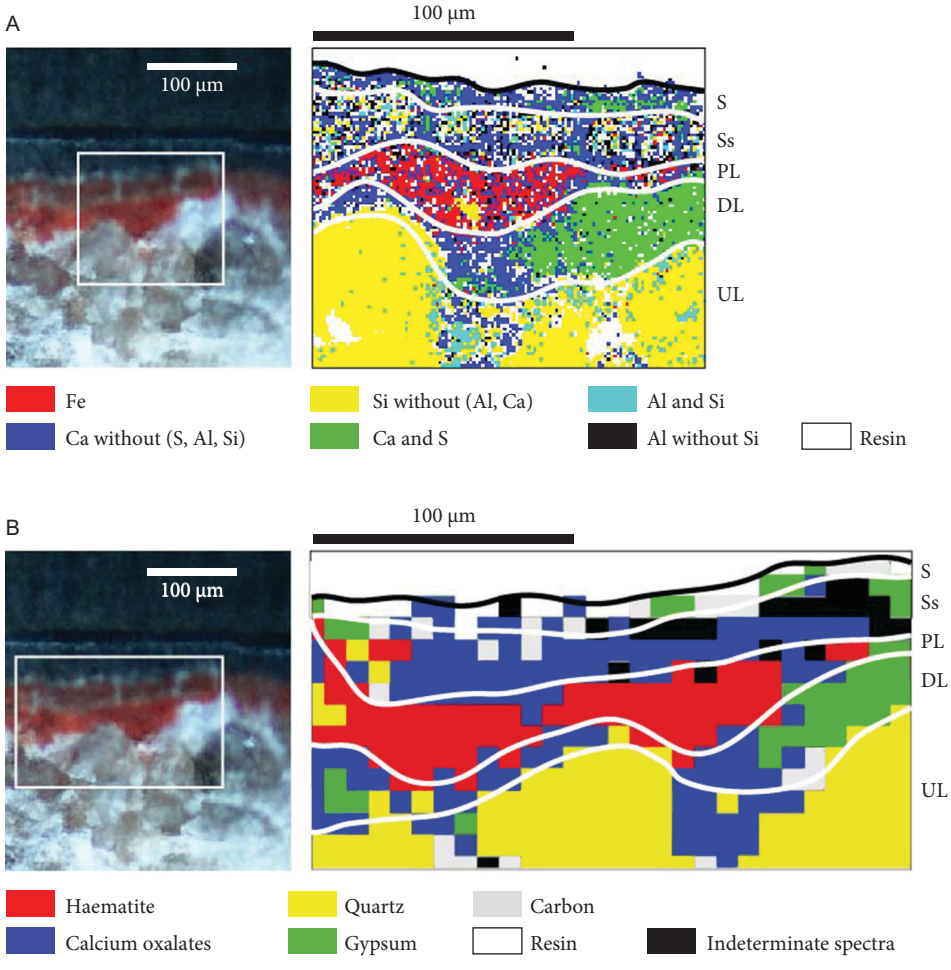

FIGURE 38.2 Example of **A.** An SEM-EDS false-colour cross-section combining individual elemental maps. **B.** Raman spectrographic maps of minerals identified in the sample (TYN2-2008-003). The black and white lines show boundaries between the layers defined as Surface (S), Subsurface (Ss), Paint (PL), Dense (DL) and Unconsolidated (UL) layers.

FIGURE 42.2 Red dot (panel/motif number III C 15.3, see Cantalejo et al. 2006) from Ardales Cave (Spain), with two samples (outlined) removed for U-Th dating from 'cauliflower' calcite formations on top of the art.

FIGURE 46.3 Cg'ose Ntcõx'o, *Rock and trees at Tsodilo Hills*, 2002. Reduction linocut. This print, made just after a visit to Tsodilo Hills, does not directly use rock art images as inspiration. It focuses instead on a predominant feature of the landscape: the hills of Tsodilo.

Colour Insert 2

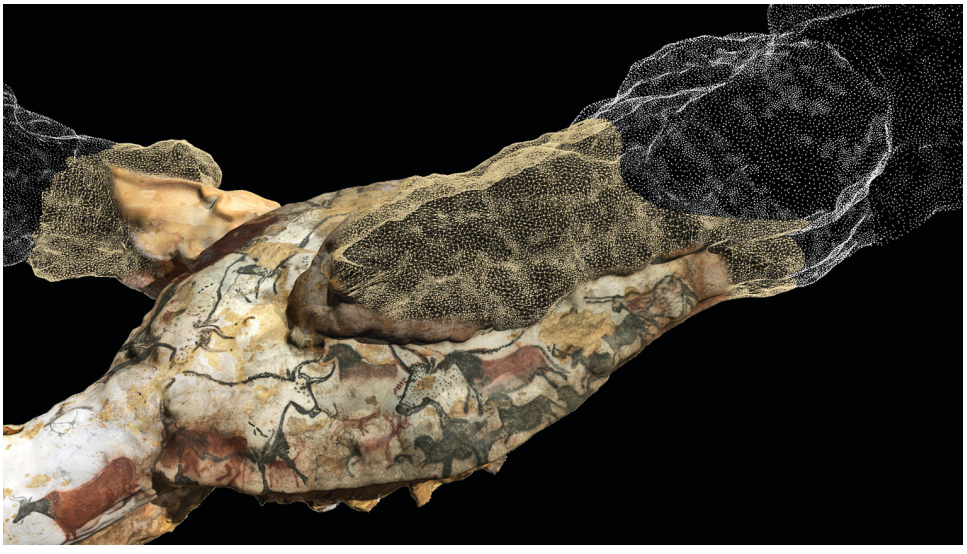

FIGURE 35.1 A textured, 3-D model of Lascaux. In this model, the paintings are seen from outside the cave, 'through' its walls, as if they were made of glass. As well as showing the cave and its paintings in their entirety, the model allows the observer to manipulate the image freely and to view the paintings without impacting the actual cave.

Acquisition, processing and realization: Perazio Engineering.

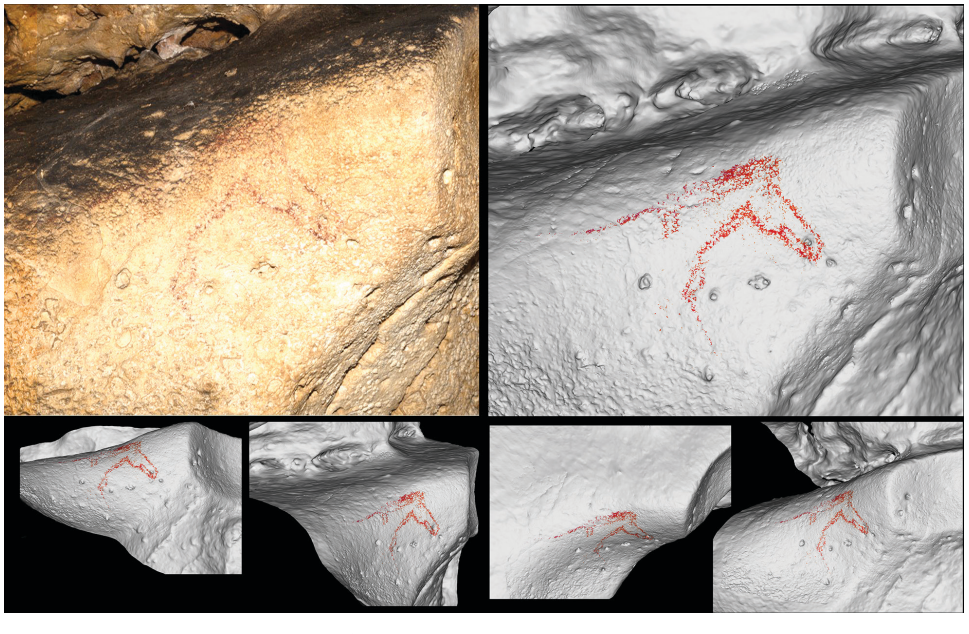

FIGURE 35.2 3-D recording of a rock art figure and the enhanced 3-D photogrammetric model. Top: Painting of horse PTS-07 in Points Cave (France) (Monney 2016). Bottom: The 3-D recording involves: (1) constructing the 3-D model by multi-image correlation in, for example, Photoscan; (2) processing the image in order to enhance the ochre outline (e.g., using ImageJ (DStretch) or Photoshop); (3) checking and correcting the resulting outline by comparing the model against the original in the cave; and (4) assembling the various components to produce a final product that is recorded accurately and interpreted logically, and that can be viewed from any angle.

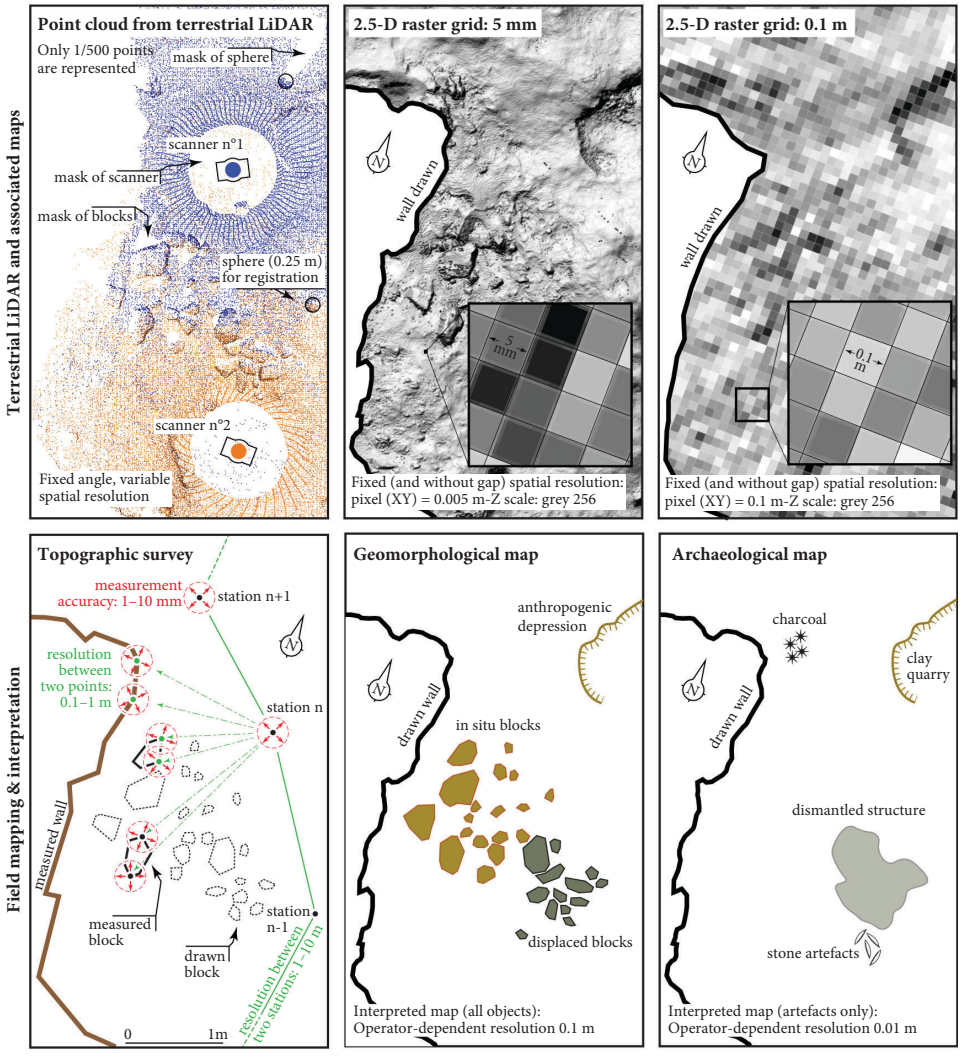

FIGURE 35.4 Discretization and segmentation of a decorated cave (here, a section of the floor). In the field survey, discretization and segmentation were carried out simultaneously with a 10 cm-scale resolution and accuracy. In the LiDAR survey, the dataset provided by oversampling was used to produce 2.5-D and 3-D images at density levels suited to the purpose of the survey. However, segmentation had to be carried out later, either on the basis of the field survey or from the 2.5-D or 3-D images. Each time, the quality of the result depended on the operator's skill in interpreting the data.

Maps by S. Jaillet.

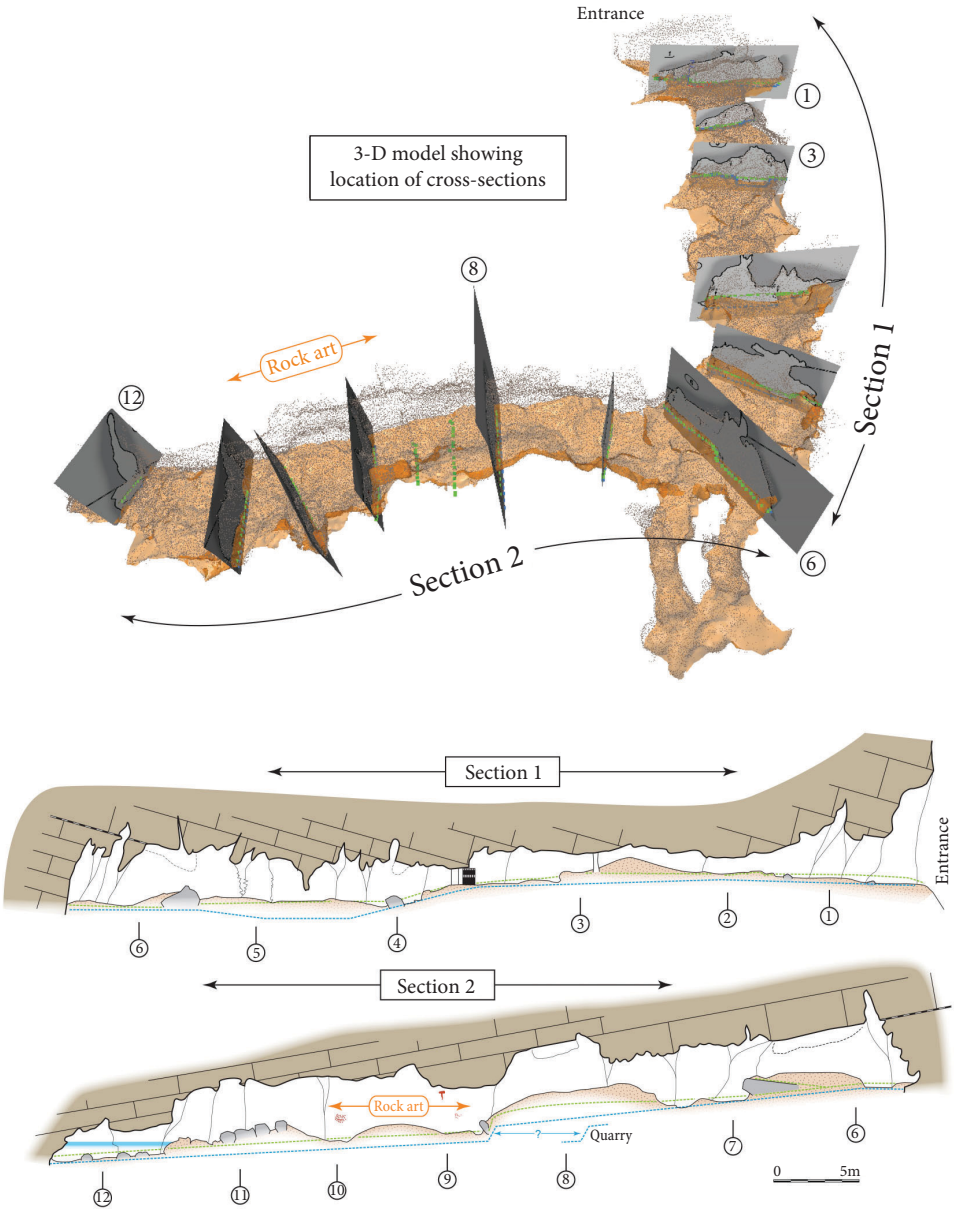

FIGURE 35.6 Cross-sectional views of Points Cave (France). Top image: The floor is shown as a TIN model; the walls and ceiling are shown as point clouds. The 12 geomorphological sections (bottom image), surveyed in the field, were used to determine the floor level before sediment extraction (green line). 2.5-D modelling of these lines produced a continuous model of the floor for Upper Palaeolithic times, when people visited the cave (green line in the cross-section).

After Jaillet and Monney 2016.

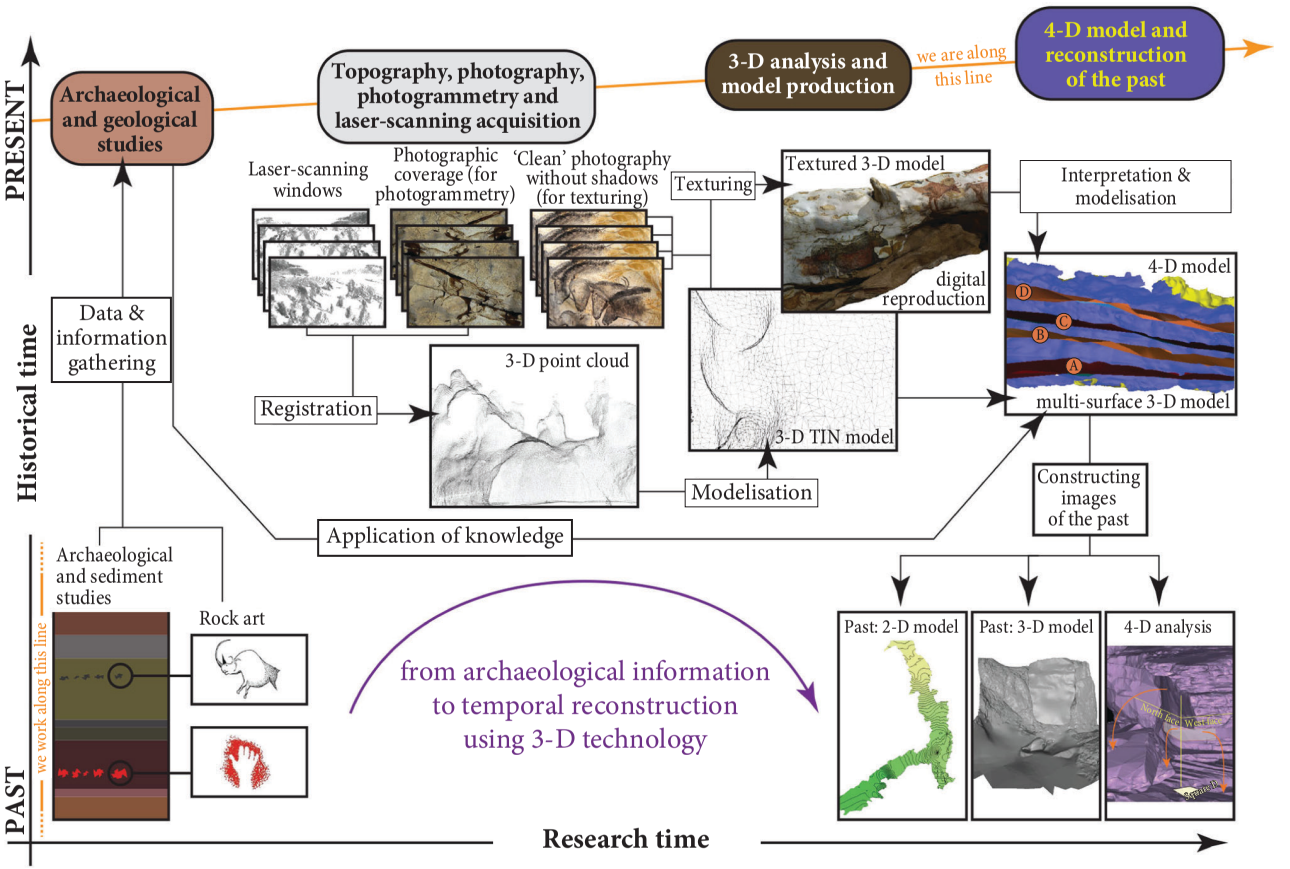

FIGURE 35.8 Flow diagram showing the construction of digital models of rock art sites. This process can be used to produce 3-D images of rock walls, sites and landscapes through time.

Diagram by S. Jaillet.

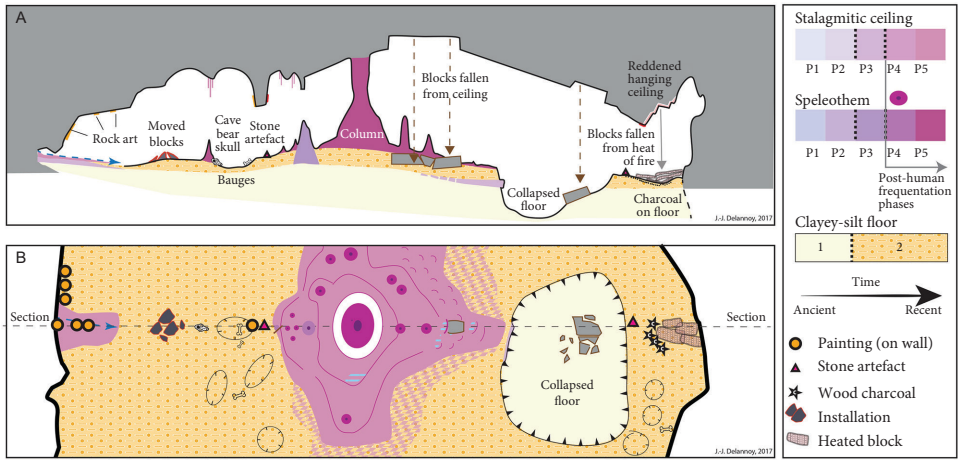

FIGURE 36.1 Example of an archaeomorphological map and section across the map. The major principle underlying archaeomorphological mapping is to examine and interpret a site taking into account its varied lines of evidence in an integrated way, so as to understand the interplay of geomorphological and anthropic site formation processes and events through time.

Image courtesy of Jean-Jacques Delannoy.

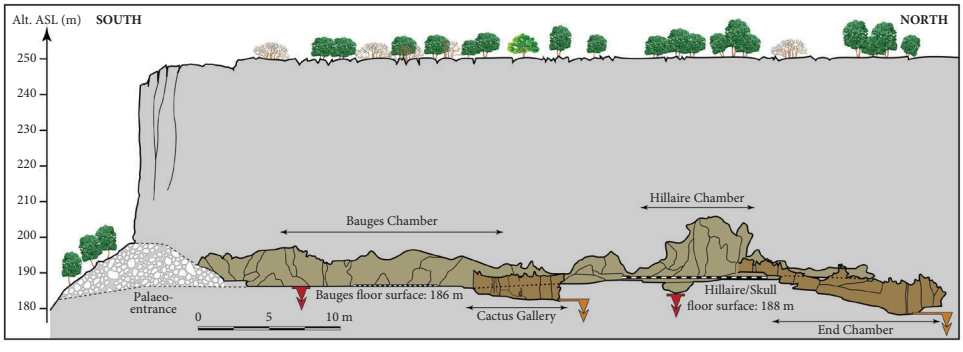

FIGURE 36.2 Cross-section through the underground terrain of Chauvet Cave, showing spatial relationship of key features.

Image courtesy of Jean-Jacques Delannoy.

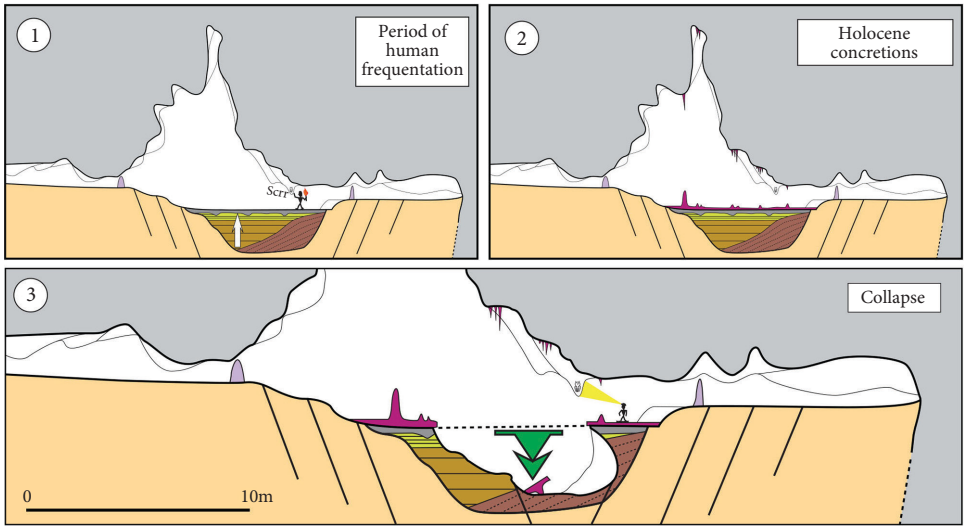

FIGURE 36.3 The Hillaire Chamber, showing the development of the large sinkhole that post-dates the period of human activity (including finger flutings on the ceiling above the sinkhole).

Image courtesy of Jean-Jacques Delannoy.

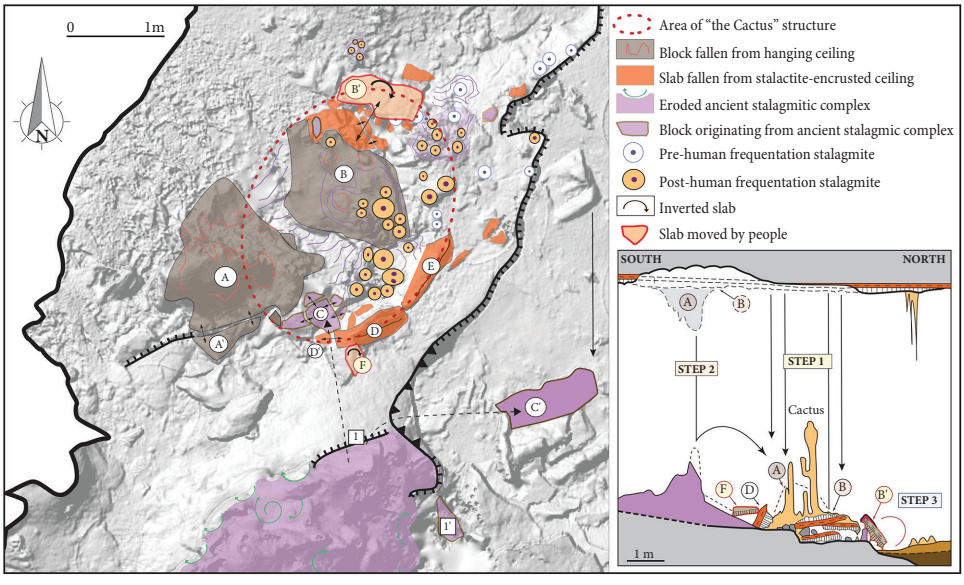

FIGURE 36.9 Archaeomorphological map of the Cactus Gallery, and cross-section showing the sequence of events that led to the creation of the structure now known as 'the Cactus'.

Image courtesy of Jean-Jacques Delannoy.

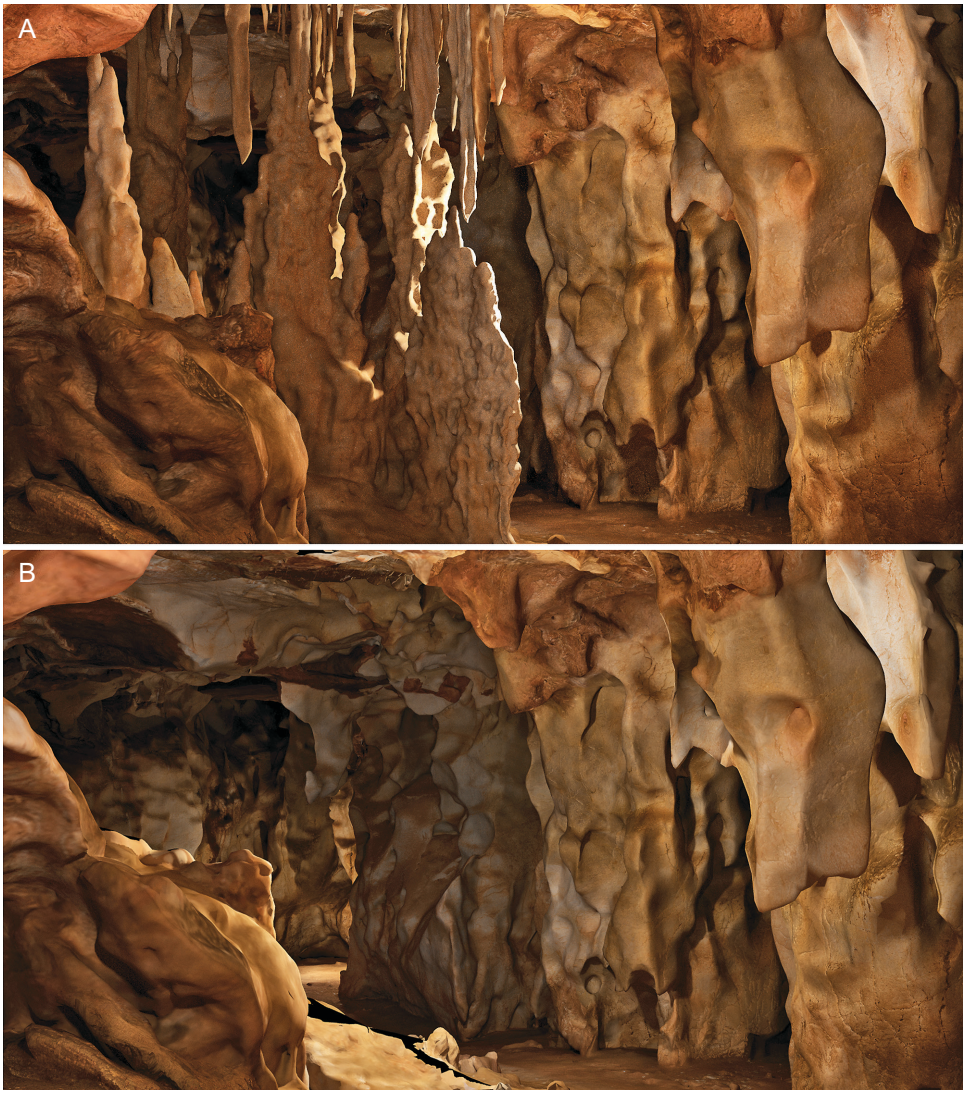

FIGURE 36.4 3-D model of the entry into the Cactus Gallery. **A.** Today. **B.** During Upper Palaeolithic times.

Images by Benjamin Sadier.

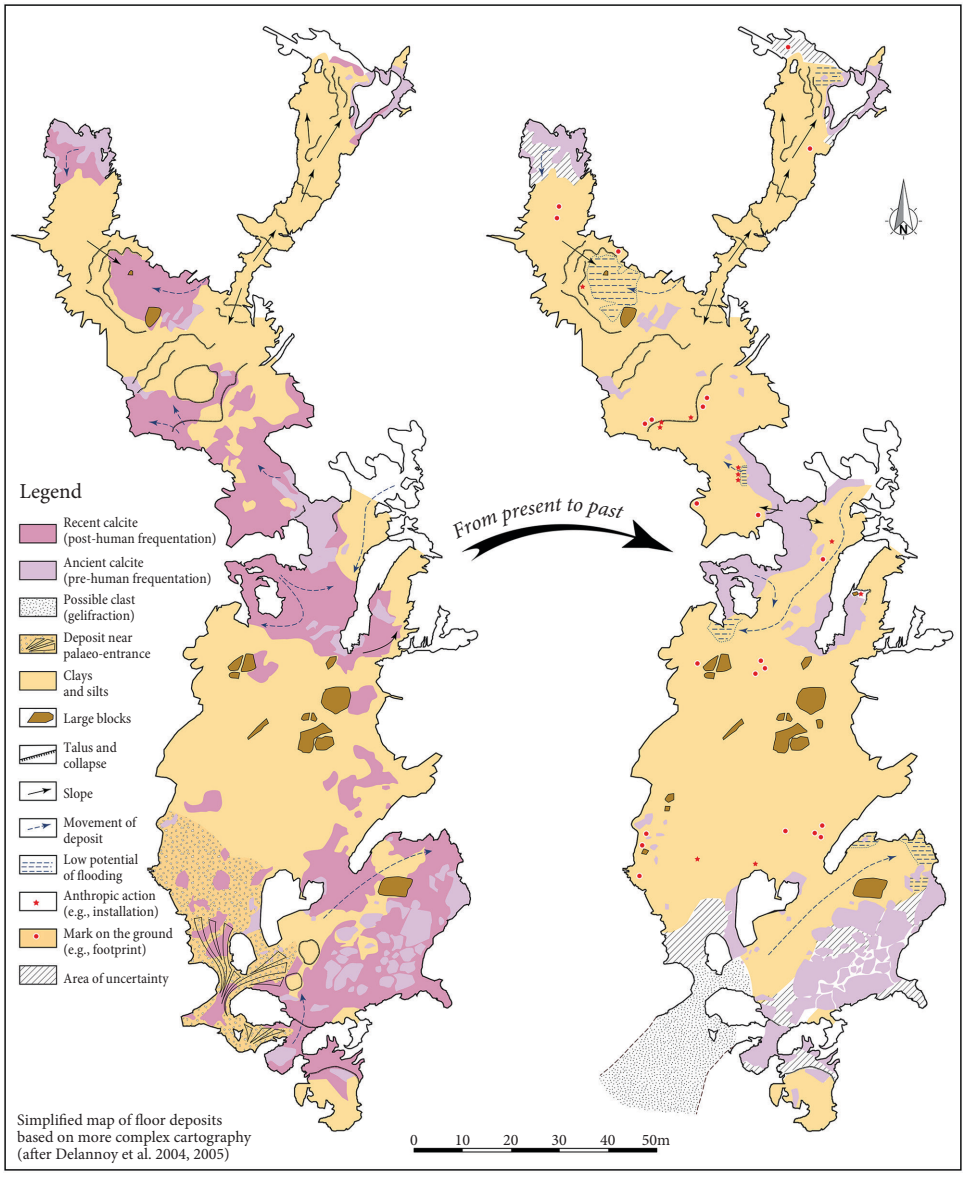

FIGURE 36.6 Structural changes in the material matrix of Chauvet Cave. Left: The cave as it is today. Right: As it was at the time of its Upper Palaeolithic frequentation by people.

Image courtesy of Jean-Jacques Delannoy.

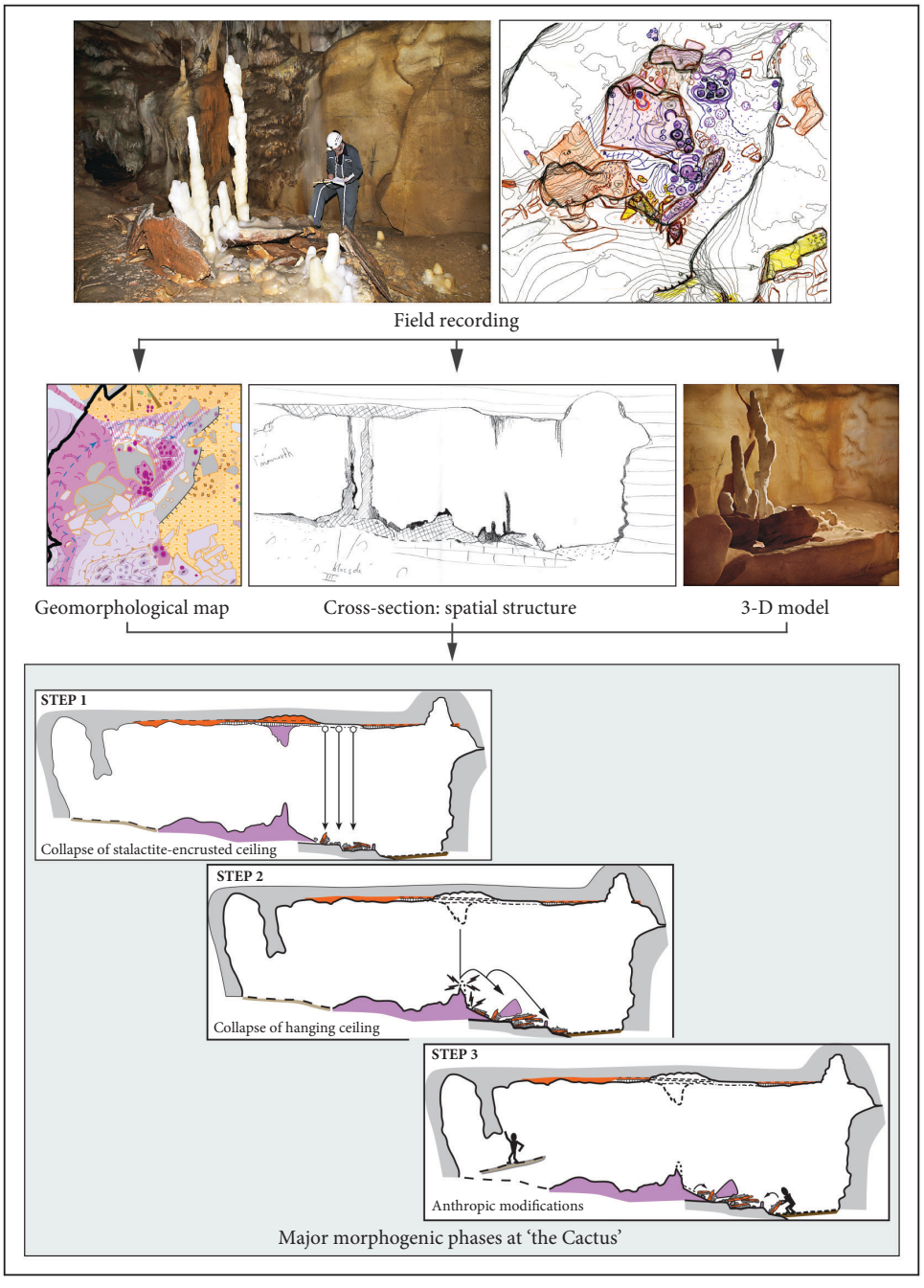

FIGURE 36.8 The sequence of steps involved in archaeomorphological mapping, here applied to 'the Cactus', Chauvet Cave.

Image courtesy of Jean-Jacques Delannoy.

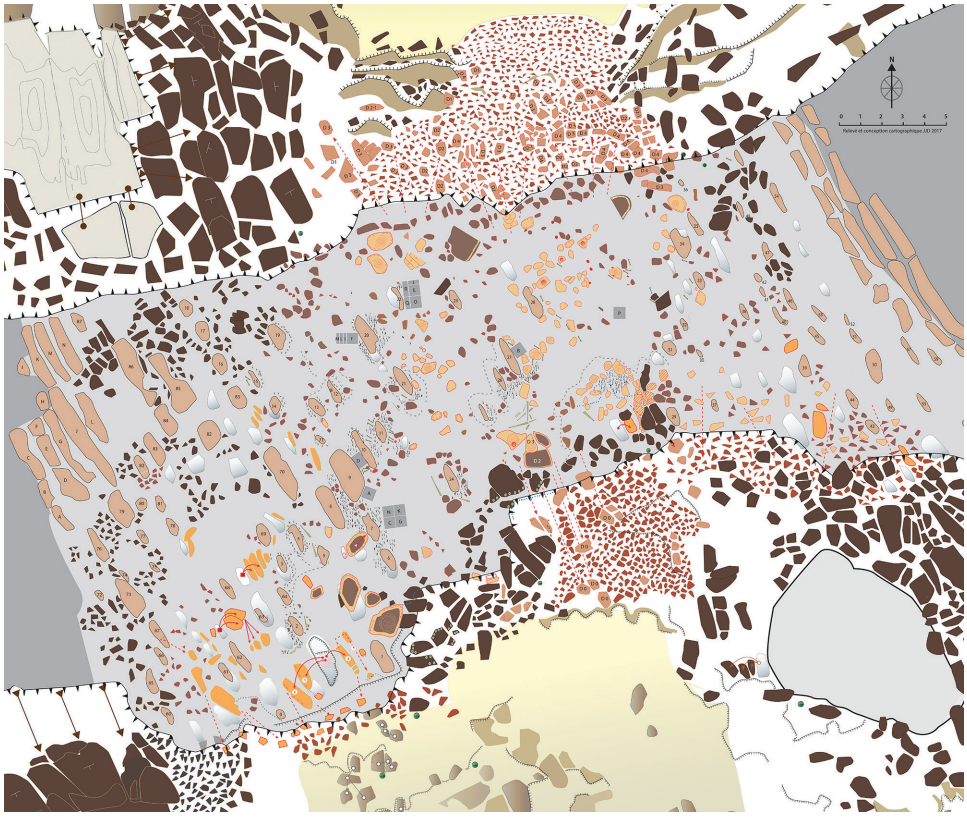

FIGURE 36.12 Archaeomorphological map of Nawarla Gabarnmang's floor.

Image courtesy of Jean-Jacques Delannoy.

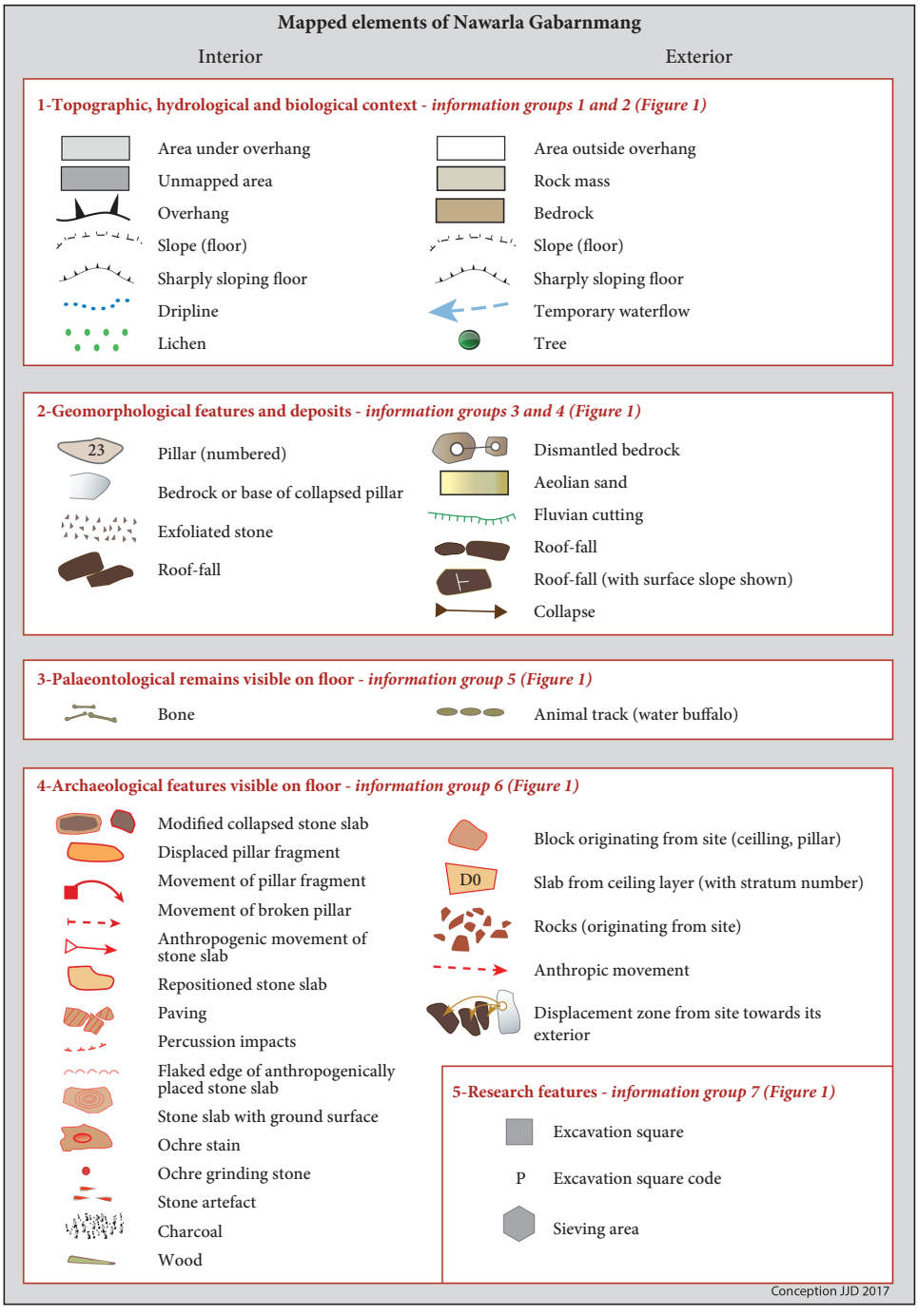

FIGURE 36.13 Features recorded during the archaeomorphological mapping of Nawarla Gabarnmang's floor.

Chart courtesy of Jean-Jacques Delannoy.

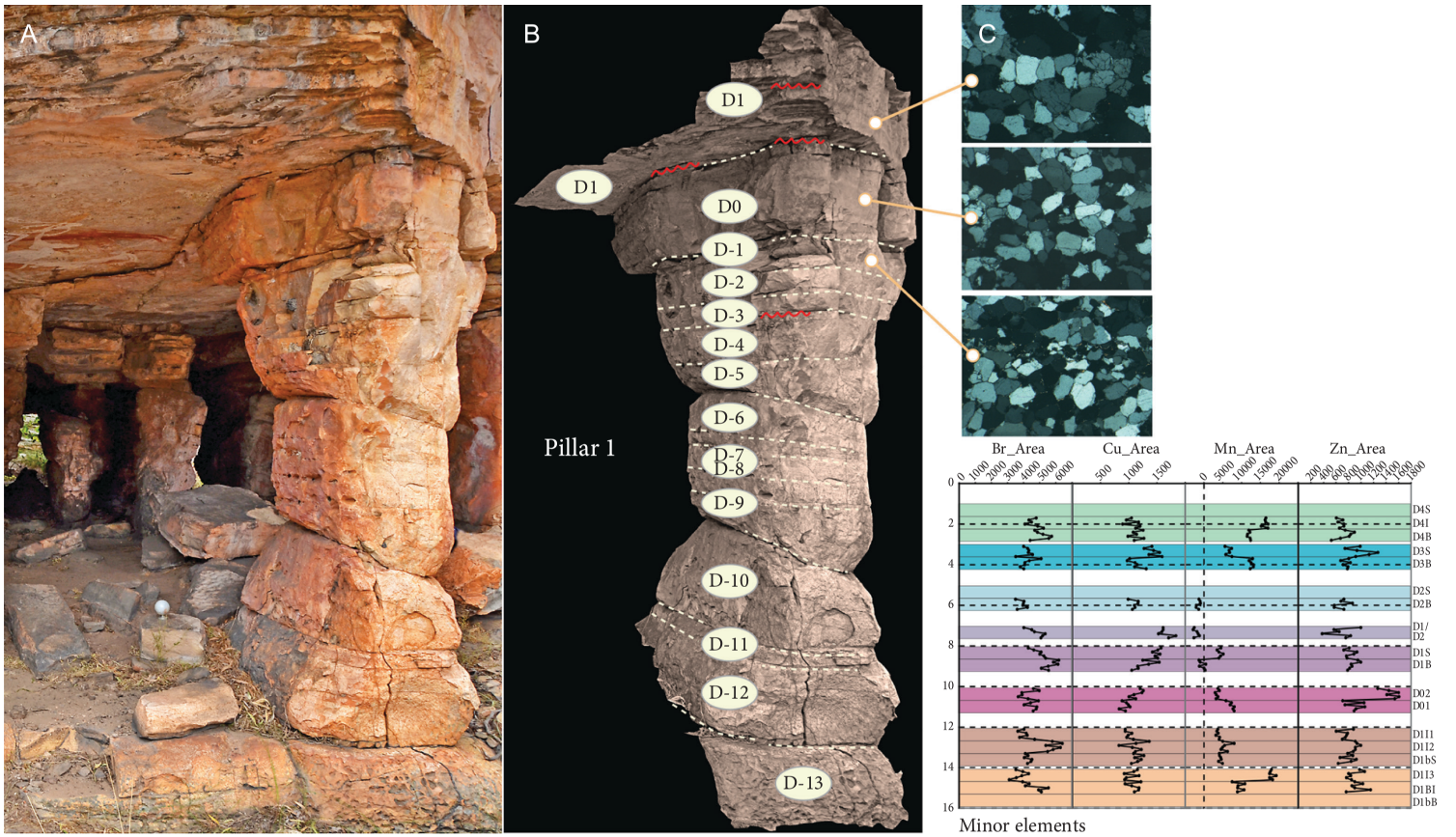

FIGURE 36.14 Pillar 1 at Nawarla Gabarnmang, showing its distinct rock strata. These strata are shared across the site's pillars, enabling identification of the original source location of individual detached blocks and slabs that now lie on the floor or buried in its sediments.

Images courtesy of Jean-Jacques Delannoy.

FIGURE 36.15 **A.** Map of the present ceiling of Nawarla Gabarnmang. **B.** The ceiling with the missing pillars identified through remnant fragments of their uppermost rock strata still attached, and as deduced by the intersection of fissure lines (below the ceiling representing spaces between pillars).

Images courtesy of Jean-Jacques Delannoy.

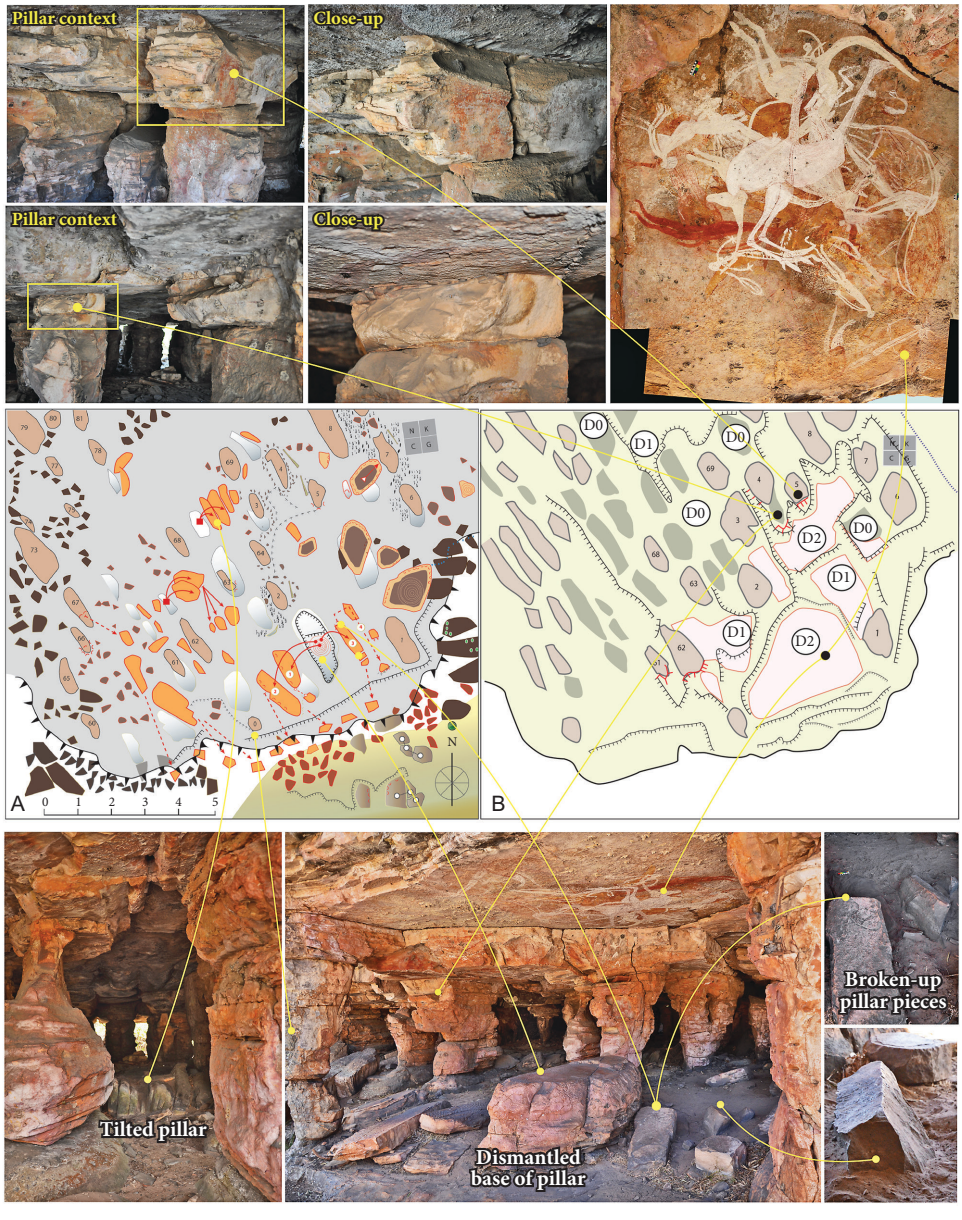

FIGURE 36.16 Archaeomorphological maps of the floor and ceiling of the southwestern sector of Nawarla Gabarnmang, showing missing pillars and ceiling strata and the anthropic breakage and evacuation of blocks towards outer parts of the site.

Images courtesy of Jean-Jacques Delannoy.

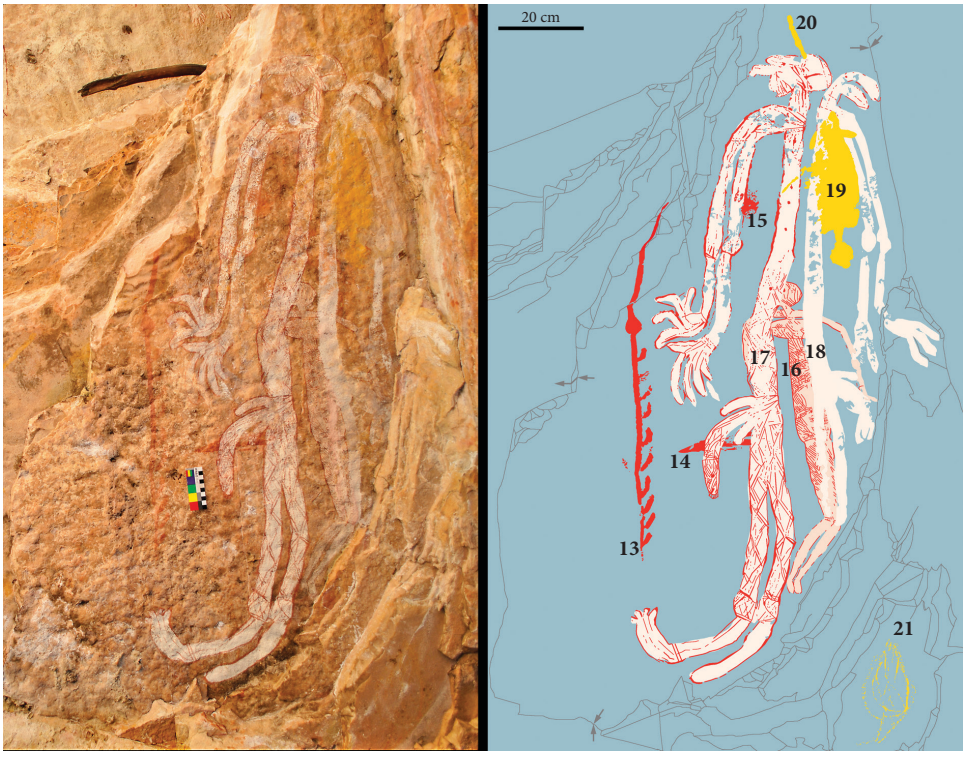

FIGURE 39.1 Ceiling Panel M3 at Nawarla Gabarnmang. Photograph and photo-tracing with individual motifs identified.

Images by authors.

FIGURE 39.4 Ceiling Panel D at Nawarla Gabarnmang.

Photo by authors.

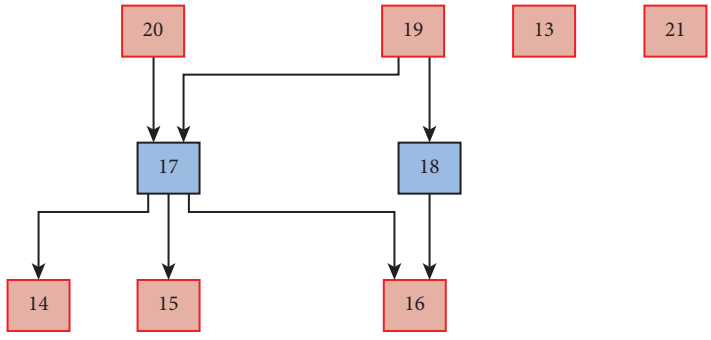

FIGURE 39.2 Harris Matrix of Nawarla Gabarnmang Panel M3 motifs.

Diagram by authors.

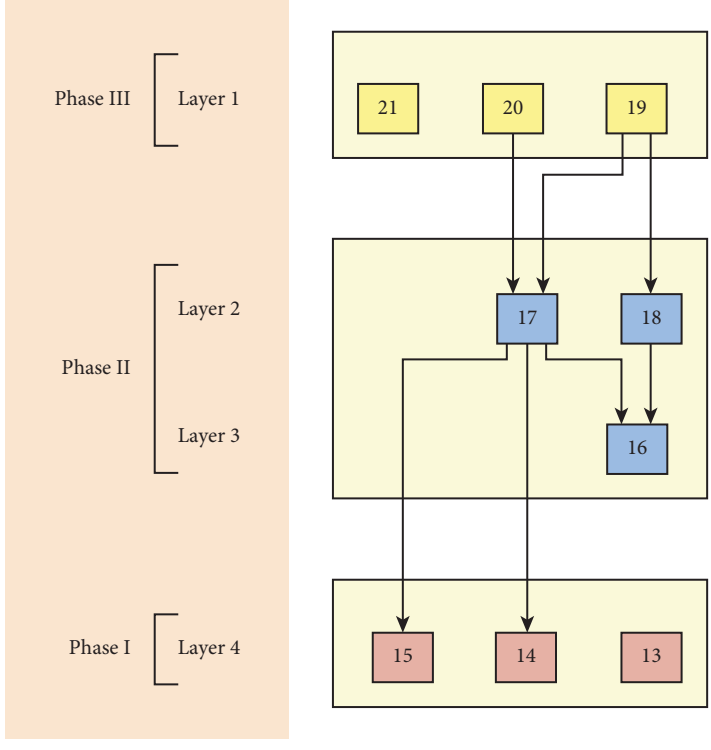

FIGURE 39.3 Interpretation of the Panel M3 Harris Matrix with base motif colour indicated (blue = white; other colours as represented).

Diagram by authors.

CHAPTER 1

INTRODUCTION

Towards an Archaeology and Anthropology of Rock Art

BRUNO DAVID AND IAN J. MCNIVEN

Introduction

Rock art holds a special place in the study of human history: it is at once a highly visible expression of culture and social practice, in that it is often found on exposed rock surfaces for all to see, while it also enables us to access the more subtle *gestes* (e.g., Fritz & Tosello 2015; Leroi-Gourhan 1964), the hand movements and socially mediated personal expressions of individuals who have long passed away. This is a dual opportunity for research, of a kind rarely offered by other traces of human activity, where details of the past normally lie hidden beneath accumulated sediments or lie on surfaces whose individual components have been reworked from their original settings, devoid of investigable cultural context. Yet both archaeologists and social anthropologists have been slow to take up the challenge of rock art. For archaeologists, other than in Western Europe, especially Spain and France, it was not until the 1980s that rock art began to feature seriously in research endeavours. For social anthropologists, this was the case the world over. There are reasons for this, in both cases relating to priorities stemming back to the beginnings of the discipline and methodological challenges.

The 1980s saw major breakthroughs in methods—for archaeologists in particular the ability to directly date tiny samples, such as with the emergence of accelerator mass spectrometry (AMS) radiocarbon dating (Petchey, this volume; see also Pike, this volume; Roberts, this volume)—and intellectual approaches. Important among these was a shift from positivism and processualism (the idea that the key to understanding cultural practices and the archaeological record was best served by studying their processes, each culture type generating its own kinds of social behaviour) to symbolic behaviour and postmodern and postprocessual concerns that took better account

of the varied ways that different peoples understand the world to operate. There was an increasing awareness of self-representation and the effects on knowledge of differential power relations in the search for a postcolonial world, involving a need also for 'Indigenous archaeologies' (e.g., Langford 1983; Nicholas & Andrews 1997; Watkins 2005). Our ability to now date rock art without unduly damaging it also allowed the art to accurately enter discussions of history and interests in human creativity; to investigate the temporality, diversity, and implications of the evolution of symbolism for how we have come to know the world (our own and other peoples') through representations, such as in visual expressions including the rock art whose history could now be traced back over tens of thousands of years.

These developments of the past few decades have affected archaeological and anthropological practice the world over, although regional and even national agendas and frameworks of enquiry remain prevalent ('treasures of history' continue to be cherished as regional and national icons of identity across the world, as is the case of Lascaux in France, Altamira and a suite of other sites along the Cantabrian coast in Spain, and the rock arts of Arnhem Land in Australia and of Ukhahlamba-Drakensberg National Park in KwaZulu Natal, South Africa, all World Heritage sites, for example). With our increased interest in and ability to study rock art, new global influences, especially in methods but also in research agendas, emerged to articulate with those more local, regional, and national agendas. Sometimes those broader influences involved Grand Theories by which to interpret the more esoteric signs of the past that researchers began to focus on within individual regions—a prominent example is 'shamanism' (e.g., Solomon, this volume), widely (but not universally) adopted in various parts of the world to explain why people made rock art in regions far removed both physically and culturally from where the ideas first came—although almost always these Grand Theories came and went, or at least declined in interest as more local and more applicable explanations were sought or became apparent (as befits the greater social awareness that goes with a more postcolonial world) (e.g., David et al. 2004; Langford 1983; Yellowhorn 1996). Such increased awareness of both the specificity of cultural practice and its location in a broader, articulating world; of the appropriation of other peoples' pasts by those who write history (and archaeology) (e.g., McNiven & Russell 2005); of social and cultural diversity and the rights of people to own their own past and construct their own history (Atalay 2006; McBryde 1985; White Deer 1997); and of the need for recognition of that diversity also brought an increased awareness of the need for collaboration, both internationally and cross-culturally (e.g., Davidson, Lovell-Jones, & Bancroft 1995; Langford 1983; Nakata & David 2010), but also across disciplines, each of which brought new perspectives that could enrich the others. Those multiple perspectives allow us to promote not just a deeper, more nuanced notion of each part, of the local, but also of how each perspective, individually and together, fits in a much grander world. These varied perspectives better enable 'caring for Country' (e.g., Brady, Bradley, & Kearney 2016; Burgess et al. 2009; Rose 1996), to borrow a phrase often used by Australian Aboriginal peoples when conveying the need to maintain a healthy consideration of places and of the living yet ancestral presences that continue to reside in

those places. The art found on the rocks, as expressions of pasts that extend into the present and that symbolize those pasts, is one very important aspect of such living ancestral presences.

What Is Art?

The concept of 'art' has undergone a range of definitions over the years, in part due to its elusiveness, in part because different authors have tried to capture different aspects of its many properties (e.g., what an artwork 'means' to its author, or how it is read by a viewer, how it is studied, how it works subliminally on our imagination, how it is used or thought about cross-culturally, how it affects cultural mores; the list goes on). Here, we treat visual 'art' in a modified rendition of how it is defined by the *Oxford English Dictionary*: 'The expression or application of human creative skill and imagination, typically in a visual form such as painting or sculpture'. We do away with the second part of the OED's definition, 'producing works to be appreciated primarily for their beauty or emotional power', because while beauty and emotional power remain affective properties of visual inscriptions and of the making of art (all peoples create with an appreciative (aesthetic) sense that helps define their visual cultures), not all artworks were necessarily primarily produced *for* beauty and emotional power (and, indeed, in archaeology often we do not know the intention of the artist). In some cultures, for example, a visual mark may have been made primarily as a mark of ancestral or spiritual power, such as in some Australian Aboriginal paintings aimed at effectuating the fecundity and rejuvenation of species and the elements (in the sense of 'increase' or 'maintenance' rituals, for example; e.g., Spencer & Gillen 1927), or the presence of ancestral beings (e.g., Blundell et al., this volume), or the passing on of ancestral power and knowledge to initiates (e.g., Taylor, this volume), or the marking and commemoration of particular events (e.g., David et al. 2004). It is worth noting Morphy's (1991: 35) cautionary reminder that there is no 'ladder' of progress in the development over millennia of 'art', and, cross-culturally, the term 'art' is problematic because it does not capture well most non-Western notions of image-making. By reducing image-making to 'art', we normalize the West's notions of imagery and distance those of others, exoticizing the latter in the process.

What Is Rock Art?

If art concerns the expression or application of human creative skill and imagination incorporating aesthetics culturally defined, rock art concerns such visual expressions on rock. Often researchers exclude from the definition of 'rock art' marks created as a result of 'functional' activities, such as grinding grooves, or of the actions of mechanical

imprinting, such as hand stencils, but such exclusions are not as obvious as they may at first appear. For example, how grinding grooves are aligned on a rock surface is not entirely determined by the optimal mechanical properties of the act of grinding—an aesthetic, cultural sense of order comes into play. Or a hand stencil may be done in red rather than in white or black and with fingers bent or straight or hands splayed or clasped. All such decisions involve senses of appropriate order and creativity and of appreciation and thus aesthetics. We refrain also from limiting the definition of rock art to 'anthropogenic imagery', in the sense of designs purely created by human hand, because people also interpret other parts of the landscape in creative and aesthetic terms, making meaningful shapes out of them, sometimes working on them, incorporating those meaningful shapes into their lived experiences (such as with the spotted horses at Pech Merle, where the right-hand horse is painted on a rock whose edge was already shaped like a horse's muzzle, or the ghostly shapes defined by redeposited calcite concretions and enhanced by painted black lines at Cougnac [see David 2017: 149, 165]). In effect, the extent of such shapes of the rock surface or other related features (such as water channels or places where water accumulates) is often integral and even mobilizing features, such as in the Tsodilo Hills of Botswana where zoomorphs appear to 'drink' on the rock precisely where water flow marks appear (Figure 1.1). The water marks on the rock are manifestations of an image 'in' the rock even prior to the painting, although it is the addition of the painting that usually makes it so to the archaeologist (e.g., Nash, this volume).

Rock art can be portable, such as with paintings on rock *plaquettes* or tablets, or carved beads ('*art mobilier*', or mobiliary art). Or it can be fixed in the landscape, as with paintings on shelter or cave walls ('*art parietal*', or parietal art). A third term, '*art rupestre*' or rupestrian art, refers to all arts done on rock (i.e., both mobiliary and parietal art). None of these terms presupposes any particular aesthetic worth (throughout this chapter, by 'aesthetics' we mean a sense of balance, order, or attractiveness, as variably culturally defined), although this is not to deny that aesthetics came into play in the creation and subsequent appreciation of or response to the art.

What Is the Archaeology and Anthropology of Rock Art?

The archaeology of rock art, then, explores this world of artistic inscription on rock from a viewpoint of the historical positioning of art as material culture (or rather, as material behaviour) (see Conkey, this volume, for a discussion of the need to attend to 'context'). The social anthropology of rock art is more concerned with how inscriptions are made in real-life social and cultural settings, why they are made, and how they operate in the world of living communities. In practice, the archaeology and anthropology of art can easily merge one with the other, however, because our topic of interest feeds into

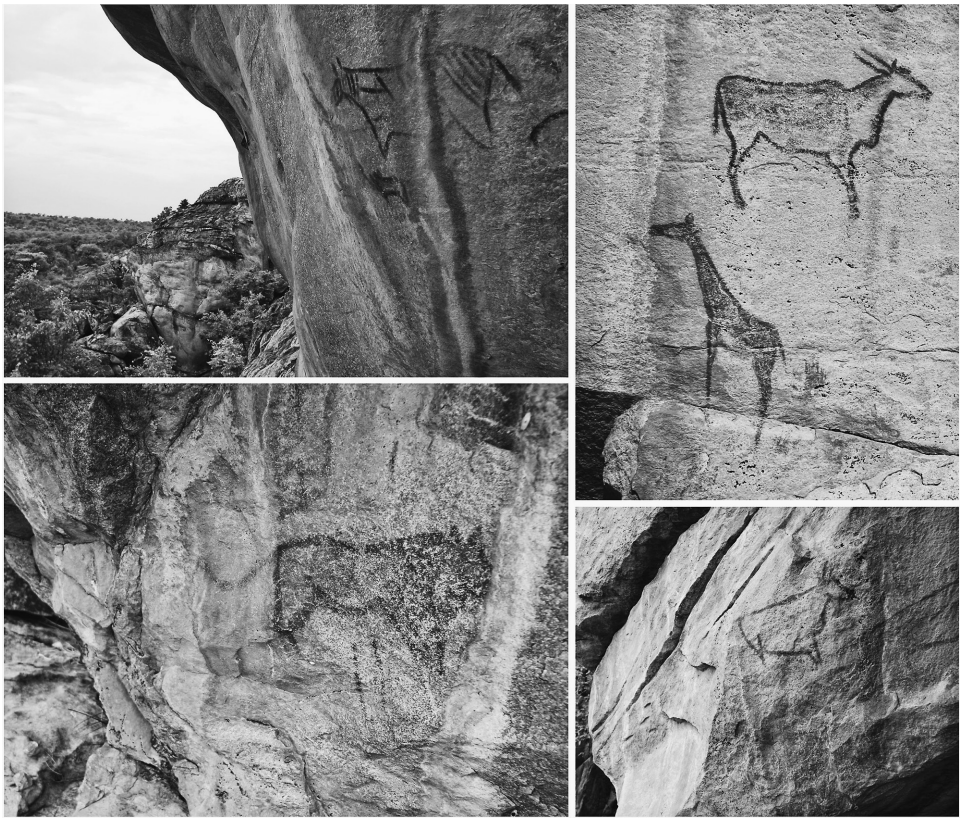

FIGURE 1.1 Rock paintings of animals appearing to 'drink' from water flow marks on rock surfaces, Tsodilo Hills, Botswana.

Photos by Jean-Michel Geneste.

the two disciplines as multiple dimensions of the one thing: social practice (the making and meaningfulness of art to those communities who use it) is founded on historical precedents (traditionally more the realm of archaeological enquiry); material culture calls on us to behave in certain, often unintended or unintentioned ways (working in ways other than those intended or other than those imagined, respectively). Where possible, a polyvalent approach that considers historicity, material behaviour, *and* social dimensions of cultural practice and meaning allows for a richer approach to the art.

What Is Symbolism?

Visual marks on the land, as expressions of human creative skill and imagination, work on the viewer in ways beyond the mark itself: they come to affect how we see the world, how we represent it through symbols as points of reference. These are social constructs,

made in particular places and particular times, in each case building on what went on beforehand: once we come to understand something in a particular way, that understanding affects what goes on afterwards.

Hyperreality

Symbolism's 'work' is well expressed through the notion of the 'hyperreal', first developed in 1981 by philosopher Jean Baudrillard in *Simulacra and Simulation* (English translation, 1994). Umberto Eco soon came to further explore the idea in his *Travels in Hyperreality* (Eco 1986).

'Hyperreality' concerns how we understand things through how we represent them, so much so that we come to know reality itself through those representations. Knowledge of the world and of ourselves emerges not just in conscious experience, but also through the subliminal influences that bear onto our experience of the world as ontological blind spots. Hyperreality is rarely discussed in archaeology, let alone in rock art research, and yet it is fundamental to our discipline because how we characterize objects and sites affects how we understand their place in people's lives. In doing so, it affects how we see things and places and the people we write about and therefore how we historicize, present, and presence people today. Hyperreality affects how we understand the peoples and cultures not just of the past, but of the present also (for how we see the past historicizes how we see the present). Social life today is worked on through these representations, as the realities we come to know.

Let us explore how hyperreality works through a story. It is not directly related to rock art, but it is a useful one because its familiar topic enables us to shed light on how hyperreality also works in rock art.

Sometime between 1610 and 1620, Charles Ogier de Batz de Castelmore was born in Lupiac, Gascony, in the southwest of France (e.g., Bordaz 2001; Courtilz de Sandras 1700; Guilde de Tréville 2000; Oulé 2002; Petitfils 1981). Today, no one knows the exact year of his birth, for those records were lost, in a fire it is thought.

Be that as it may, he was born in his parents' home at the Chateau de Castlemore. Soon enough, in 1635, during the reign of King Louis XIII, the young Charles became one of Chief Minister Cardinal Richelieu's Guards. Sometime between 1638 and 1640, he approached Field-Marshal Tréville to become a musketeer. He was soon appointed a cadet in the King's Guards, and, in 1644, following Richelieu's (1642) and Louis XIII's (1643) deaths, he was finally admitted a musketeer (Guilde de Tréville 2000). But, in 1646, the musketeers were disbanded. De Batz de Castlemore was assigned to Cardinal Mazarin, Louis XIV's Chief Minister (the king was then only eight years old), not to rejoin the reinstated musketeers until 1658. On 25 June 1673, at about sixty years of age and after considerable success as a high-ranking military officer, Charles de Batz de Castlemore died in Holland during the siege of Maëstricht.

Charles was better known during his lifetime as the Comte d'Artagnan—the name by which he is also best known to us today—having taken his mother's maiden name,

Françoise de Montesquiou, daughter of d'Artagnan en Bigorre. By the time of Charles's death, his military feats had become legendary. We know this because of numerous contemporary official documents, letters, journals, and eyewitness accounts. But we have also come to know him through, firstly, the writings of his contemporary Courtilz de Sandras's (1700) largely fictional biography, *Memoires de Monsieur d'Artagnan*, and subsequently and more pervasively through Alexandre Dumas's novels, in particular *Les Trois Mousquetaires* (*The Three Musketeers*) (1844), *Vingt Ans Après* (1845), and *Vicomte de Bragelonne* (1848–50), where he (or rather, 'd'Artagnan') features as the hero. Since the twentieth and into the twenty-first century, we know him best through television adaptations and Hollywood blockbusters.

And this is where the notion of the hyperreal comes into its own. From the moment that we know that the historical d'Artagnan of the 1600s was the inspiration for the d'Artagnan of Alexandre Dumas's novels (and indeed, even from the first use of the word 'musketeer'), we cannot now think of the historical man without Dumas's hero also filtering in. To a significant degree, we now perceive of the historical d'Artagnan through the fictional character even when we also understand that the two are different. We come to know reality itself through how we represent it, as a *hyperreality*—a nexus of the 'real' and the imaginary—so that reality itself becomes a mutual informing, a merging of the two (a 'fictional autobiography', as it were).

In rock art, as in archaeology generally, the power of representation likewise guides how we think of things. It chaperones how we come to 'know' the past and how we come to know cultures, both ours and those of others (and, in a similar vein, how we affect each other). We therefore need to keep in mind that our knowledge of a site, an object, a painting (and peoples and cultures) is as a hyperreal 'third space' (Bhabha 2004; see also Russell 2006) between the subject of our attention and our imagining of it. When we study rock art to understand the past or to understand peoples and cultures, our imaginative representations of those artworks (e.g., through culture-historical pigeon-holes, or motif identifications, or disaggregated marks on a wall, or any selection of images out of a complex variety) will affect how we come to understand that historical past and those cultural ways of being. This is the sociopsychological power of the hyperreal.

Historicizing Symbolism

How, we may ask, has our ability to construct the world through symbols, in hyperreality, come about? This is the stuff of cognitive archaeology, and again rock art plays an important part. There was once a time when our distant ancestors did not make and use visual symbols, did not represent their world through representations that referenced something else other than themselves. Tracking the emergence of cognitive modernism relative to our biological evolution is a dominant theme in archaeological research, in the search for how we became who we are today. For this, we seek the origins of art, and we have long done so; only now we think of both regional developments and the antiquity of those developments in different ways than we used to. No longer is Europe

the place of origin for our species, as the 'Dawn of Belief' (Dickson 1990), because anatomically modern humans had evolved more than 100,000 years before they eventually colonized Europe. Again, a broader spatial perspective is required, one that permits a spatial history, a view of the world through the movements of our ancestors.

Whose Rock Art?

Rock art researchers often ponder over who was the intended audience for rock art in the past. This issue is intimately tied to questions of authorship and who created the art and also of its function(s). In most cases, it is assumed that rock art was made for special reasons and that such specialness was probably associated with ritual or ceremony performed by elites—or at least by a subgroup of society. Irrespective of whether these ritual specialists are considered shamans or other kinds of spiritual specialists, the normative position is male. It is rare to find a researcher's pictorial representation of a Palaeolithic rock art site that includes women as artists, for example (Gifford-Gonzalez 1993: 37; Solometo & Moss 2013: figure 4; Tomášková 2013; see also Conkey & Williams 1991). Yet anthropological research on the production and use of rock art teaches us to think more critically about the potential male gender biases of our analyses. For example, across many parts of Australia, rock art was produced by men and by women, with some rock art sites being of restricted access to men only and others to women only (Smith 1991).

The issue of gender and rock art is both complex and vexed. As rock art researchers, we need to be reflective and constantly aware of inherent biases in the way we construct categories of analysis and in how we interpret rock art sites and past research. For example, to what extent is a published ethnographic account biased towards male sites and male perspectives due to the male gender of the researcher (this question applies also to female sites and researchers)? More challenging, in what ways are the dichotomous sex and gender categories of male–female and masculine–feminine respectively (as we variably know them in contemporary Western society) relevant to past societies? Do anthropomorphs with mixed sex and/or gender attributes represent third-sex and gender categories (Hays-Gilpin 2012; Solomon 1992)? Or are such mixed attribute images a deliberate ritual strategy of ontological destabilization, boundary blurring, and liminality? And, perhaps most challenging of all, how many rock art researchers question the hegemonic heteronormativity of interpretative frameworks (Dowson 2000)? An unquestioning application of normative categories of gender and sexuality in rock art investigation not only misrepresents the present, but also potentially misrepresents the past (Foucault 1976/1979). Kelley Hays-Gilpin (2012: 203) also asks another important question that moves beyond the *representation* of gender and on to the *expression* of gender: 'What were the cultural roles of making rock art in shaping the gender identities of men, women, and other-gendered persons?' While Hays-Gilpin (2012: 205) rightly notes that it is difficult to identify the gender of rock art producers

without access to ethnography, the gender of rock art users—or at least those who visited rock art sites—may be accessible to varying degrees through archaeological analysis of associated activity deposits (recognizing the inherent difficulties of assuming gender on function). Furthermore, any rock art image may not be the product of just one individual, especially if one also traces the trajectory of the entire process from the acquisition of needed materials (e.g., pigments, tools for making petroglyphs) to preparation of the image-making site.

Anthropological research also teaches us that social restrictions on access to rock art sites can be achieved not only through physical prohibitions and sanctions on visitation but also through layered and hidden meanings and polyvocality. An example is the sacred painting of Yaripiri (a mythological snake) at Ngama Cave in Warlpiri country, central Australia. Faulstich (1992) notes that on either side of the 'naturalistic' painting of Yaripiri are a series of U-shaped 'abstract' motifs. The unrestricted interpretation of the U-shaped motifs is that they are representations of Yaripiri's ribs and unborn progeny. The restricted interpretation of the U-shaped motifs, however, is that they refer to sacred boards used by men in ceremonies (details of which are respectfully not discussed by Faulstich, cf. Mountford 1968; see also Munn 1973: 169). In this sense, we are reminded of Howard Morphy's (1980: 19) instructive comment that 'It is one thing to demonstrate a possible formal resemblance between a signifier and an object that its shape is derived from and quite another to demonstrate that this relationship is relevant to its interpretation or even to understanding its present meaning'. For the Warlpiri, abstract motifs at Ngama Cave provide scope for polyvocality, multiple subject representations, and multiple levels of meaning. As such, asking questions about the singular meaning of paintings at Ngama Cave would be naïve, whereas questions of plural meanings would require more sophisticated understandings.

Ethnographic case studies in the production and meaning of rock art, particularly in the Australian context, alert us to the potential cosmological conflation or 'flattening' and epistemological simplification and singularization that occurs in much rock art interpretation globally, such that rock art is often seen to have a single function, a single audience, and a single symbolic or representational meaning. This simplification often goes hand in hand with a parallel historical conflation that sees a single function for rock art, even in situations where the art spans dozens and in many cases hundreds of generations. In situations where rock art has been dated, such as through AMS radiocarbon dating of organics within pigments, the date of art production is taken as coterminous with the date of use and engagement. In reality, the date of production is simply the beginning of what in many cases is the long biographical life of rock art images (Charlin & Borrero 2012; Morphy 2012). Unfortunately, it has taken a long time for archaeologists and anthropologists to recognize the legitimacy of long-term rock art biographies. This neglect is reflected in the view that what Indigenous people thought of rock art in recent times is of little ethnographic interest where the rock art is considered ancient and its original meaning long since forgotten. We now appreciate that contemporary engagement with ancient rock art sites is part of the ever-emergent and ongoing biographic qualities of those sites. Reuse, reinterpretation, and reinscription are fundamental and

defining qualities of rock art sites. Such defining qualities further shine a spotlight on the epistemological naïvety of searching for 'the original meaning' of rock art sites. It is in this sense that excavations of activity deposits associated with rock art can provide important clues as to how long rock art images have been available for viewing and engagement by people visiting sites. Equally important is documenting contemporary engagements with rock art places by local communities and understanding the ontological, epistemological, cosmological, and social position and relationality of rock art in these communities (e.g., Baracchini & Monney, this volume; Blundell et al., this volume; Brady, Bradley & Kearney, this volume; Brady & Taçon 2016).

The issue of the long-term and multigenerational nature of rock art is central to contemporary Indigenous peoples and how they decide to engage with and allow others, such as rock art researchers, to represent their ancestral rock art. Clearly, there are issues of politics and power at play here, and Indigenous peoples have long memories of the forces of marginalization and appropriation associated with colonialism. Many of these issues go to the heart of the power to construct identity. If Indigenous peoples lose control over how their rock art sites are researched and represented, then they lose control over how they themselves will be represented and how these representations play into the hands of identity politics. In a simple example, if rock art researchers focus on the antiquity of rock art and not on its ongoing significance, use, and engagement, then they run the risk of representing contemporary Indigenous owners as somehow temporally and hence culturally detached from their ancestral rock art. In settler colonial contexts such as Australian and North American, such silencings and representations (overwhelmingly by others) of cultural detachment run the risk of delegitimizing Indigenous associations with their ancestral sites, fuelling non-Indigenous representations of contemporary Indigenous cultures as inauthentic, and promoting and popularizing Indigenous ownership and control of cultural sites and places as illegitimate (McNiven & Russell 2005). Few researchers consider the epistemic injustice and violence (Fricker 2007; see also Mignolo 2009) associated with such a silencing of Indigenous voices or that, in the future, an archival void of Indigenous voices can be misinterpreted as an accurate reflection of cultural absence (Jones & Wesley 2016). This issue often gives rise to the situation where the factual contents of contemporary Indigenous oral histories are questioned and even rejected because they are not substantiated by written archival records (e.g., Barker 2006: 79). Such misinterpretation reveals the power of archival information to take on the futurizing role of a colonizing agent in its own right. For Indigenous Australians, questions over links between archival silence and cultural absence have even formed the basis of a Royal Commission of Inquiry (Bell 2008).

The importance of embracing and incorporating Indigenous narratives into rock art research agendas is clearly most relevant for rock art sites that have traditional owners. Such narratives may involve customary stories specific to known sites or involve the ways people engage with sites previously unknown. The ethical imperative for the inclusion of Indigenous narratives necessitates incorporation of multiple ontologies and epistemologies into research agendas (Jones & Wesley 2016; see also Ballard 2014, on the question of 'historicities'). However, care is needed not to dichotomize ontologies and

epistemologies simply as Western versus Indigenous (see Harding 1998). All societies are 'ontologically multimodal', and it is highly likely that rock art researchers working collaboratively with Indigenous communities will find considerable ontological and epistemological overlaps (Harris & Robb 2012; McNiven 2016: 34). And it should not be forgotten that the collaborative process is not unilineal, emanating from the academic researcher asking Indigenous peoples to be involved; the process is more complex and nuanced than this and can be initiated from many different directions (for the concept of the 'cultural interface' and its application in archaeology, see Nakata & David 2010). There has been the development of genuine collaborations, with a key focus on the co-production of knowledge, starting with the framing of the research problems of concern, interest, and value to all parties (e.g., Blundell & Woolagoodja 2005; Bradley with Yanyuwa families 2010; see also Blundell et al., this volume).

Exploring Conceptual Boundaries Through Rock Art

As is the case with the images by which we represent the world, the terms we use also come to shape how we know things, how we think of them. In the language of rock art research, it is common to differentiate between 'naturalistic' and abstract renditions, the latter presumably 'signs' or geometric designs that are recognized symbols of something else, like road signs that indicate how we should behave or how we should think of things, as if they are there *to* guide thoughts and behaviour. The naturalistic and figurative designs are often thought about as images that merely reproduce an external reality more or less compromised by the technical competence and cultural perspective of the artist, as if they essentially copy 'nature'. Yet we learn from artists the world over that the decision about how to depict is as much conditioned by how relations between things are understood to be. Thus, in Wardaman Country, in northern Australia, during the ethnographic period of the 1800s and 1900s, magpie larks or peewee birds were rendered anthropomorphic after the Ancestral Beings of the Dreaming. The birds are not recognizably birds in the art, for in that cosmological framework they also have another form, that of the people who affiliate with them through ancestral connections. On the other side of the world, and during much earlier times, we also find that animal depictions are not simply visual clones of animals of the wild as we know them ourselves today. In the later phases of the Upper Palaeolithic in Western Europe, Annette Laming-Emperaire (1962) and then André Leroi-Gourhan (e.g., 1965), and later George Sauvet and his co-researchers (e.g., Sauvet & Sauvet 1979; Sauvet & Wlodarczyk 1995), thus showed that particular animal representations tend to be associated with images of other species, while others yet are excluded. In Middle and Upper Magdalenian rock art, for example, there is a common association of bison (*Bison bonasus*) with reindeer (*Rangifer tarandus*), and of aurochs (*Bos primigenius*) with red deer (*Cervus elaphus*),

but a clear-cut disassociation, a spatial and thematic separation of bison and aurochs on art panels (Sauvet & Sauvet 1979). And dangerous animals, carnivores especially, are found in the deeper recesses of caves, as are human or human-like representations. These examples alert us that so-called naturalistic representations are not just images of inherent, natural orders; rather, they signal something more, an association of one thing with another, a relationship of a very particular kind that enables people to make sense of their world, a sense that is not evident outside those very particular cultural perspectives. It is the job of the archaeologist, then, to identify such associations, to make sense of the image *as an expression of relationships*, more so than is evident by the animal or other object in the shape of its image. So-called naturalistic representations are also abstractions, they are also signs of things that remain aloof to those whose cultural secrets have not been revealed. The notion of 'sign', rich in semiotic theory and know-how, goes beyond the abstract line and geometric design; it is a property of all representations, of all things that are more than themselves.

When is a deer a deer, for example? French archaeologist Elena Man-Estier (personal communication; see also Man-Estier & Paillet 2013) illustrates such notions well through a contemporary example. Since 1977, France has used as its official road sign for 'wild animals crossing' (road sign A15B) an image of a deer inside a triangular white area outlined in red. That deer image could represent any wild animal so that, in the Dordogne area of France where wild boars are plentiful, we often find along the road the A15B sign (of a deer) accompanied by a second sign devoid of imagery but with the word '*sangliers*', meaning 'wild boars' (Figure 1.2). The pairing is a warning to drivers that they

FIGURE 1.2 The French A15B road sign (of a deer) that indicates 'wild animals crossing'.
Photo by Jean-Jacques Delannoy.

are in an area where wild boars may cross. Here, the depiction of a deer does not signify a deer at all (other than it, too, is a wild animal) but the possibility of wild boars crossing; the deer is not a deer but a boar (and the ideas that connect them both). What would we make of the image if we did not know the local rules of signage, the significance of the deer as a wild animal that could signify all others, and the dangers and probability of animals crossing (given that the aims of the archaeology would be to work out such associations in the first place!)? Archaeology could undoubtedly 'easily' reveal that such signs are repeatedly, and only, associated with roads (if those roads still showed their tracks and if remnant pre-1977 signage did not confuse things), so an association with thoroughfares could probably easily be worked out. Semiotic associations between signs would probably also be revealed: the '*sangliers*' of the associated sign in the presence of the deer image. The rest is more open to the imagination.

We need to be careful also of the other terms we use. An example, used earlier, is 'naturalistic' to describe a recognizable image. Yet, in rock art research, naturalism is usually used to describe an image that approaches photo-realism. 'Figurative' can be less so, but still recognizable in shape, still attributable to the form of something we know from our surroundings. This is an important distinction that allows us to declare how closely we think a depiction resembles something in the material world, although to what degree each of these terms could also be used to describe something of the imagination remains open to debate.

In Europe, the Palaeolithic–post-Palaeolithic divide at the end of the last Ice Age some 12,000 years ago allows for a significant 'carving out' of types of imagery and intellectual concepts. The art of the Upper Palaeolithic is usually seen as the art of 'hunter-gatherers', early humans who painted and engraved depictions of animals, often as symbols of the hunt (although the association of species, their variable distributions within caves, and a demonstrated noncorrespondence between depicted taxa and eaten taxa—as determined by animal bones in shelter and cave floors—have shown that there is more to those depictions than items of food). Nevertheless, Upper Palaeolithic rock art is often largely thought of as the art of hunters and of the natural world. In essentially those same regions, the post-Palaeolithic, post–Ice Age era saw an end to such arts and the beginnings of the arts of peoples with other lifestyles, not so much hunters or hunter-gatherers as more social beings who manipulated and controlled their environments: Mesolithic, Neolithic, and subsequent communities. Now the art (for example, so-called Levantine art) focuses on social scenes, implements, people. We move out of the world of 'nature' into one of 'society' and 'culture', it is often thought or implied. And yet everything else about the archaeology argues against such a distinction, whether it be that in both cases the artists are fully modern human beings or that artistic expressions in some ways more like those of the European post-Palaeolithic appear early on elsewhere in the world, in the sense that they contain social scenes with people and implements and depictions of social activities. So, what are we to make, then, of this implicit association between fauna and natural being during the Ice Age in Europe versus people, social actions, and the tools of human activity as social being during later times? Are these associations that reveal something of our past, or rather are they expressions

of our own preconceptions today? Are they subliminal blind spots in the ways we understand and model the past, ours and that of others? Does the presence of animals in the art of glacial times, as food or otherwise, indicate something of the ecology of cold places (with greater emphasis on meat and fish in the diet of peoples in cold places, or at least high latitudes, being a pattern evident in ethnographic societies; e.g., Cordain et al. 2000; Lee 1968)? And what about the plants: Why do they not feature in the art—or do they (see Ouzman et al., this volume)? And the other marks on rock walls, the ones we rarely hear about—not so much the abstract 'signs', but the animal scratches and colour spots that preexisted and that would have affected how people 'signed the land' (Bradley 1997) with artworks because they were already there (be they individual shapes made of rock, or the texture of rock surfaces, or the play of shadows and the like). What do we record when we study rock art, what do we leave out, and why?

Each of these factors causes us to ask more questions of the art. Was it to be seen? At Les Combarelles, in southwestern France, 12,000–14,000 years ago artists finely incised more than 600 designs on the rock wall, mostly more than 160 metres into the rock where sunlight is entirely absent. Here, the long corridor is narrow and pitch-black, access requiring artificial light and never accommodating more than one person at a time. In most cases, the incisions are so fine that they are hard to see, even with sidelight (but see Man-Estier, Deneuve, Paillet, Loiseau, & Cretin 2015). This was not simply an art to be seen, a strange thing to say about a visual art. Yet it causes us to think of it not so much as a visual art as a performative one: whether it was the act of making or its subsequent social engagement that mattered, rock art was not merely placed on a wall, but rather performed through how people engaged with it—as it is today also, but in different ways that befit the times. We are reminded of this also by the fact that in the decorated caves of Western Europe, there are usually few if any traces of occupation in the form of food refuse and the like. Some people came into the caves deep in antiquity, but why they went there was not as everyday occupation, but rather to undertake specialized activities of which the art was an integral part. Again, archaeologists and anthropologists have an opportunity to explore precisely how those engagements took place, what they were all about. Seeing rock art in this way allows us to ask about the particular ways that people express(ed) themselves, how people relate(d) to the art, about their cultural specificities.

The Life of Images

Just as images have both lasting and changing properties, so, too, do the ways we think about them and how we remember them. How do inscriptions left on rock walls hold personal and social 'memories' into the future? Contemporary artist Maud Bonnet explores this idea of what it means to (re)collect the past in the present, sometimes a past that stretches back a considerable time, sometimes one that is still close to now, but one that is always ever-present. In words and objects, Bonnet 'collects' peoples'

recollections of events in their lives, sometimes traumatic, sometimes more everyday memories that would not normally be heard by others socially distant. Those memories are physically inscribed on and in transparent, hermetically sealed jam jars so that the texts and imagery can be seen from the outside (Figure 1.3). Her artworks articulate well how the past, even one's own, is re-expressed through time, made sense of anew in its socialization, even while the rawness of experience pervades. Those artworks are at once communicated material extensions of personal recollections, of the senses and emotions felt, and new beginnings, ruptures and ruptures in time sometimes separated by silences to re-emerge in new ways, in new contexts. In these materialized recollections, we re-invent without ceding links with what happened beforehand, even through multiple silences and forgettings.

Seeing Bonnet's collected memories through the transparent veil of jam jars—preserves of memories—the material externalizations of personal feelings and experiences allow others to access and (re)tell something of those experiences, of the

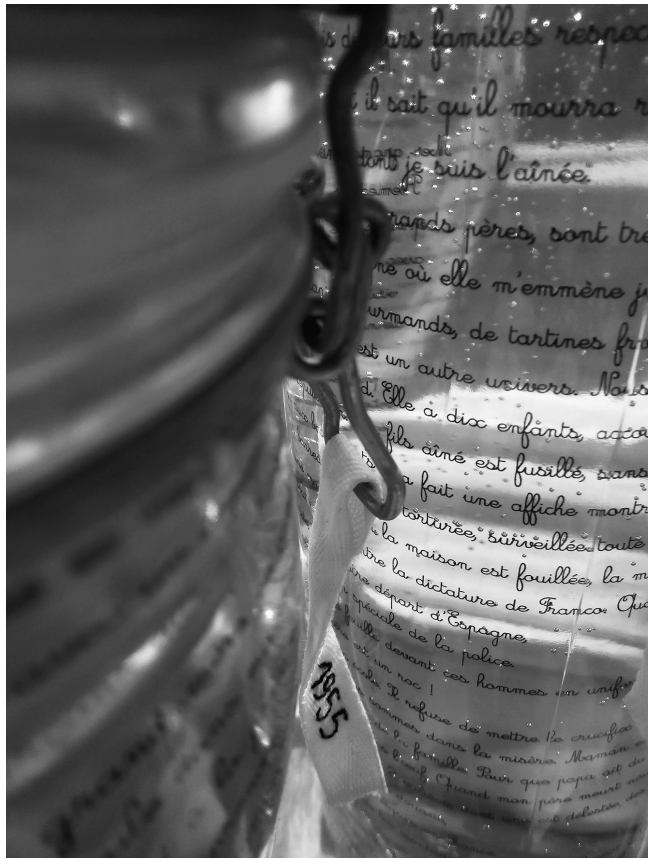

FIGURE 1.3 Maud Bonnet's 'curiosités anamnésiques', (re)presenting and (re)presencing memories through objects and words sealed in jam jars, as reworked preserves of the past.

Photo courtesy of Maud Bonnet.

days of their happening but in the present. In time, we will only have those material expressions to go by, yet they again will be passed on to future generations, perhaps as photographs of the artists' works, and those future generations will again make what they will of the depicted experiences and their representations. In that same sense, the artworks encapsulated in the caves are not materialized memories frozen in time, although the shapes and colours may appear fixed. They are curiosities of the viewer as much as expressions of the depicter, giving new meaning to what once was. Through the silences of time and the refigurings, they are, in Bonnet's words, '*curiosités anamnésiques*', amnesias told anew. And in this, rock art research allows us not only to see through the glass of time, but to open its contents, to reaccess pasts told and retold, and to reshape those pasts in and for the new times.

Even with the changes that take place through time, the fixity of parietal art on landscape surfaces gives it a lasting visual property, marking the land and, in doing so, inscribing authorship to and belonging in place. For many (especially Indigenous) peoples around the world, this act of marking, and the endurance of the mark, signal the continuing presence of ancestral forces who not only wrote themselves into the landscape, but who create(d) place in the process. The art signals the ongoing, living presence of ancestral forces (e.g., see Taylor, this volume). For Indigenous communities for whom rock art continues to form a critical dimension of culture and identity, the ongoing life of rock art images is often central not only to the reproduction of people, but also to the reproduction of their environment and of the cosmos more generally. In such contexts, rock art has agency in its own right. In some cases, the agency is associated with the ancestors who are known to have created the art. In other cases, the agency works through association with ancestors who are known to have engaged with works of art that have a nonhuman origin. In both cases, contemporary peoples know that rock art, whether of human or nonhuman origin, was critical to the reproduction of the life-world of their ancestors. Here, reproduction of the self is reproduction of an 'ancestral template' (Layton 2012: 452), whereby rock art forms a critical, tangible, and recursive expression of ancestral presence in the material structuration of the self in the past and into the future. This material structuration works both on an intrasite and intersite scale, such that the location of long-duration ('ancient') rock art sites as persistent places in the landscape continuously imposes on successive generations. In this sense, each generation cannot simply choose the rock art sites it inherits, but it is empowered to choose the rock art practices that it fosters and forgets, reiterates and reinterprets, creates and curates, and passes on to subsequent generations.

For many Indigenous groups, engaging with this ancestral template occurs through the ritual repainting of images such that rejuvenating and respecting the image is coterminous with rejuvenating and respecting spiritual forces with which the image is associated. Perhaps the best-known example of this rejuvenation process is associated with Wandjina of the Kimberley region of northwest Australia. In some cases, more than forty layers of repainting have been identified (Clarke 1978). Despite repainting, Wandjina are not considered paintings by local Aboriginal people, but 'powerful sentient beings aware of visits to their caves by humans' (Blundell et al., this volume). In

this sense, Wandjina are alive, and people enter into a mutually beneficial dialogue with these powerful spirit-beings. It is a reciprocal social relationship whereby people look after Wandjina and the Wandjina look after people (Blundell & Woolagoodja 2005).

The notion that certain types of rock art are living spiritual beings with sentience brings in the issue of the agency of rock art. If we take Alfred Gell's (1998: 123) conceptualization of agency, the agency of sentient paintings rightly is seen as operating through a 'network of social relations'. However, Gell takes a Western rationalist viewpoint and sees the agency of objects as an extension or expression of agency ascribed or projected by people. Yet this etic perspective clashes with an emic ontology whereby objects, such as certain categories of rock art, possess inherent and autonomous agency and intentionality because they are sentient life forces in their own right. As rock art researchers, the closer our investigations come to emic perspectives, the closer we come to understanding the ontological and epistemological position of rock art in the societies we aim to understand. Whether such understanding brings us closer to comprehending the meanings of the rock art is another issue because there are varied research questions that one may wish to address, not all of which are necessarily approached in this way.

In some cases, spiritual forces can close down the dialogical and agentive relationship between people and rock art if they believe the requisite specialist knowledge has not been maintained by human communities. For example, Liam Brady, John Bradley, and Amanda Kearney (this volume) document how the Yanyuwa of northeast Australia and the Zuni of the American Southwest associate physical deterioration of rock art not with a Western ontological construct of natural weathering, but with the ancestors taking back their art such that it is no longer available for people to observe and engage.

Conclusion

We have structured this book into four parts, each addressing a major aspect of rock art research. Part I reviews geographical and historical dimensions of rock art around the world; it is aimed to give a sense of what there is, of the intellectual journeys and regional research traditions that investigators have taken, and where the road appears to be going. We have tried to partition the world into broad geographies, to give good balance also to the other parts.

Part II explores concepts that explicitly target what the art (might have) meant to the artists and to the cultures in which they lived and in which the art was used or continues to be used. These are varied perspectives that also consider how researchers bring their own preconceptions into the fold.

Part III addresses methods: how do—and how can—we study the art, both spatially and temporally?

Part IV considers how we present research results to the broader public and how it is rendered meaningful by a broad array of people and communities for whom the art may have vastly different kinds of significance.

All of these four parts articulate, so that the study of the art cannot be thought of as the province of a single one only. What happens in one affects the other.

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PART I

GEOGRAPHICAL AND HISTORICAL PERSPECTIVES

CHAPTER 2

INTERPRETATIVE FRAMEWORKS AND THE STUDY OF THE ROCK ARTS

MARGARET W. CONKEY

> Interpretation is the teasing out into articulate words of a complicated sensation or experience. It's not often the discovery of some other, completely different experience that the surface of the work was hiding.
>
> (Gopnik 2015)

In this chapter, I address some of the varied interpretative frameworks that have been drawn upon and explored when studying rock art. While trying to cover more than 100 years of interpretative efforts is a large task indeed, I restrict myself to commenting on several dimensions. First, what is 'interpretation' and how have we thought about it as a process and practice in the study of the rock arts? Second, I will try to synthesize some of the historical dimensions of our attempts at interpretation, followed by reference to some—but by no means all—approaches that have been put forth. It should go without saying that not only is there no single interpretative approach or method that applies to everything we do in the study of rock arts, but also that there should not be. It is the very open-endedness and even ambiguity of interpretation that is its strength, its challenge, and its power, for us as interpreters as for those in the past. I conclude with comments on where we appear to be in our development as a discipline, or at least as a group of scholars of the myriad and challenging rock arts of the world.

On Interpretation

What, then, is interpretation today?

Not surprisingly, there is a rich history of what interpretation is, with deep roots in philosophy, history, art history, semiotics, linguistics, social anthropology, and any

humanistic enterprise as well as in the sciences. Until the 1970s, 'translation' and 'interpretation' were often confounded, though philosophers have noted that interpretation does not assume a contiguity of meaning; indeed, interpretation tries to engage with the meaningfulness of things. Embedded in the various so-called paradigms that have predominated in archaeology are various assumptions about not just the sought-after kind of interpretation, but also the nature of the interpretative process (see also Monney & Baracchini, this volume). What 'counts' as an interpretation for a cultural historian differs from what counts as one for someone who prefers a positivist or empiricist account. For an anthropologically informed archaeology and its study of the rock arts, interpretation is both an attempt to 'tell a story' and a mandate, of sorts, to make the archaeological work relevant, engaging, and meaningful to a broader group of people; today, the audiences for all of this are arguably more varied and numerous than ever before, as are the means by which such stories can be told.

For the purposes of the present discussion, I would like to draw on the fascinating work of the writer Umberto Eco who, more than 25 years ago, set us up with a challenge and insights. In his 1990 book, *The Limits of Interpretation* (and in subsequent publications, e.g., Eco 1992), he makes a useful distinction between two ideas about interpretation (see later discussion), and, although he is primarily dealing with the interpretation of literary texts, much of this is applicable to our own rock art research. These two ideas assume, on the one hand, that interpretation refers to *finding out the meaning intended by its original 'author(s)'* or, in many cases, what the objective nature or essence of a work was at the time of its creation. On the other hand, it is assumed, he suggests, that *there are infinite ways in which something can be interpreted*. While most of us come from intellectual traditions that would affiliate with the first view—that we are trying to find out what the rock art 'means' or 'meant' to the makers and viewers—Eco argues that most of what we do should lie somewhere in between; both views are 'instances of epistemological fanaticism' (1990: 24). The lesson here for all of our angst over and demand for the revelation of 'the' meaning of rock art is that to reach an agreement as to what something 'means' does *not* mean that we must trace back to the original intentions of the authors/makers/doers, nor that there is a unique and final meaning. Yes, most of us do work with what Eco would call 'open texts' that would support multiple interpretations, even if generations of archaeologists and our audiences are not often able to accept this! But Eco goes on to say—and here is a crucial point to think about as we next proceed to review the interpretative frameworks we have tended to draw upon in rock art research—that even if we may not be able to decide which 'interpretation is the privileged one' (p. 41), we interpreters should be able to agree on the fact that *certain interpretations are* not *'contextually legitimated'*. This is a key concept—*contextual legitimation*—that has only been taken seriously, critically, and reflectively in recent decades. To summarize Eco a bit more: for him, a theory of interpretation must assume that it is possible to reach an agreement—if not on the meaning(s) that the rock art 'encourages'—that at least we should be able to agree on those meanings that, as he puts it, it 'discourages'. The upshot of what this leads him to is a consideration of how interpretations are authorized; those that are not authorized are, to him, 'over-interpretations' (Eco 1992).

It is of interest that while Eco was not speaking about nor explicitly to archaeologists or rock art researchers, clearly, these ideas were inspirational to some rock art researchers in their proposed session of the fourth World Archaeological Congress held in 1999: Robert Layton and Margarita Díaz-Andreu organized a session entitled 'Echos from Eco: Authorising Readings of Art in the Past'. It is unfortunate that those papers were not assembled into an edited volume.

So, with some of this approach to understanding in mind, how can we evaluate the interpretative frameworks and out-and-out interpretations of rock art—what something 'means', may mean, may likely be taken to refer to, or best understood as? Can we agree on what a plausible, likely, credible interpretation would look like? What would be the methods to be employed to move toward a viable interpretation? How has this changed, if it has, over the century or so of grappling with what we call rock art? What have been the influences or methods that can be and have been brought to bear, and how have these changed? For example, has the relatively recent use of chronometric dating methods (such as not just the radiocarbon dating of organic pigments, but also uranium-thorium dating of accretions over images) led to further adherence to the centrality and even necessity of a chronological approach to interpretation? After all, much of the earlier critique of interpreting cave and rock arts was that the images could not be rigorously dated, even if stylistic and relative chronologies could be proposed, given the rather chronocentric focus of much of archaeology since the nineteenth century. But I may be getting ahead of myself; instead, let's step back and review what some of the key trajectories have been in the interpretative process.

To Begin

While recognizing that each particular geographic and temporal manifestation of rock art is likely to have its own history of discovery and subsequent analyses and interpretations, there are some shared trends and histories. In part, this apparent sharing is due to the networks of researchers and exchange of ideas that attest to a vibrant community; we may think of these as 'communities of research cultures'. In some ways, the past decades are more 'networked', with the creation of publications, usually international, dedicated to rock art research as well as conferences and affinity interest groups. Back in the nineteenth century, it was a somewhat different story, and yet crucial connections between researchers on different continents spawned influential, core ideas about the interpretation of rock art. In fact, some might suggest that, with a much smaller group of scholars and many fewer publication venues, there was more networking and perhaps control of the research. Some of the early ideas have endured, sometimes subliminally, and often unchallenged. For example, taking something of a Eurocentric approach, early researchers of mid- to late 1800s discoveries of (Palaeolithic) cave and rock shelter art sites of Europe came to be strongly influenced by nineteenth-century ethnographies of Australian Aboriginal cultures and art-making.

These ethnographies (e.g., Spencer & Gillen 1899) prompted the idea that images of animals could be explained in terms of sympathetic hunting magic—that animals desired by hunters would be drawn on rock walls so that they could be 'captured'; here, the capture refers to both the hunt and the wall as connected realms of affective existence. This general concept of 'hunting magic' has endured in many ways, some would suggest into the twenty-first century. It is relevant, for example, that one of the first important rock art research projects to be taken up by mainstream North American archaeologists (Heizer & Baumhoff 1962) in California and Nevada suggested that the abundant presence of depicted mountain sheep could be interpreted as hunting magic (but see Whitley 1994 as to why such an interpretation does not hold in this case). In other regions, rock art research is still grappling with a long history of hunting magic interpretations (e.g., Walderhaug 2010).

Although variations on the animal-focused hunting magic concept prevailed well into the middle of the twentieth century for the European cave art, such simplistic reduction of multiple kinds of rock art imagery to a single interpretation brings up two crucial and related issues: on the one hand, as an interpretative method, these early twentieth-century researchers were making an ethnographic *parallel* that cannot be sustained on methodological grounds; simply put, the direct transfer of an interpretation from one ethnographic situation to an archaeological one without multiple linking or formal analogical arguments cannot be sustained or, to use Eco's terms, authorized. Even making a more rigorous 'connection' between an ethnographic account and an interpretation of the images in the form of a formal *analogy* has its challenges and pitfalls. Ethnographic analogy as a method is itself often open to critique but has been integral to interpretations (see also Monney & Baracchini, this volume). We will return to this dimension of interpretation later.

On the other hand, what really lay behind this cave-art-as-hunting-magic was a commitment to what has been a long-standing assumption in the interpretation of many rock arts, namely, that the animals were often depicted in 'realistic' and 'naturalistic' ways; ways that, in art historical frameworks, attested to the artistic (read 'technical and mental') achievements and evolutionary progress of 'some' (e.g., later Palaeolithic) artists (Moro Abadía, Gonzalez Morales, & Palacio-Pérez 2012) and invited readings of the imagery in more literal terms. That is, what was desired was to create an image of a particular animal as an animal, in terms of our present understandings and epistemologies, so that the accuracy of the depiction became testament to the abilities of the (social) artist as an evolved (biological) human. The presentist bias towards so-called realistic or naturalistic images in rock art (as in many art forms) has had a major impact on the interpretation of not just the Palaeolithic imagery, but on many rock arts, especially well into the late twentieth century.

In their insightful analysis and critique of the role of naturalism in cave and rock art interpretations, Moro Abadía and colleagues (2012) remind us that 'the appeal of naturalism remains strong' but that we need to understand the ways in which our preconceptions have not just oriented but continue to orient our attempts to read past images (2012: 236). It has only been in the past few decades that challenges to

assuming the cultural (positive) values of naturalism have been effectively made, leading to recognizing that naturalism—to our eyes and concepts—is just one of many possible representational conventions and does not necessarily reference a special sophistication or progressive achievement and certainly does not allow the assumption that we can read the images literally in our own terms. In other words, following Eco, without contextual legitimacy, some interpretations cannot be authorized (see Sundstrom 2012). Sometimes, as certain interpretative stances would suggest, 'a [depicted] horse is sometimes not (just) a horse', and can be other than/beyond being 'just' a horse. We will revisit this challenge to naturalism later, in terms of both the ethnographic 'hand-holds' and methods of analogy as well as in terms of how the concept of style has been so central—but not without its problems—to the interpretation of rock art.

In an interesting comparison of nineteenth- to twentieth-century (hunting) magic interpretations of Palaeolithic cave art as an attribution to 'religion' (e.g., Bégouën 1929; Reinach 1903; Leroi-Gourhan 1964), Whitley (2001*a*; 2001*c*) points out that it was the very assumption that rock art in North America must reference 'the sacred' or even something religious that inhibited its being taken seriously as a viable source of information about past human life, given the wider theoretical paradigms of the Anglo-American practice of archaeology as 'scientific' and as an enterprise of hypothesis-testing (see Whitley's 2001*c* excellent overview of historical approaches in rock art research). Within such a research paradigm, the religious and sacred aspects of past lives were not really accessible (see Hawkes 1954 for an extreme articulation of this).

In retrospect, one important dimension of the hunting magic interpretation present 'at the beginning' and the concomitant privileging of naturalism that was involved is that for many rock arts it was in the context of the problems and impossibilities (?) of dating the imagery that stylistic dimensions came to the fore as central to analysis and interpretation. That is, we see for many rock art traditions that a certain evolutionary progress was put forth, a stylistic chronology that was based on the perceived increase over time of an accomplished naturalism or realism (e.g., Breuil 1935; Maynard 1979 for Australian rock art). Progressive evolutionary schemes towards naturalism and realism held sway in defining the sequencing of styles through time. In fact, the analysis of 'style' has long been a lynchpin of interpretative approaches to rock art.

On Style and Interpretation

Concepts of style (e.g., in Conkey & Hastorf 1990) and their varying applications to rock art images remain a topic of both debate and utility. For many years and in many regions of the world, a 'first step' in the description, analysis, and any eventual interpretations of imagery was the attempt to identify and describe the 'style' of the imagery. Given the

predominance (and even the necessity) of a cultural historical goal—placing the rock art in time and space and in relation to both other rock art manifestations as well as to archaeological remains—a stylistic approach characterized much research. Many so-called styles were descriptive in terms that made sense to the observers, such as 'figurative' or 'nonfigurative'. Others were given geographically relevant names, such as the Northern San Rafael Style (Utah, US) (Schaafsma 1971) or the Lower Pecos (Texas) style, or names related, if possible, to ethnographically and/or ethnohistorically documented cultural groups (e.g., the Fremont Style) (see Francis 2001 for a good discussion on style and classification for rock art). Any interpretations related to the significance of the rock art were embedded in the descriptions and rarely explained in formal ways, but the spatiotemporal distributions, the presence–absences, and the similarities and differences among the rock art 'styles' were often used in writing a cultural history and cultural relationships of a region.

For the Palaeolithic materials, various researchers set out their differing stylistic sequences based on perceived attributes of the image-making and images themselves. The stylistic chronology of the French longtime *chef* of Palaeolithic cave art research, the Abbé Henri Breuil (1935), featured a stylistic and relative chronology that remained influential well into the middle of the twentieth century. It assumed that, over the course of the Upper Palaeolithic, the image-makers developed increasingly 'sophisticated' skills, culminating in the polychrome and animated (naturalistic) images of the final stages of the Palaeolithic at sites such as Altamira (Spain) and Lascaux (France). While this was not an interpretation of the meaning(s) of the image-making or of the images themselves, it was an implicit interpretation of an evolutionary progression of the makers and their cultural groups as well as being based, at least according to Breuil (1952) and his followers, on the long-standing notions of the image-making as ritual and magic for success in the hunt. Even geometric images (such as quadrilateral forms) were 'interpreted' within this assumption of ritual and magic, as either traps for the hunt or as 'hunter's huts'. Among Australian rock art researchers of the mid-late twentieth century, a similar view was proposed by Maynard (e.g., 1979); namely, that there had been a progression towards increasingly 'figurative' motifs and images even though the art had been neither relatively nor absolutely dated (see discussion in, e.g., Layton 1992). As further discussed later, just as the structuralist-like work of Leroi-Gourhan precipitated what might be called a 'break-out' from the hunting magic interpretations for European cave art, so, too, were several researchers of image-making in Australia (e.g., Morphy 1977, 1991; Munn 1962, 1973) destabilizing or undermining the prevailing notion that rock art style(s) evolved from simple to figurative (see also Layton 1992: 183–212; Vinnicombe 1995: 95). Munn's work, in particular, shares some methodological principles with what can be called a 'structuralist' approach (see later discussion).

Style, then, can only go so far, especially if it is put forth without attention to what is implied about the makers, viewers, and any significances of the imagery. Style is both a standard and a baseline but often masks assumptions that influence interpretation. It is both integral to 'contextual legitimacy' and also f(r)iction in the pursuit of an interpretation that can be authorized, to use Eco's terms. Recently, it has been the case

that, with the advent of some viable chronometrics for the dating of some rock art, some have suggested we are in a 'post-stylistic era' (e.g., Lorblanchet & Bahn 1993), where the chronometric dates obtained, especially for the well-known Chauvet Cave (Ardèche, France) (e.g., Clottes & Geneste 2012) have conflicted with stylistic interpretations. Yet, as Moro Abadía and Gonzalez Morales (2007) have argued, not only can the Chauvet Cave images be accommodated within a viable stylistic context more widely, but one can still draw upon some stylistic concepts to extend our knowledge of Palaeolithic cave art. As well, von Petzinger and Nowell (2011) also reconsider the stylistic approach to this particular corpus of wall art, offering a new chronometric foundation and drawing, as I imagine Eco would have liked, on more contextual evidence and reasoning based on 'chains of evidence anchored by radiocarbon dates' (2010: 1165). While debates about dating the images of both European Palaeolithic materials (e.g., Sauvet et al. 2014) and other rock art repertoires (e.g., Bonneau et al. 2017; Whitley 2012) continue, including both engravings (e.g., Dorn 2001) and pictographs (Steelman & Rowe 2012), it is interesting to note that the dynamic between style and dates continues, and, for many, dates seem to be prerequisites to interpretation and thus to understanding what is going on. As dating methods improve (as expected), perhaps the tension between chronology and more conceptual approaches to rock art interpretation will continue to hold more of a grip on the field than some of us would like. But other approaches to interpretation have also been attempted.

The Structuralist 'Break-Out'?

It has been more than 50 years since the publications of André Leroi-Gourhan (e.g., 1965) and others (especially Annette Laming-Emperaire 1962 and Max Raphael 1945), so that we can now more critically reflect on the legacy of what has been long called a 'structuralist' approach to the interpretation of rock art (e.g., Moro Abadía & Palacio-Pérez 2015), especially as it relates to Palaeolithic cave art (e.g., Conkey 1989; White 2003). Despite debates over which scholar contributed what to the so-called structuralist approach and whether or not the more prominent of them, Leroi-Gourhan, considered himself a 'structuralist' (Moro-Abadía & Palacio-Pérez 2015), structuralism is worth mentioning for several important reasons. First, at a more 'local' level—that is, concerning how European Upper Palaeolithic materials have been interpreted—few would debate that structuralism was something of a 'break-out' from the long-held views of Abbé Breuil and others who best saw the imagery as 'hunting magic' activities. Such views included a number of taken-for-granted presuppositions; for example, that the images were arbitrarily placed on rock walls, often 'jumbled' and in veritable palimpsests. What Leroi-Gourhan and others showed is that there are predictable patterns of where specific images were positioned in any given cave and that there was an underlying generative set of practices that led to the placement of images in relation to each other and to the cave locale.

At a wider geographical scale than the perhaps overly dominating European sites and approaches, not only was an international influence precipitated by the very idea that rock art images were integrated into structured symbolic systems (as was proposed by structuralism), but that it was potentially applicable in various ways to other corpora of rock art imagery around the world (e.g., Lenssen-Erz 1989; Tilley 1991). It is of interest to note here that Moro Abadía and Palacio-Pérez (2015: 1) suggested that 'Leroi-Gourhan's great impact in rock-art research was related to his hegemonic position in French prehistory during the 1960s and 1970s (Soulier 2003, 2006). This position certainly helped to diffuse his views on Palaeolithic art in Europe and North America'. Furthermore, 'structuralism, in both its general and linguistic forms, has dramatically transformed the human sciences' (Preucel 2006: 120), and the analyses of rock/cave art are to be included in such transformations. This structuralist approach in archaeology and in rock art has been discussed in depth and by many researchers (for cave art, e.g., Bahn & Vertut 1997; Conkey 1989, 2001; Moro Abadía, Gonzalez Morales, & Palacio-Pérez 2012; White 2003) and applied by scholars who followed its pioneering years (e.g., Sauvet 1988; Sauvet & Wlodarczyk 1995). While some of the observations and thus interpretations—that this image-making was underlain by a set of 'grammar'-like rules that themselves derived from myths (a 'mythogram') (Leroi-Gourhan 1986; Michelson 1986)—have been both influential and then challenged is, at this point, not as helpful or informative as are the legacies that might obtain and how this kind of interpretation—a formal method—is still in the mix of interpretative possibilities. Some themes inherent in a structuralist approach and analysis are still 'in play', such as dualisms and universalisms, even if researchers are not explicit about (nor even necessarily reflexively aware of) them (e.g., Helskog 1995; Lewis-Williams & Dowson 1988; Parkington 1996). In 2001, I laid out what then appeared to be four specific legacies from the structuralisms of the 1960s and 1970s, which I believe still hold in one way or another (Conkey 2001: 290–293). Most relevant, perhaps, is to consider how the structuralist issues 'set the stage for certain questions to be asked—questions about social practice, productive contexts, the referential contexts of social action, among others' (Conkey 2001: 293), including the place and role of theory in rock art research (see Helskog 2001: 21–152).

As Preucel notes (2006: 94), 'in many ways, structuralism is an intellectual bridge spanning radically different theoretical programs'. That the field of semiotics (the 'science of signs') (e.g., Hawkes 1977) is allied in important ways with structuralist thought (thought that characterized much social science research in the 1960s and into later years, even into post-structuralisms) is also of note. While there has not been a 'semiotic turn' per se in rock art research, it is nonetheless the case that paying attention to the potential signification of how semiosis might 'work' (Preucel 2006, especially pp. 1–13, 93–121) can be a domain for the interpretation of rock art (e.g., in Bouissac 1994*a*; see also Conkey 2009; Layton 1985, 2001; Ouzman 1998*a*, 1998*b*). The premise that rock art images can be understood as a system of signs and can thus be studied as such was core to a general structuralist approach. But one must note that, for multiple reasons, the structuralist approaches and the semiotic frameworks of the 1960s and 1970s did not provide a set of widely agreed upon and accepted methods for analysis, nor have they

defined or established the (viable) theoretical frameworks. Even a specific meeting of semioticians and rock art researchers (Bouissac 1994*a*) was not a 'meeting of the minds' but more a 'polyphonic reflection' on the state of things: 'semiotics has been haunting rock art studies for some time, while, on the other hand, prehistoric signs constitute a natural object, so to speak, for semiotic inquiry' (Bouissac 1994*b*: 105). Yet formal methods are not out of the picture (see later discussion). As with stylistic approaches (see earlier discussion), there are underlying implications and tacit interpretations embedded in a structuralist approach:

> Out of the crucible of structuralist thought has come the fact that we have forever changed how we conceptualize the humanity of the makers of ancient and recent rock art; they are fully human, fully cognitive, and the producers of culturally rich and enriching meanings through which they lived their lives. It is no longer out of the ordinary to think of rock art imagery as being meaningfully-constituted, coherent systems of signification that are mutable, transformative and transforming.
>
> (Conkey 2001: 291)

Formal and Informed Methods

A structuralist analysis is a formal method that is often quantitative and, in any event, seeks underlying patterns, the generation of patterns, and often draws upon some universalist principles and dualisms (such as male–female; dark–light; or, in the case of some rock art, certain animal or sign pairings and/or oppositions, such as horse–bison [Leroi-Gourhan 1965]).

While these may be viable and even generative approaches by which we may get certain observations onto the interpretative table, it is not a method as such.

Of course, the entire domain of so-called uniformitarianism and its relevance to rock art analyses and interpretation is gnarly and debatable (e.g., Chippindale 2001). But core and serious critiques of structuralism in many disciplines include deep concerns that it has left out the individual subject, history, context, materiality, and social practices of 'the text' and, therefore, of agency. Towards the end of the twentieth into the twenty-first century, we were understandably wanting to find out how we could bring these considerations into our approaches without losing some of the gains that came from a concern with signification, the generative production of visual culture, and the relatedness of forms and images to each other and to other aspects of the making of imagery, such as at the site and/or in a wider landscape concern.

As the field grew in both acceptance and numbers of researchers and projects, one attempt to provide some guidance was that of Chippindale and Taçon (1998*a*). Their important edited volume, *The Archaeology of Rock Art*, marks one specific example of the much-appreciated attempt to broach the archaeology—that is, the *contexts* of rock

art—and to draw on a number of varied archaeological approaches (more so than, say, art historical approaches) to better and more rigorously, perhaps, advance interpretation. Landscapes and landscape changes, dating, iconographies in context, artifacts depicted, spatial patternings, and geographic information systems analysis, as well as ethnographic insights, are among some of the core archaeological approaches presented in their edited volume. Some 20 years later, *The Archaeology of Rock Art* remains a key resource for anyone beginning to engage in rock art research. The first of what are now several handbooks of rock art research (e.g., McDonald & Veth 2012; Whitley 2001*b*; this volume)—attesting to a veritable 'explosion' or at least an expansion of research and researchers—were yet to be published when Chippindale and Taçon assembled their book. Of relevance to the topic of interpretation and its methods, the editors (Chippindale & Taçon 1998*b*) laid out a programme for what one, coming from an archaeological standpoint, might best 'do' in the study of rock art: 'since doubt surrounds just what best to *do* . . . the group emphasises considered and rigorous *methods*' (1998*b*: 6, emphasis in original). In addition to the more obvious of methods—namely, the dating of rock art (fraught as it is with multiple limitations)—they propose two approaches: (1) informed methods and (2) formal methods, including analogy (see also Chippindale 2001). It is relevant to consider here if the differentiation between the two methods still holds, what such a distinction implies for interpretation(s), and if pursuing either approach has led to more robust interpretations and/or dissuaded researchers from explicitly exploring or otherwise pursuing interpretations.

Briefly, since the informed–formal distinction is likely to be well-known among rock art researchers, what they meant by *informed* methods is that these are dependent upon insights (assuming they are somehow available) and some source of information derived somehow from those who made and used the rock art: ethnography, ethno-history, the historical record, or another means of accessing 'ancient knowledge'. To them, it meant 'exploring the pictures from the inside' (Chippindale & Taçon 1998*b*: 6). Is this an emic approach? Of course, there are numerous examples of how researchers have been able to draw from various sources of ethnography, ethnohistory, and so forth, but even with that, it is not so straightforward as one might wish to believe. One Umberto Eco-inspired question here might be (as articulated by Layton & Díaz-Andreu 1999): 'are there changes in the distribution and content of rock art over time, suggesting that later (or present-day, indigenous readings of earlier work) might not be "authorized" by the "text"?' Do contemporary indigenous groups, for example, readily share their beliefs and meaning systems with enquiring researchers? Are archival and ethnohistoric accounts subject to observer and recorder biases (see Monney & Baracchini, this volume)? Pitfalls abound, as do ethnographic 'cautionary tales' that detail just how challenging it can be even with so-called ethnographic hand-holds (e.g., McDonald 2013, among many). Furthermore, even with a robust ethnographic record, detailed ethnohistoric accounts, and insightful analyses of the imagery, its location, and distributions (or other observational specifics), as for some of the southern Africa rock art, for example, researchers do not necessarily agree (e.g., in Solomon 1998). That is, the debate is over what constitutes an 'authorized' interpretation or an overinterpretation and on what grounds? Debates

of this kind are likely to go on, but one can surely say that debates are fundamental to a healthy and evolving discipline.

The other option to Chippindale and Taçon (1998*b*) is to develop and use *formal* methods: 'For much prehistoric art . . . we have no basis for informed knowledge' (p. 7). They suggest that when restricted in what 'informed' information we have, one must work with 'that which is immanent in the images themselves' (p. 7). This can, of course, include such things as the relationships of images to each other, to the location or placement of images within a site and/or in its wider landscape setting, and whatever archaeological evidence might be available—associated occupation remains, traces of human activities in and around the rock art site, and wider archaeological evidence that can be related to the rock art practices. Chippindale and Taçon suggest that even when informed knowledge is available, formal methods can be useful, especially given the parameters of the validity or probability of the informed knowledge itself, which can be debatable, partial, fragmentary, or inconsistent with other lines of evidence. Archaeologists have always had to make inferences; there is no escaping that. There is also the key aspect of archaeological interpretation, namely, that it often takes combining (or playing off) multiple lines of evidence, any one line of which may not be convincing, with the 'force' of the interpretation coming from the convergence of lines of evidence (e.g., see Wylie 1992). Furthermore, and despite many claims to the contrary, certainty is hardly achievable in archaeological interpretation. In fact, one can realistically expect ambiguity more so than certainty (Gero 2007). Yet, whether one feels one has reliable informed, 'insider' knowledge or not, formal analyses can be critical support or valid challenge. A so-called informed analysis that does not move back and forth between all the formal dimensions of the images (their location and such) and any so-called informed knowledge is likely to be less compelling, if not clearly an overinterpretation and not readily authorized. Examples now abound in rock art research where it is the dialectic between formal analyses and informed knowledge (of multiple sorts) that lead to more robust interpretations.

One interesting example is the collaborative effort by several researchers (Sauvet, Layton, Lenssen-Erz, Taçon, & Wlodarczyk et al. 2009) to evaluate more formally the earlier suggestions that one of them had made (Layton 2000) that alternative interpretations of Palaeolithic art could be assessed. Layton (2000) had suggested that while a shamanistic interpretation for European Upper Palaeolithic rock art had come to dominate the field (for more on the shamanism trends, see later discussion), not only were alternative hypotheses not being entertained but that one could actually probe different possible sources for image-making, such as totemism or secular rock art, by viewing the motifs as derived from an artistic vocabulary that would be different if from different cultural systems. Sauvet et al.'s article has two aspects of interest to the current discussion. First, in revisiting Layton (2000), the authors 'test' his method using 'more extensive data and improved statistical methods' (Sauvet et al. 2009: 319). Formal methods are used, but there is also the implication of 'informed methods' given that the cultural sources (shamanism, totemism, and secular practices) are all inferred from ethnographic and ethnohistoric sources from several parts of the world. Second, Sauvet

et al.'s article is one of only a few attempts to actually compare different and alternative hypotheses for the production of rock art (for others, see Tilley 1991 and Hartley 1992). The Hartley study of the rock art of the Colorado Plateau (United States) itself drew on local and comparative ethnography but combined it with an analysis of motif frequencies and distributions, providing a good example of a 'combination' analysis (informed-plus-formal methods). The study by Sauvet et al. (2009) is of notable relevance for researchers wanting to understand such interpretative issues in recent rock art research, not only because it is a good example of how the dialectic between ethnographic information in multiple cultural contexts (e.g., Australia, North America) and formal and statistical methods might work to yield a more robust understanding of the generative sources for the observed rock art imagery, but also because it provides a succinct review of both totemism and shamanism as they have been drawn upon for interpretative goals in rock art research. Last, but not least, of note is that Sauvet et al.'s study does not take as its goal 'to construe the meaning of individual motifs' (Sauvet et al. 2009: 319), something that often puts researchers over an interpretative edge and into those overinterpreted domains that Eco (and others) worry about.

Of course, what becomes central to an evaluation of an interpretation that draws on the ethnographic and ethnohistory sources is just how one 'uses' such information, especially if it is being drawn upon for a context that is different from the particular context one is researching. For example, what would justify my drawing upon the ethnography of the rock art of the Colorado Plateau, for example, in my attempts to interpret rock art elsewhere, such as in the west of the United States or in even more distant locations, such as on other continents? It has been a long-standing dimension of archaeological reasoning to draw upon analogies, or analogical reasoning. Much ink has been spilled on the definition and the methodologies of reasoning by comparison or analogy in many domains of archaeological interpretation (e.g., Gould & Watson 1982; Stahl 1993; Wylie 2002). Scholars often differentiate between general comparative analogy (e.g., Gould & Watson 1982) and formal analogy (e.g., Johnson 2010: 63). All such analogical reasoning is a more formal and specifying method than just suggesting ethnographic parallels (group X does this and therefore our target group could have done the same thing because they are both found in, say, temperate forest environments). When late-nineteenth-century researchers interpreted European Palaeolithic cave art as 'sympathetic hunting magic' because this had been observed among other 'primitive' groups on the other side of the world, an ethnographic parallel was made (although the 'ethnographic' side of the equation only came from one part, Australia, the other having no demonstrable connection other than the observer's preconception (read intellectual 'bias') of primitivism). No formal links or lines of reasoning were presented to 'make' the analogy, whereas in formal analogies specific credible (authorized) links must be made between the source (of the analogy) and the object being interpreted. Much of the debate about both the uses and methods of analogical reasoning in archaeology is well discussed by Wylie (1982, 1985, reprinted in 2002; see also Wylie 2002: 196–197).

One specific kind of analogy is often used in the study of rock arts: the direct historical method (e.g., Stahl 1994). This is not a comparative analogy across different cultural

contexts but is instead a way of attributing meaning to the rock art to be interpreted by comparing patterns over time and within historically, geographically, or culturally related contexts. Much rock art interpretation draws on the direct historical method, and some of these interpretations, such as the so-called trance accounts of southern African rock art, are further mobilized to interpret rock art elsewhere, such as with the trance hypothesis for the cave art of the Upper Palaeolithic (e.g., Clottes and Lewis-Williams 2001; see also Solomon, this volume). The rock art literature abounds with interpretations drawn from the direct historical method: the recent encompassing interpretation of the White Shaman Mural in the Lower Pecos of Texas as an origins/creation story with deep Mesoamerican roots (Boyd 2016); the early suggestion that the depictions of mountain sheep in the Coso Ranges of California (Whitley 1994) were motivated not by hunting magic but by their association with shamanic rituals; or the attempt by Sabo (Sabo, Hilliard, & Walker 2015) to show that the way rock art is dichotomously distributed across the Arkansas landscape (Midwest United States) 'reflects a cultural model—a cosmogram—that is thematically identical to the symbolism embedded in the village patterns' of local and ethnohistorically known or inferred tribes (Sabo et al. 2015: 264, cited in Morales 2016: 226). Dozens more examples could be cited. Not surprisingly, perhaps, many consider those interpretations derived from a direct historical approach to be more 'grounded' than the more general analogical interpretations, yet, as Eco would probably attest, all such analogies—direct historical or general comparative—might best be considered as hypotheses to be confirmed rather than as a final word (Gould & Watson 1982). The interpreter has much work still to do.

Was There a Wave of Shamanism Interpretations?

If this chapter were being written some 15–20 years ago, one might have thought that almost all rock art could be attributed to altered states of consciousness or other aspects of the behaviour of ritual specialists who were then often called 'shamans', or at least this was the primary hypothesis, or the default position as a viable starting point of interpretation. By now, there are multiple accounts of how such a specific hypothesis developed out of what some say had been a more general notion for many years; namely, that the 'best account' in many different contexts was that some aspects of so-called shamanistic practices accounted for the making, placing, and cultural *raison d'être* for rock art images. This is a fascinating intellectual history and, without taking any sides, one can say that the debates about it have been productive and lively, informative, mobilizing of further considerations, and sometimes both deeply divisive and *ad hominem* (e.g., Bahn 1997; Clottes & Lewis-Williams 2001; Hamayon 1997; Helvenston & Bahn 2005, among many). This is not the place to try to provide such a history of the debates, although critiques have ranged from there not being a viable definition of shamanism

(e.g., Winkelman 2002), to a lack of understanding of its origins as a practice and historical ethnography (Tomáskova 2013), to its having been applied without rigorous argument (overinterpreted!) (e.g., Diaz-Andreu 1999; Layton 2000), to the observation that scholars have taken an indigenous concept and treated it as a Western one (Dowson 2009). Where we are now with this cluster of interpretative ideas—that some rock art appears to have been produced by individuals who may have held one among many possible ritual roles that involved practices that led to altered states of consciousness (trance), 'visions', and/or inspirations that were translated into/inscribed as rock art imagery—is that serious debates have been held on how variants of this interpretative hypothesis might be sustained in specific contexts, what is the origin and history of the term shamanism and shamanistic practices (e.g., Price 2001; Tomásková 2013), and what some key scholars on this topic have to say today, after at least three decades of debates and ongoing research (e.g., Lewis-Williams 2012).

Despite what has happened to the notion of a so-called shamanistic motivation for the making of rock art during its travels around much of the globe, two important points are of interest to the present discussions. First, it is still instructive to go back to what might be considered a 'revival' of a 'shamanistic' context for the interpretation of rock art as formulated by David Lewis-Williams for the rock art of the Drakensberg Mountains (southern Africa) beginning in the 1980s. I refer to this period as a 'revival' because interpretations of a 'shamanic' sort had been put forth in the literature before (see de Beaune 1998; Sauvet et al. 2009: 320). What remains instructive about those more recent engagements (since the 1980s) are the methods by which Lewis-Williams laid out a compelling argument for interpreting much (or at least a great deal) of the rock art images in southern African rock art as depictions arising from trance experiences: 'If the last two decades of research on southern African rock art has demonstrated anything, it is that no one can deny the presence of graphic depictions of the trance experiences and beliefs of shamans' (Dowson 2009: 380). Methodologically, Lewis-Williams's work drew on multiple lines of converging evidence ('cabling', e.g., Wylie 1992), any one of which would not be substantive enough to make the case. Rather, he drew on nineteenth- and twentieth-century ethnographies of hunter-gatherers in southern Africa, including the ethnohistorical accounts from several sources, as well as the detailed analysis of the depictions themselves and how, based on the quantitative analyses of the many depictions of the eland (antelope) (Vinnicombe 1976), these 'matched' the account of the ritual relationship with eland attested in the ethnohistories. That is, in this particular context and with these multiple and converging lines of evidence, including detailed analyses of the images well beyond just a species identification (e.g., Lewis-Williams 1981), he could advance an authorized interpretation, for example, that the representations of composite eland-human figures in the art of the Drakensberg mountains are depictions of trance experience. As an example of a viable interpretative method, this still holds much to be modelled after.

Second, this entire debate and discussion over the past many decades should be a cautionary tale that interpretative 'bandwagons' are to be evaluated more rigorously, and it is also the case that we are all too readily seduced into the 'grand narratives' or the

single covering account for the varied and complex cultural materials of rock art (see Lewis-Williams 2001 for an insightful assessment of this issue of 'monolithism'). Once one engages deeply and in detail with specific rock art manifestations in specific historical and cultural contexts, the idea that the images can be subsumed under a grand—and complex and poorly defined—source for the image-making, should and usually does become unrealistic and not particularly satisfying, much less authorized, as an interpretation. Even within a single cultural tradition, the image-making is not readily understood as deriving from a singular set of cultural practices. Not only does a strictly 'stylistic' perspective 'continue[s] to be a problem for rock art' (Whitley 2001c: 26), but we can no longer assume that observable differences can be taken as markers of temporal or chronological differences, nor as derived from different so-called cultural groups. And once one recognizes (as has been the case for many outstanding analyses) that we must attend to the wider contexts of the image-making, all sorts of potential factors can come into play, which can include but not often be reduced to a source such as 'shamanism'. In his own work on southern Californian rock art, Whitley has shown that while one set of images were likely made by individuals who were depicting their visionary experiences, another set of images in a different location appear to have been made in the context of the initiation rites of young girls, who made paintings of the spirit-helpers (e.g., rattlesnake motifs) they received during their puberty initiations (Whitley 2000). The sets of images differ in location near or not near the villages, in colors used, and in variety of geometric motifs. While one might be able to say that, in this particular cultural context, the image-making is for different audiences and made by different groups within a single cultural context, it is an example that clearly complicates the notion that there could be a single overarching interpretation or account for the rock art. As Boyd points out in her magisterial analysis (e.g., Boyd 2016) of the rock art of the Lower Pecos in Texas, her results 'introduce us to other possible identities for the Pecos River style anthropomorphs, beyond shamans. . . . To refer to all anthropomorphic figures as shamans would be to fail to recognize the extremely rich, highly complex cosmology and world view of hunter-gatherers' (Boyd 2012: 47).

Our Recent 'Interpretative Turns'?

It is interesting to see a recent kind of 'interpretative turn' in the rock art studies of many regions and traditions, a turn towards not a generalized and perhaps limiting notion of 'shamanisms' (see Lewis-Williams 2012 for some reassessments), but towards seeking grounded (with analytical links) and local, contextualized, situational kinds of interpretation. This appears to be the case, for example, with the multiple rock art manifestations in the southeastern United States and with those approaches elsewhere, like that of Sundstrom (2012: 329), that seek to elucidate how a particular rock art style may operate 'within a symbolic context'. How, for example, might the visual symbols function within a specific cultural context? Why might certain images have been meaningful to the

makers and viewers? In the Southeast of the United States, one can see a turn towards seeking the sources of rock art image-making in wider domains of the cosmological; that is, in how people understand their worlds, their place in these worlds, and often in relation to other beings, plants, animals, and spirits (cf. Ruuska, this volume). There may or may not be shamanism or even altered states of consciousness and trance involved, but instead, where information is available, researchers may look towards other ritual and cultural dimensions that make manifest core cultural principles or wider understandings of the landscapes and cultural universes of and for life (see Conkey & Boyd 2017). On the one hand, rock art research has thus made even more of a connection with expansive landscape archaeology research (e.g., David & Thomas 2008) that has long included rock art as significant 'places' of cultural and symbolic significance (e.g., Bradley 1997; Nash 2000; Nash & Chippindale 2002; Olsrud 2001; Ouzman 1998*c*; Taçon 1994). On the other hand, ethnographic and ethnohistorical resources remain potent sources of information, as do more sophisticated analyses of motifs and repertoires, especially when research is both contextualized and more specifically theorized. Despite numerous volumes and articles that urge and address the issue of theory in rock art research (e.g., Helskog 2001), there is still the question: Where is a more explicit and developed theoretical framework? Whitley and others have pointed out the irony, at least for rock art research in an Anglo-American context, that, with wider theoretical developments that now take it as more crucial that archaeology, as a discipline, should and can access aspects of symbolic lives, past cosmologies and 'the sacred', what had perhaps kept rock art at the margins of 'mainstream' archaeological practice was now even more a *raison d'être* to draw on the rock arts in this quest.

In the southeastern United States, recent rock art research (e.g., Diaz-Granados 2011; Simek, Cressler, & Douglas 2012) has led to a major expansion of known sites and to the proposed existence of a 'transcendent grammar of cave-art composition' (Simek et al. 2012: 207). For some time, other research has made inferences about the rituals and cosmological systems of the so-called Mississippian Period ritual, and it is now well-argued that these cosmologies are a primary source for the specifics of the widespread and varied cave art throughout the southeast of the United States, extending into parts of Arkansas, Oklahoma, and Missouri. This recent work (Simek et al. 2012) is, in part, also about how some of the interpretative approaches from European cave art research have been newly drawn upon in North American rock art research. One might recognize, for example, that the identification of a 'grammar' in North American rock art has explicit affinities with the earlier, influential European structuralist approaches (e.g., especially as published by Leroi-Gourhan). Despite now being in what some have referred to as the 'post–hunting magic era' (e.g., Walderhaug 2010: 227), not only have many studies tried to move beyond the tenets of a hunting magic approach (albeit perhaps with only partial success), but others have looked at past approaches to draw inspiration in new and different ways, such as in the American Southeast example just cited. Such revisitations of past approaches allow us to newly address differences in context, interpretative frameworks (e.g., Lewis-Williams 2012), cautionary tales in light of

ethnographic complexities (e.g., McDonald 2013), and past or ongoing debates themselves, and all are integral to what it means to have an active and robust discipline.

To a great extent, some of the shifts in interpretative possibilities have involved engagements with what the digital can do for rock art research, be it being able to 'see' otherwise faded or incomplete images with digital technologies, to generate large databases for more comprehensive analyses, to enhance our abilities to share photographic archives between researchers, or to incorporate multiple disciplinary lines of evidence into co-ordinated research (e.g., see McDonald & Veth 2012: 625–670; see also Delannoy et al., this volume; Jaillet et al., this volume). While research into cultural heritage has evolved and expanded in the past several decades, issues of cultural and intellectual property, appropriation, and 'who owns the past' have come to the fore, including increasing engagements with those communities who have myriad and valid claims to and insights into the cultural knowledge embodied in rock art and its places. In many cases, the involvement of such communities in both the research process and in management decisions has led to both challenges and interpretative gains for all parties (e.g., in McDonald & Veth 2012: 489–562).

Some Concluding Thoughts: Let the Mysteries Be?

But where does all of this leave us in a pursuit of the interpretations of and for rock arts? How we think about the products of human actions is always in motion, and the conceptual frameworks that may be relevant to rock art research are no exception. Since the end of the twentieth century alone, numerous new pathways to understanding have been further developed and explored: the ideas of art and agency (e.g., Gell 1998), the so-called new materialisms (e.g., Coole & Frost 2010), concerns with fundamental ontologies (e.g., Alberti & Bray 2009; Law 2004; Strathern 1999; Viveiros de Castro 2004), and indigenous archaeologies (e.g., Bruchac, Wobst, & Hart 2010; Dowson 2009) to name but a few. Dimensions of past life that were relatively new to rock art research a decade ago (e.g., gender) are now being reconceptualized and rethought (e.g., Hays-Gilpin 2012). One could easily get distracted from the rock art materials before us! And then there are those who would protest about why we should do all this reading in different theoretical worlds if our goals are to make more sense and understanding of the cultural production of rock art. The answer is simple: because when we look at and interpret rock art, we try to make sense of it; so, under any guise, we bring into the fold our own understandings, replete with preconceptions and limitations, and it is these that we must reassess through broader discourse.

As Thomas (2015: 13) has pointed out in a relevant review that challenges the 'death of theory' in archaeology today (Bintliff & Pearce 2001), he cannot really endorse the

'familiar complaint that we are only ever consumers of theory and that we need to develop a theory of our own'. Rather, he suggests, it

> does not particularly matter if our theoretical inspiration comes from beyond our own disciplinary confines. What does matter, though, is the *intellectual labour* necessary to make those ideas compatible with our focus on the material worlds that human beings inhabit, and how those change through time. There may be few exclusively archaeological theoretical approaches, but there are certainly archaeological ways of making use of theory.
>
> (Thomas 2015: 13, emphasis added)

And thus, indeed, it is up to us to put in that labour, that intellectual labour, to be conscious of our own positions, preferences, and biases and how they influence our analyses and to understand what we are doing when we take the steps towards an interpretation that can 'hold', be more authorized than not, or that can at least be a most plausible starting point. While we can celebrate the ambiguity of rock art interpretation and resist the demands for full certainty (Gero 2007) where such certainty is unlikely, let us also pursue both a deeper enquiry into the materials, the locations, and the contexts of the rock art under consideration and wider engagements with possible new approaches to figure out if they are useful, adaptable, and illuminating on the materials at hand. This is intellectual labour, and it is clear from the past few decades that researchers have been willing to do this; we have come a long way from a monolithic hunting magic account, for example.

The issues that arise from considering the rock arts of the world are not just peripheral issues specific to the subject matter or to the individual personalities of the researchers. They are central issues in archaeology as a discipline, which is why the discipline has both something to learn from how rock art research has been developing and why rock art research is so robust. In the interpretation of human culture and in the human sciences, how do we know what we know (or think we know)? What can we know, and is there such a thing as secure (or authorized) knowledge? Are we 'in the business' of producing knowledge to control people, or are we engaged with the materials at hand in order to produce humanly compelling knowledge and ideas that matter and which themselves can be used to transform and invigorate our communities and our lives? In that latter spirit, let us accept the fact that, for perhaps much of the human past, we will have to let a good deal of the mystery be (Conkey 2017).

This is not to abandon archaeology or history. To the contrary: it is to probe every possible line of evidence. Each new clue means not 'the answer' but another question. To think that there is a single overarching account for any of the repertoires we are probing is to perhaps underappreciate the nuances of daily life often over many years, decades, centuries, or millennia. It is surely the case that we recognize now that, even for the makers, users, viewers, and even for those who only knew the *idea* of a place with images, the meanings, motivations, significances, and symbols were and are complex,

varied, transformational, and even mysterious. This recognition may be radical and disruptive in an archaeological milieu of increasing technical and analytical advances that must somehow be leading us towards more secure knowledge of the past. The difficult lesson to be learned—and here is the intellectual labour again—is how to work back and forth between what appears to be the 'security' of technological knowledge and the obvious ambiguities of human existence in a world more inclusive than the peoples whose products we study and much grander than we can ever 'know' (e.g., Fowles 2010; Ingold 2011: 71).

Rock art research is not only, as Whitley (2001: 20) once noted, a field of real interpretative possibilities informed by broad theoretical frameworks that include how people have engaged with the cosmological, the sacred, and the meaning-makings, but also a domain of life that can contribute significantly to the pursuit of many new theoretical impulses. While Eco set a bar of interpretative pursuits, the signs are more than positive that we can meet it: each case has to be attentive to its contexts and to the multiplicities of possibilities, while it is also incumbent on us to be bold enough to make the links, to be as authorizable as possible, and to use the cultural productions of the past to inform and transform the present.

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CHAPTER 3

NORTH EUROPEAN ROCK ART

A Long-Term Perspective

JOAKIM GOLDHAHN

Introduction

Rock art research in northernmost Europe was formulated through nationalistic ideals (Trigger 1984) that still hold strong (Ojala 2009). Here, it is not uncommon to find that both research questions and research areas take shape around modern-day national borders. Researchers such as Gustaf Hallström (1938, 1960) and Christian Lindqvist (1994), and more recently Jan Magne Gjerde (2010) and Courtney Nimura (2015), who work across contemporary political borders, are rare exceptions that confirm the rule. For example, there have to this day only been three attempts to present geographically and conceptually broad-ranging syntheses covering the manifold rock art traditions of northern Europe. The first of these dates back to the mid-nineteenth century, a time when few rock art sites were known and these mainly in relatively easily accessible areas (Holmberg 1848). The second attempt was presented in the early twentieth century and took a nationalistic and functionalistic culture-historical perspective (Almgren 1927, 1934). The third attempt goes back to 1981 and the heyday of the New Archaeology (Malmer 1981). Evidently, a nationalistic paradigm serves as a great challenge for researchers who try to alter interpretative agendas or to provide a broader view of the many rock art traditions that are found across the vast expanse that is northern Europe (Figure 3.1).

In attempting a new overview, it is important to underline that our knowledge about these rock art traditions is fluid. A nationalistic paradigm has led to a focus on rock art traditions associated with farmers and herders, believed to be created by the direct ancestors of modern Danes, Norwegians, and Swedes (Almgren 1927, 1934). Bodies of rock art made by farming and herding peoples are also numerous and easy to access, though these sites usually are situated in relatively close proximity to academic strongholds. Rock art thought to have been created by hunting-fishing-gathering

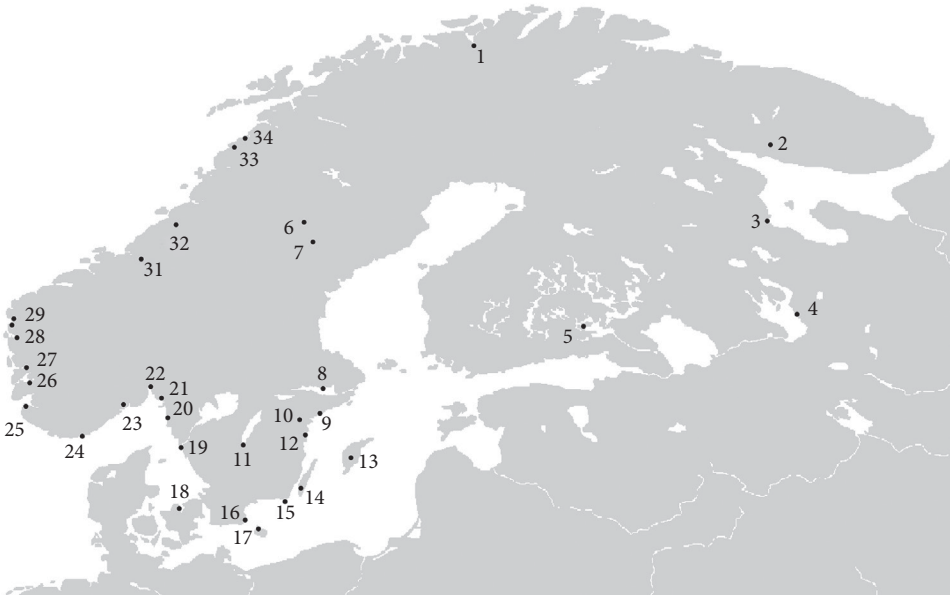

FIGURE 3.1 Northernmost Europe and some of the regions and sites that are mentioned in this chapter: 1) Alta. 2) Kanozero. 3) Zalavruga. 4) Lake Onega. 5) Astuvansalmi. 6) Åsele. 7) Nämforsen. 8) The rock art area in the Mälar Valley. 9) Nyköping. 10) Norrköping. 11) Sagaholm, 12) Tjust. 13) Gotland. 14) Klinta on Öland. 15) Torhamn Peninsula. 16) South-east Scania. 17) Bornholm. 18) Sandagergård. 19) Tumlehed. 20) Tanum in Bohuslän. 21) Østfold. 22) Viken rock art area. 23) Telemark. 24) Lista. 25) Rogaland. 26) Hordaland. 27) Hardanger. 28) Sogn and Fjordane. 29) Ausevik. 30) Vingen. 31) North-Trøndelag Bronze Age rock art area. 32) Bøla. 33) Fykanvatn. 34) Valle.

peoples, on the other hand, has long been attributed to "Proto-Saami"-speaking groups who lived and recognized regional landscapes across contemporary national borders. Their roles in past and present societies were, most of the time, neglected and their presence was considered in opposition to the German-speaking ancestors of modern national states (Ojala 2009). Additionally, such sites are often, but not always, found in more remote areas, sometimes requiring several days of travel from present-day urban areas (e.g., Hallström 1938, 1960). So-called hunter-gatherer rock art sites are also less common than those of farmers and herders. For example, there are more than 25,000 rock art sites registered within the present border of Sweden that are thought to be associated with farmers and herders, whereas those associated with hunter-gatherers number less than 100.

The Swedish number just cited is also telling for the whole corpus of rock art in northern Europe. Prior to the twentieth century, when the national paradigm was formulated within the field of archaeology (Goldhahn 2013*c*), only 18 hunter-gatherer rock art sites with 400 images were known from northern Europe, and very few of these were published (see Gjerde 2010: 24–57). There then followed a rapid increase from 18

to 46 known sites and a commensurate number of images after targeted surveys were initiated between 1900 and 1930. Most of these rock art sites were published in the ensuing years in a series of monographs appearing between 1930 and 1960 (Bøe 1932; Engelstad 1934; Gjessing 1936; Hallström 1938, 1960; Simonsen 1958), a time when the number of known sites further increased to 70. But the largest growth in number of hunter-gatherer rock art sites occurred between 1960 and 1990, when the incidence of known sites increased from 70 to 178. And, most recently, more than 120 new sites have been discovered over the past 30 years as hundreds of new studies have been published (Goldhahn 2006, 2008*a*; Sognnes 2012). Today, there are about 285 known sites with hunter-gatherer rock art across northern Europe, and they contain more than 20,000 images (Gjerde 2010: 24–57). About 25% of these images are found in the Alta area in northern Norway (Figure 3.1), a situation that led UNESCO to add this rock art area to its World Heritage List (Helskog 2014).

The growth in the numbers of rock art sites and images has exposed an increasingly diverse range of hunter-gatherer rock art traditions, not only across space but also through time (Gjerde 2010; Helskog 2014; Lahelma 2008; Lødøen & Mandt 2010; Mulk & Bayliss-Smith 2006). The same holds true for the growth in the number of known rock art sites associated with herders and farmers (Goldhahn 2006, 2008a; Goldhahn & Ling 2013; Sognnes 2012). Despite these dramatic increases in numbers of rock art sites and images, and the diversification in rock art conventions with those increasing numbers, it is still common for researchers to align these diverse northern European rock art traditions into an essential twofold division: a northern tradition of hunter-gatherer art and a southern tradition of herder and farmer art. In the mid-1970s, Egil Bakka (1976) created one of the most reproduced maps of northern Europe that naturalizes this twofold division around the familiar modern political map, in the process giving this dual, colonial cultural framework a history that spans back to the first millennium BCE (Figure 3.2).

However, Charlotte Damm (2012), among others, has argued for a more complex picture. For instance, the historically known Saami, whose traditional territories more or less correspond with the land of foragers in Bakka's map (Hansen & Olsen 2014), consisted of three distinct language groups with more than 12 known dialects. North and South Saami languages were not mutually intelligible (cf. Ojala 2009). These groups were distinguished through their varied subsistence economies and cultural expressions. Some Saami groups were hunters, others fishers; some groups owned reindeer and were herders, others not. Some were farmers (Damm 2012: 13–15).

From my current understanding of the societies and cultures that created the southern rock art traditions in northern Europe—those that more or less coincide with the hatched area in Bakka's map (Figure 3.2)—there is nothing whatsoever to indicate that these societies and their artworks were less regionalized and differentiated than the historically known Saami groups (Goldhahn 2005, 2007, 2013*a*, see also Anfinset & Wrigglesworth 2012; Goldhahn et al. 2010*a*; Gröhn 2004; Hauptman Wahlgren 2002; Holmblad 2010; Kaul & Sørensen 2012; Nord 2009; Nordenborg Myhre 2004; Skoglund 2005; Skoglund, Ling, & Bertilsson 2015; Thedéen 2004; Wehlin 2013).

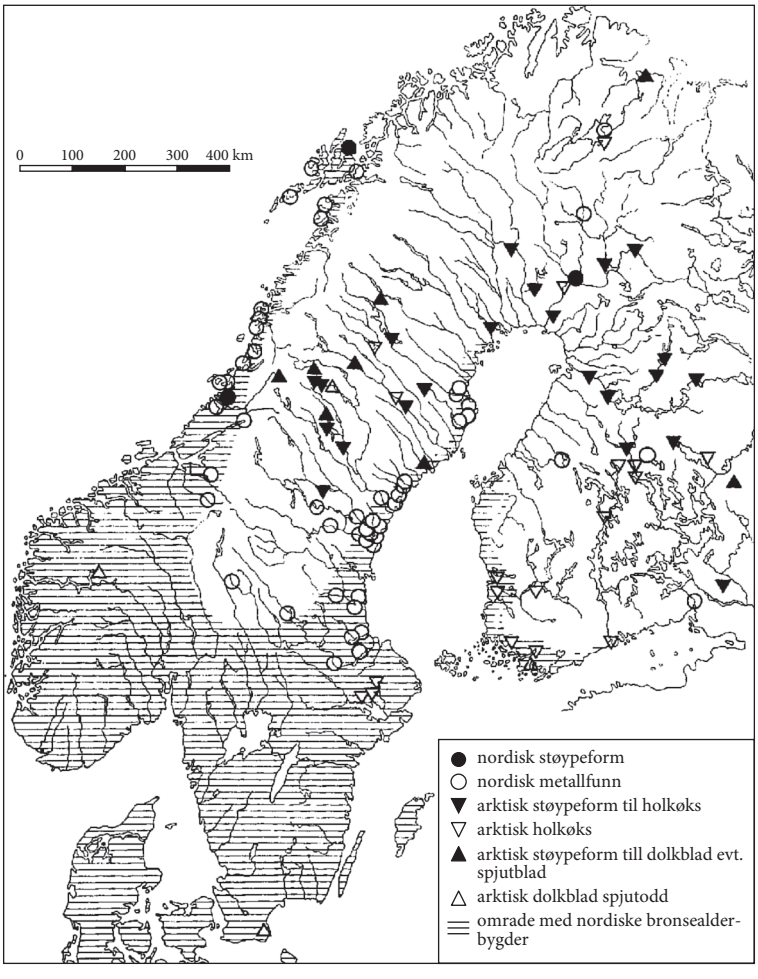

FIGURE 3.2 A colonial view of the diversity of cultural groups in northern Europe around 1000 BCE. White areas = hunter-gatherer societies; hatched area = farmers and herders.

Source: Bakka 1976.

The Earliest Hunter-Gatherer Rock Art

One of the advantages of working with rock art in northern Europe is the presence of prominent elevated lands caused by isostatic uplift processes following the melting of ice sheets at the end of the last Ice Age. Here, shore displacement is the highest in the world, and it provides a useful measure by which to establish rock art chronologies (Gjerde 2010; Helskog 2014; Lahelma 2008; Lindqvist 1994; Ling 2008, 2013; Sognnes 2003). At a time when Upper Palaeolithic rock art was being made in the mid- to southern latitudes

of Europe, we find a 1- to 3-kilometre thick ice sheet covering the northern parts of Europe. It is thus very unlikely that Upper Palaeolithic artworks will have been made, and, if they were, that they have been preserved in this part of the world. The earliest date for rock art in northern Europe is still to be established, but it almost certainly dates to the Mesolithic, geologically during the Holocene.

Since the early twentieth century, a number of scholars have argued that the oldest artworks in northern Europe are represented by the most naturalistic engraved and polished images (Gjessing 1936; Hallström 1938). These images usually consist of single figurative animal figures, often depicting large migrating game such as elk (moose) and reindeer, but also whales, birds, and bears. A bear engraving at Valle, for example, has a very narrow and pointy nose that resembles a polar bear rather than a brown bear (Gjerde 2010: 206–209). This would probably mean that the bear figure from Valle has great antiquity because these bears are not thought to have inhabited this area during the later part of the Mesolithic.

For early scholars like Hallström, the most naturalistic rock art was thus the oldest, and he thought the oldest art were the engraved Bøla reindeer from North-Trøndelag (Figure 3.3) because it was the most naturalistic image; an image he describes in words of wonder and beauty (Hallström 1938: 333–338). Today, a scientific argument for an early Mesolithic dating for the hunter-gatherer rock art would be sought in the placement of the art relative to the prominently displaced shoreline. A number of authors have argued that here the rock art was made in the sea-spray zone along the shore, an area that is free of lichen (e.g., Helskog 1999). As a consequence, the rock art situated at the highest altitude should be the oldest, but this holds only if all the rock art was made along the shoreline of the time. Following this train of thought, the oldest art would be found in the polished rock art tradition of the Ofoten region in the Nordland County of Norway. And, given the altitude of the Ofoten region's rock art, the depicted animals at the site of Fykanvatn (situated 96–138 metres above sea level) ought to be the oldest. If these images were made in the sea-spray zone along the shore, as argued by scholars like Hesjedal (1994), Lindqvist (1994), and Gjerde (2010), the most elevated images would have been made before 13,000 BCE (12,700 BP, see Gjerde 2010, 188). Given that an ice sheet covered northern Europe at that time, this scenario is highly unlikely.

The same reservations can be applied to other figurative naturalistic engravings that have been claimed to date back to early Mesolithic times. Such sites are few, numbering less than a dozen, and exhibit a homogeneous art style that varies considerably with elevation within a very limited region (Gjerde 2010: 179–197). Despite such variations with altitude, the artistic conventions employed remained largely consistent for more than 5,000 years or even longer (Gjerde 2010: 197, Fig. 100). This is quite remarkable given that, in the Alta region, subsequent rock art traditions dating from 5200 BCE to 200 CE show a handful distinctive style changes over a similar time span and that the altitudes of these stylistic groups are homogeneous, occurring between 2 and 3 metres above the mean tide level (Helskog 2014). The presented reservations are strengthened by the fact that there are large figurative "naturalistic" depictions of animals situated within well-defined chronological time sequences in the Alta region, for example, at the sites of

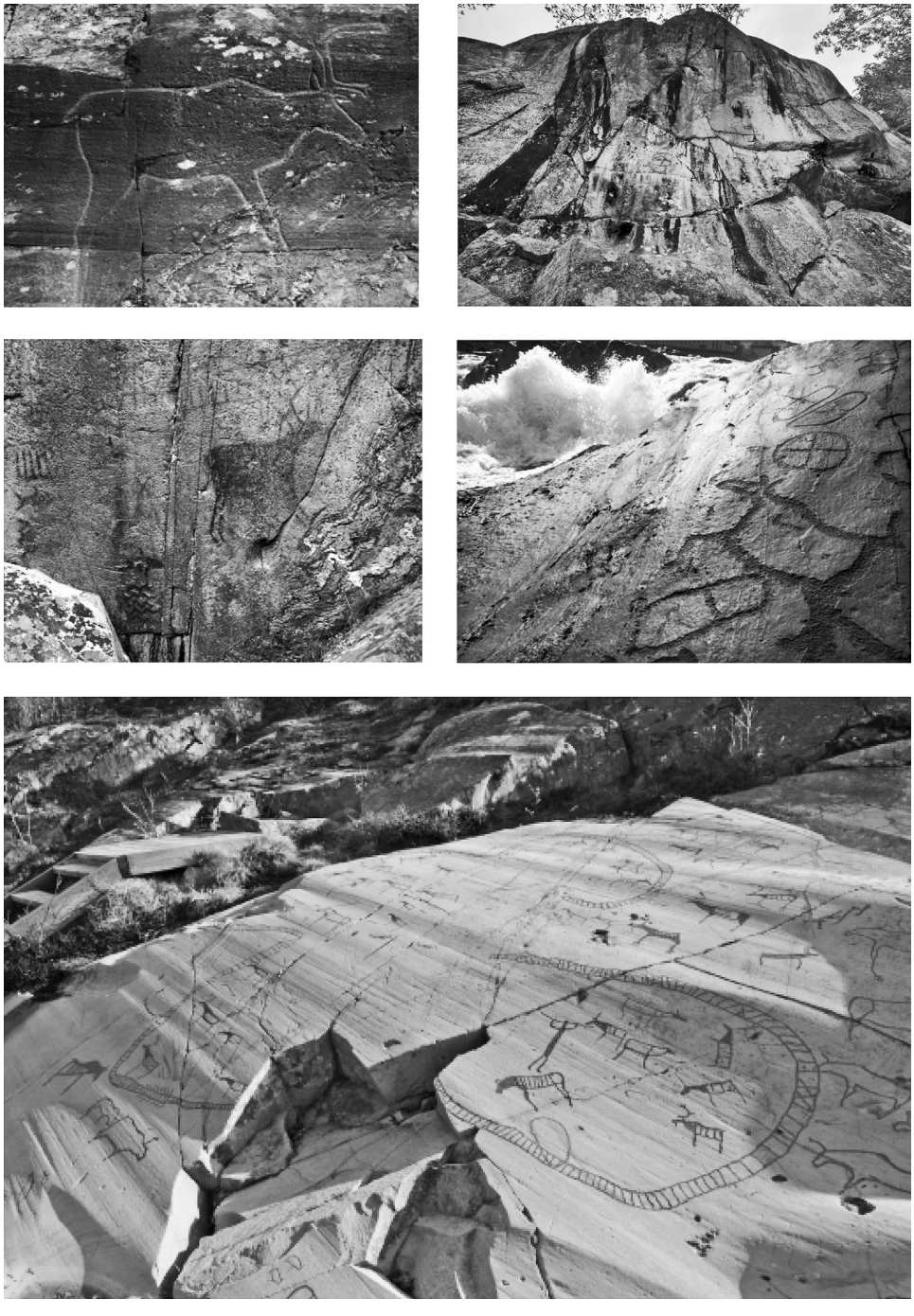

FIGURE 3.3 Examples of rock art made by hunter-gatherer societies in northern Europe. In reading order: the Bøla reindeer, Astuvansalmi, Tumlehed, Nämforsen and Alta (see Figure 3.1). The engravings from Nämforsen and Alta have been infilled with red paint by local authorities so that tourists can better see them.

Photographs by the author, except Astuvansalmi, by Timo Luukkonen, published with his kind permission.

Kåfjord and Ole Pedersen I (see Helskog 2014). There is also a disturbing lack of archaeological finds in association with the earliest figurative (read, naturalistic) rock art, and the reasons for their elevated positioning in the landscape could be due to causes other than postglacial isostatic rise. In sum, it is possible that the large figurative depictions of prey animal species were made early in the Holocene, but further archaeological evidence for this is warranted before accepting such an antiquity.

The First 'Rock Art Boom'

The first rock art boom in northern Europe is related to Neolithization, a cultural and social process that started with a slowing down of shore displacement rates after the Ice Age and therefore a time of more stable relations between land and sea. This era, which can be roughly dated from 5500 to 4000 BCE in this part of the world, brought a new understanding of landscape relations and a new sense of belonging-in-the-world; to use a concept coined by Philippe Descola (2013), it brought a new *worlding*.

Recent approaches to the Neolithic in northern Europe play down the role of agriculture. The subsistence economy was just one piece of the puzzle. Instead, it could be argued that the Neolithic brought new ways of engaging with the material world. The Neolithic 'revolution' had more to it than growing crops and milking cows. It is useful to think of the Neolithic not so much in terms of cultivars as through a notion of 'cultivation of perceptions' that involved new ways of engaging with the material world on a mundane, day-to-day basis. Instead of talking about an 'agrarian Neolithic revolution', we ought to think of the Neolithic as a 'symbolic revolution of the mind', a time when people became 'aware of new aspects of the world and connecting differently with reality' (Herva et al. 2014: 149, 154).

The Neolithic worlding brought metaphors and associations born of novel technologies that entangled people in spiritual lifeways. For example, the Neolithic brought a wide range of novel colourful materialities and expressions such as ceramic, polished and sometimes exotic stone axes, enigmatic slate, amber and copper objects, and so forth (Herva et al. 2014; e.g., Jordan & Zvelebil 2010; Klassen 2004; Larsson 2001; Lundberg 1997).

A common thread among the diverse groups of hunter-gatherers in northern Europe is that the new Neolithic worlding involved more sedentary and increasingly territorial lifestyles, or, as Ingrid Fuglestvedt (2010) would put it, an increasingly totemic understanding of the world. People and land became attached to each other in a newly enmeshed way. In southern Scandinavia, Scania and Denmark in particular, but also in the Baltic and western Russia regions, we see the establishment of long-lasting burial grounds that were used over thousands of years (Gurina 1956; Larsson 2004; Larsson & Zagorska 2006; Nilsson Stutz 2003). Animals of the woods and sea were harvested in new ways (e.g., Zvelebil 1986; see Andersen 2013; Carlsson 2008; Karsten & Knarrström 2003; Larsson et al. 2012; Magnell 2005). On Jutland in Denmark, and to some extent in

southwestern Sweden, we witness the creation of animated monuments in the form of so-called *Køkkenmøddingar*, middens made up of shell, stone artefacts, ceramics, and other 'waste' from Stone Age settlements, that sometimes grew to be several hundred metres long, 20 metres broad, and more than 10 metres high (e.g., Tilley 1996).

We are talking about profound changes in the way the world was perceived. In the middle and northern parts of Scandinavia, for example, the Neolithic saw a shift from 'imported' flint and other raw materials to the use of local stone sources such as chert, quartz, quartzite, red slate, mylonite, and rhyolite (Bergsvik 2002; Glørstad 2010; Hood 1988; Olofsson 2015) while, at the same time, exotic personal ornaments and objects became more common. We also see the establishment of large, semi-sedentary pit houses that sometimes were gathered into small villages (Bjerck 2010; Boaz 1998; Lundberg 1997; Mökkönen 2011; Norberg 2008; Schanche 1994). These changes also led to the dawn of several related but distinct rock art traditions. The new worlding was based on a relational ontology that created a web of intra-actions between a range of new and old media. For example, several stone quarries that came into local and regional use show close geographical associations with prominent rock art sites (Goldhahn 2010; see also Hood 1988; Lødøen 2010). More importantly, these new rock art traditions contrast with earlier rock art imagery through the appearance of anthropomorphic figures (e.g., Figure 3.3; cf. Bøla and Alta), for the first time, referencing—and thus signalling a focus on—new ways of relating between human and nonhuman beings (e.g., Fuglestvedt 2010).

A stunning example of the new worlding of the Neolithic is the large-scale communal hunt of big game that is sometimes depicted in the rock art, for example through the use of corrals by which to hunt wild reindeer in the Alta mountain region (Helskog 2012) or the remunerating beluga whale hunt at the site of Zalavruga by the River Vyg estuary at the White Sea (Gjerde 2013). A communal context for big game hunting and rock art is highlighted by the fact that many such places are geographically apt aggregation sites, locations where human and nonhuman beings met and intra-acted. What is striking about these aggregation sites is that the rock art imagery is in each location dominated by one or two key symbols (e.g., Ortner 1973): the sites of Vingen and Ausevik in western Norway are dominated by red deer images (Lødøen & Mandt 2012); Nämforsen in middle Sweden is dominated by elk images (Hallström 1960; Larsson & Broström 2011); Alta in northern Norway is dominated by elk, reindeer, and bear images (Helskog 2011, 2012); Kanozero on the Kola Peninsula and especially the Zalavruga sites in the estuary of River Vyg near the White Sea are rich in beluga whale hunting scenes (Gjerde 2010; Kolpakov & Šumkin 2012); and the rock art along the shore of Lake Onega in western Russia mainly contains bird imagery, in particular whooper swans (Lahelma 2012).

How the Viken region of southern Norway (Glørstad 2010) and Trøndelag in the middle part of Norway (Gjessing 1936) fit into this picture is not clear, but at Trøndelag whale and other sea mammal images, as well as bird imagery, are more common than they are in other nearby areas with larger concentrations of contemporary rock art (Sognnes 2002).

The weight on one or several key symbols in a particular rock art assemblages is usually explained through seasonal agglomerations around a single abundant resource at a time of plenty. However, if we consult the archaeological records from the mentioned areas, we soon discover that this constitutes necessary but not sufficient conditions for understanding the actual pattern. Key symbolic species that dominate specific rock art assemblages were also exploited in other areas where other key symbols are enhanced. It may therefore be erroneous to read the rock art assemblages simply as an indication of the presence of locally available economic resources; a lesson learned many times before within rock art research. A consequence of this, and a more comprehensive understanding of the use of key symbols within different rock art assemblages, could be that specific important resources in people's everyday life were given a broader and deeper ontological significance and that those were articulated within the social and spiritual organization of groups of people; in their worlding.

Most of the rock art traditions in northern Europe are distinct in style and imagery and often associated with recognizable cultural assemblages in the archaeological record. In Finland, for example, the rock painting tradition is closely associated with the emergence and decline of what archaeologists have called the Comb Ware Culture (Figure 3.3). This relation is manifested through the fact that the Finnish rock painting tradition ends at the start of the subsequent Early Metal Age during the second millennium BCE (Lahelma 2008). The same could be said about hunter-gatherer rock art traditions in the middle part of Sweden (both paintings and engravings are known here), where the site of Nämforsen is situated (Figure 3.3), that have a close association with enigmatic slate-producing societies (Goldhahn 2002; Larsson et al. 2012; Lundberg 1997; Ramqvist 2002).

By 4000 BCE, most of the acknowledged rock art traditions used by hunter-gatherers in northern Europe were established and flourishing. The southernmost find spot of hunter-gatherer rock art is the rock paintings at Tumlehed on the island of Hisingen, situated in Göteborg city on the Swedish west coast (Figure 3.3). At about the same time, 4000 BCE, farming was introduced in the neighbourhood (Sjögren 2003), rapidly spreading to the Mälar Valley (Hallgren 2008), then to the Viken region of southeastern Norway (Glørstad 2010), and later also along the coast of the Baltic Sea and the Atlantic Ocean (Kaul & Sørensen 2012; Sørensen 2014).

There is little to no evidence that the first farmers in northern Europe produced any rock art, but they built long mounds and other kinds of lasting monuments (Larsson 2014). More interestingly, we find a strong correlation between the spread of farming and the amount of hunter-gatherer rock art found within individual areas (see Kaul & Sørensen 2012). In short, many recognized hunter-gatherer rock art traditions changed or came to an end after farming was introduced and established. In the Alta area of northernmost Europe (Figure 3.1), for example, farming never played any significant part in the subsistence economy or in the making of local cultural identities (Hansen & Olsen 2014). It is therefore not surprising to find that the longest chronological sequence of hunter-gatherer rock art is located in the Alta area (Helskog 2014). The same might be said for Finland (Lahelma 2008; cf. Alenius et al. 2013). The opposite may be true for

the Tumlehed region of the Swedish west coast (Sjögren 2003; cf. Nash 2002), where farming took hold and hunter-gatherer rock art went out of fashion soon after 4000 BCE (see Glørstad 2010 for a related and well-argued case and scenario in the Viken area in southernmost Norway, Figure 3.1).

The Second 'Rock Art Boom'

In areas where farming was established, there seems to be a lacuna in the creation of rock art, sometimes over a period of more than 1,000 years. Some researchers have suggested that the people who created megalithic monuments during the Early Neolithic (4000–3300 BCE) or Middle Neolithic A (3300–2800 BCE) also made rock art because sometimes cup marks and figurative rock art are found on the roof slabs of stone monuments (e.g., Bengtsson 2004, 2012; Burenhult 1999; Tilley 1996). That may be the case, but, once again, we find a total lack of securely dated contexts. When rock art is discovered in megalithic contexts or on top of the roof slabs of megaliths during controlled archaeological forms (read "simple-dirt" archaeology), there is often a close relationship and association to more recent activities that can be understood, explained, and interpreted in other ways (Goldhahn 2015).

The oldest contextual finds associated with rock art in regions where farming and herding were practiced in southern Scandinavia are dated to the Middle Neolithic B (2800–2350 BCE). These relate to the Corded Ware Culture, a well-studied archaeological phase. The rock art of this phase consists of small, portable cup-marked stones that were placed in individual inhumation burials. A handful of examples are known from contemporary southern Sweden and Denmark. Some of these burials with cup-marked stones are of children. The making and placing of cup-marked stones with human burials became a significant characteristic of farmer and herders burial ceremonies, and it continued more or less unchanged for more than 3,700 years, until the shift from the Early to Late Iron Age around 550 CE (Goldhahn et al. 2010a). There are a handful of burials with rock art dated to the sixth century CE and one anomalous find of a cup-marked stone from a Viking Age burial dating to the ninth century CE, but the latter's relation to the burial ceremony *per se* is not evident (Figure 3.4).

The second boom of figurative rock art in northern Europe was associated with social and religious changes within farming communities that took place around 1600 to 1400 BCE (Goldhahn 2015; Kaul 1998). These changes correspond with the introduction and establishment of bronze technology. Though neither copper nor tin were quarried in northern Europe during this time, the new metal technology demanded long-distance networks and alliances for procurement of the precious raw materials (copper and tin, but also lead and gold). Not surprisingly, at this time, we witness the rise of new social and cultural hierarchies (Kristiansen 1998) and a new set of figurative rock art that articulated the new order (Goldhahn & Ling 2013; Kaul 1998). The key symbol associated with this new phase revolves around boat imagery, but bronze weapons, sun symbols,

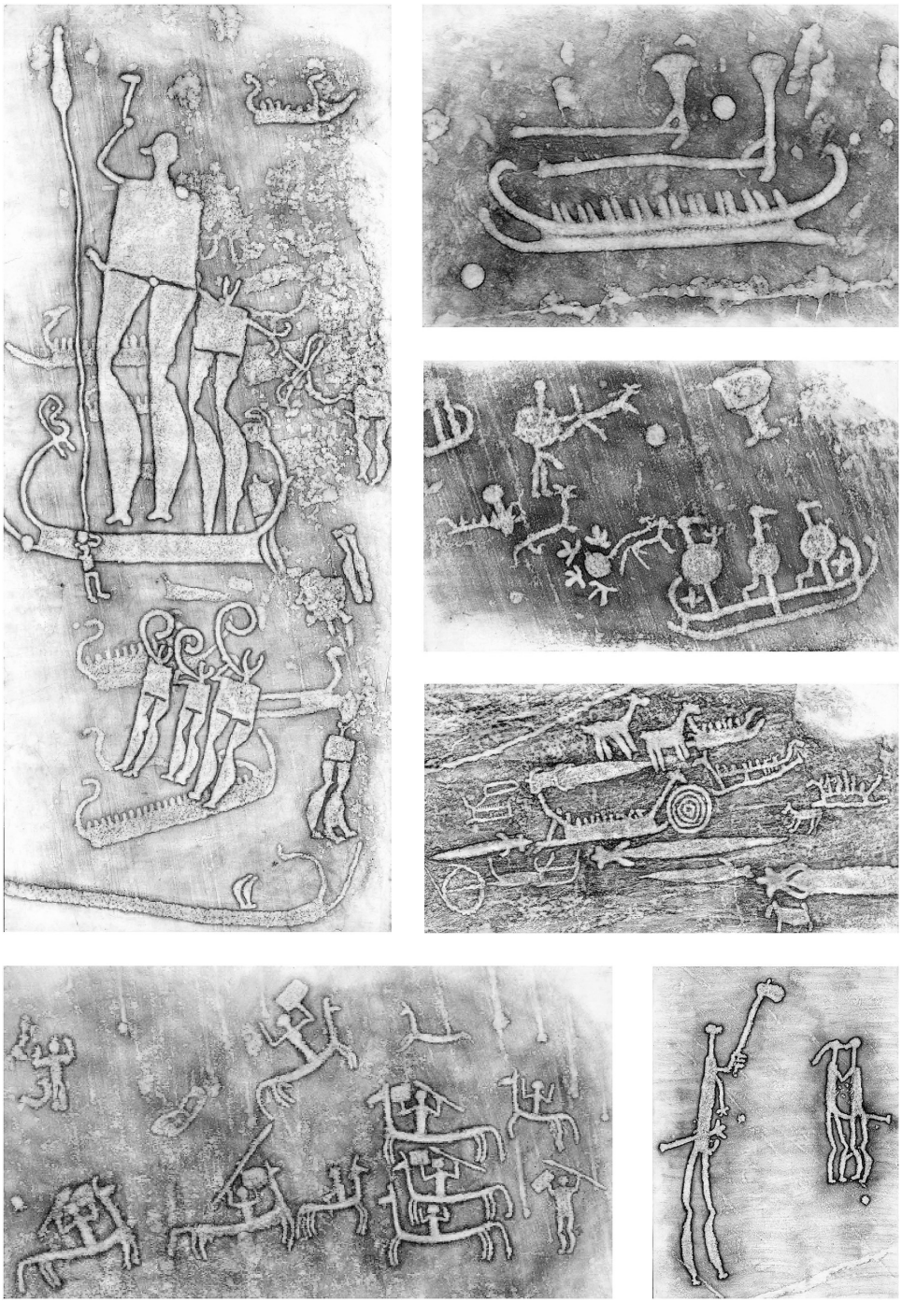

FIGURE 3.4 Examples of rock art made by agrarian and herding societies in northern Europe. Warriors and lur players from Kalleby in Tanum, axes and boats from Simris in Scania, sun-horse and warriors from Arendal in Tanum, swords and boats from Ekenberg in Östergötland, Pre-Roman Iron Age warriors on horses from Litsleby and warriors from Vitlycke in Tanum (see Figure 3.1). Documentation in form of frottage made by Dietrich Evers.

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and anthropomorphic and zoomorphic figures were also frequently engraved. This new social order was clearly associated with a shift from cults associated with the ancestors during the Late Neolithic (2350–1600 BCE), to cosmologies that honoured the daily and yearly rebirth of the sun during the Bronze Age (see Goldhahn 2015). Although this ontological shift seems to have engaged many parts of northern Europe, the rock art associated with these societies has a very regional character (Goldhahn 2008*a*; Goldhahn et al. 2010b; Skoglund et al. 2015).

A recurring trait of the art of this period is that it focused on maritime and martial themes. This is expressed through the repeated representation of boats, weapons, and warriors, and it has been argued that many rock art images were made before, during, or after maritime and martial affairs (Goldhahn 2012*a*, 2014; Ling 2008; Skogstrand 2014; Vogt 2011).

The maritime reference of this period applies also to the geographical placement of the art. Larger concentrations of rock art images appear at T-junctions where inland communication routes meet sea routes (Nimura 2015). Many of these rock art precincts are also found within predictable distances of one to two days' boat travel from each other (Ling 2008, 2013). Along the east shores of the Baltic Sea, we thus find concentrations of rock art predominated by maritime themes at Bornholm (Kaul 2005*b*) and Simris in Scania (Skoglund 2016); on the Torhamn Peninsula in Blekinge (König 2007); at Tjust (Goldhahn et al. 2012); Norrköping in Östergötland (Hauptman Wahlgren 2002; Ljunge 2015); Nyköping in Södermanland (Wigren et al. 1990); and in the borderlands between the Counties of Västmanland and Uppland (Ling 2013). Similar concentrations of rock art are also found along the Swedish west coast (Ling 2008); progressing northward, rock art concentrations are then found linearly spaced in regular locations, like pearls on a string (Figure 3.1): in Østfold in southeast Norway (Vogt 2011), Telemark (Groseth 2001), Lista (Fett & Fett 1941), Rogaland (Nordenborg Myhre 2004), Hordaland (Mandt 1972), Hardanger (Wrigglesworth 2011), Sogn-Fjordarne (Mandt 1991), and, finally, in North Trøndelag in the middle part of Norway (Sognnes 2001).

Outside these areas, some "farming and herding" rock art sites and images show formal affinities with those of more southern artistic traditions along the Nordland coast of Norway (Kaul & Rønne 2013), in Alta (Helskog 2014), and at Nämforsen (Larsson & Broström 2011). So far, there is no similar farmer or herder rock art found in Finland or in western Russia (Gjerde 2010; Lahelma 2008, 2012).

A specific aspect of the rock art of this period, one that is not so well known internationally, is the active use of rock art in burial rituals (Goldhahn 2016). There are more than 400 known examples of rock art from burial monuments, mostly cairns and barrows, but not all of these can be related to individual burials within a monument. Most of the burial rock art consists of cup marks (Figure 3.4), but more elaborate figurative images are also common. The latter are mostly dated to the Early Bronze Age (1600–1100 BCE) and Late Bronze Age (1100–500 BCE). Finds of hammerstones within the burials, and sometimes in direct relation to the rock art, indicate that the art was actively made during the course of extended burial rituals (Goldhahn 2007, 2013*b*, 2016). Many of these rituals seem to have involved people from local, regional, and interregional

FIGURE 3.5 Examples of imagery with apparent continuities with earlier rock art traditions of northern Europe. Saami drums. Schefferus documented the drum (top left) in his famous thesis "Lapponia" of 1673. The top right drum belonged to Morten Olofsson from Åsele, northern Sweden (see Figure 3.1); it was confiscated in 1725 by representatives of the Swedish state. Source: Wikipedia Commons. In the middle: Cremation urn dated to Roman Iron Age with sun and feet figures from Jutland. Source: Almgren 1927. Below: Pictures stones from Gotland dated to the shift between Early and Late Iron Age from Västkinde churchyard with sun and horse figures and Bro church with sun and boat figures. Source: Nylén & Lamm 1987.

societies (Goldhahn 2008*b*, 2012*b*; Oestigaard & Goldhahn 2006). The large number and repeated nature of northern Europe's burial rock art during this period is notable globally.

Aftermaths

During the heyday of Bronze Age martial and maritime rock art in southern and mid-Scandinavia, dating within the first part of the first millennium BCE (Ling 2008; Vogt 2011), most hunter-gatherer rock art traditions had come to an end or were in a process

of transformation (Bjerck 2012; Helskog 2014; Lahelma 2008; Lødøen & Mandt 2010). Some researchers associate this ending of earlier forms of hunter-gatherer rock art with cultural changes relating to increasing residential mobility (Forsberg 1985; Lundberg 1997). Others associate it with climate change at the end of the Holocene, whereby the main game species, the elk, became sparse (Larsson et al. 2012). In some areas, as already mentioned, the introduction of farming and herding economies seems to have altered or changed hunter-gatherer lifestyles (Glørstad 2010; Kaul & Sørensen 2012; Sørensen 2014); in other areas, we see the first traces of a Saami ethnicity (Hansen & Olsen 2014). Multiple interacting factors were probably at stake. How these processes of change were mediated by and manifested in the rock art is not well understood (cf. Helskog 2014; Nash 2008; Wrigglesworth 2006). Many researchers argue for continuities from early hunter-gatherer rock art traditions to historically documented Saami traditions (Figure 3.5) but that the media of their cultural expression changed from rock art to iconography on portable ritual paraphernalia, such as drums (Helskog 1987; cf. Lahelma 2008, 2010; Mulk & Bayliss-Smith 2006; see also Hansen & Olsen 2014; Rydving 2004, 2010).

A major factor to account for the ending of the 'second figurative rock art boom' associated with farmers and herders is the introduction of iron technology during the first millennia BCE (Kaul 1998; Kristiansen 1998). In contrast to bronze, iron was relatively easy to access in northern Europe. Sources of iron were locally available, iron products were locally manufactured, and iron is a stronger metal than bronze. During the Pre-Roman Iron Age (500–1 BCE), most long-distance networks associated with the Bronze Age, which had been maintained for more than 1,000 years, came to an end (Hedeager 1992; Kristiansen 1998).

How the breakdown of long-distance networks in the transition from Bronze Age to Iron Age affected the making of figurative rock art within the southern traditions and the use of rock art sites during the Pre-Roman Iron Age (500–1 BCE), Roman Iron Age (1–400 CE) and Migration Period (400–550 CE) is not well understood (Nilsson 2010). We know that some boat images resembling the famous Hjortspring war canoe from Als in Denmark, which is dated to *c.* 350 BCE (Crumlin-Pedersen & Trakadas 2003), images of warriors with rectangular Iron Age shields astride horses, cup marks (Figure 3.4), and possibly also sun and feet images continued to be made long after the Bronze Age had ended (Bengtsson 2013; Kaul 1998; Ling 2008; Mandt 1991; Østmo 1990), but once again, we lack good archaeological contexts and dating to guide our understandings of how rock art was transformed and changed during the Iron Age.

Despite new cultural and ideological expressions during the Early Iron Age, there are faint traces of Bronze Age worldings in the continued use of cup marks in burial rituals (Figure 3.4); in feet and sun ornaments on ceramic vessels; and on Gotlandic picture stones were sun, horse, and boat figures are important iconic features (Figure 3.5). The continuing use of Bronze Age symbols and cosmology is also highlighted in the earliest text records dealing with northern Europe, such as the Norse Saga and Snorre's Edda that were written down in Iceland during early Medieval times, mainly the thirteenth century CE (Andrén 2014). For example, according to the epos Grimnismál 38, the sun was called 'the shining god'. In front of it we find a shield called Svalinn that protects

the sea and mountains from burning up. In the epos Gylfaginning 10, we learn that the sun was travelling in a chariot pulled by two horses: Árvakr, meaning 'early wake', and Alsviðr, meaning 'very quick' (Andrén 2014, 117–166), which clearly must be a reminiscence of Bronze Age worldings, manifested and materialized in ritual paraphernalia made of bronze and by rock art images that were made in southern Scandinavia some 2,600–2,000 years earlier (Kaul 1998, 2005*a*).

There are very few scholars studying the Iron Age who have shown interest in a similar long-term perspective, and the intriguing question about how the worldings of rock art–producing societies and cultures in northern Europe continued, altered, or changed through time, and here there is much potential for future archaeological research.

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