



Replicated Temporality. Time, Originality, and Rock Art Replicas

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Laura Mayer and Martin Porr

Abstract

The understanding of the notion of ‘the past’ has undergone a complex development in recent years within archaeology and related disciplines. It continues to be interpreted in different ways and in relation to different types of evidence. Indeed, understandings of the conceptualisation of time itself has received an increasing amount of attention, both in relation to methodological and theoretical considerations as well as in terms of public and historical imaginations. In this paper, we explore these aspects in relation to the transformation of archaeological evidence into heritage in the context of European Palaeolithic cave art sites. We focus on the processes of the perception, creation, and imagination of time in relation to 3D replicas of two famous painted cave sites: Lascaux and Chauvet. Through our analysis, we demonstrate that these replicas are reflections of a modern, essentialist, and linear understanding of history, which is linked to a fascination with the notion of originality and related ideas of purity, authority, and wholeness. Engaging with the temporality of the replica also allows an understanding of the unstable character of these notions as the replicas simultaneously exist in (at least) two temporalities and the viewer’s engagement might oscillate between the two. While being wholly located in the present, the replica equally reflects human masterful abilities in the present and the deep past. Our analysis consequently allows to appreciate how the replica participates in the unstable and socially constructed temporalities of authenticity and originality.

Keywords

Replica · Authenticity · Fake · Cave art · Immersive environment · Visitor experience

L. Mayer (✉) · M. Porr
The University of Western Australia, Perth, Australia
e-mail: laura.mayer@uwa.edu.au; martin.porr@uwa.edu.au

20.1 Introduction

Archaeology is traditionally understood as the discipline that is concerned with the understanding of past human behaviours through the study of material remains. Archaeology draws its fascination from its perceived ability to unravel the deep past and the origins of humanity. In the public imagination, archaeology is most often associated with the discovery of ancient civilisations, hidden tombs, and mysterious artefacts. These imaginations tend to emphasise temporal depth, antiquity, and a distance between the present and the archaeological evidence. Discoveries that emphasise a previously unknown antiquity or the origins of an important development tend to generate the greatest public attention, such as the earliest abstract signs, the earliest evidence of sedentism, the earliest evidence of the settlement of Australia or the Americas. However, the notion of ‘the past’ continues to be interpreted in many different ways within archaeology itself and the discipline has diversified considerably in its approaches to different types of evidence and periods. These variabilities also relate to differences in the understanding and conceptualisation of time, both in terms of theoretical and methodological approaches towards the temporal dimension as well as the impact of public and historical imaginations. In this paper, we want to explore how these aspects impact on the processes of the transformation of archaeological evidence into heritage in the context of European Palaeolithic cave art sites. More specifically, we want to examine how time is perceived, created, and imagined in the context of the 3D replicas of the famous painted caves of Chauvet and Lascaux. We will argue that these replicas are reflective of an established modern fascination with originality, related dimensions of significance, purity, authority, and wholeness, and an essentialist and linear understanding of history. However, the temporality of the replica also allows to reflect on the unstable character of these notions. The replicas simultaneously exist in (at least) two temporalities and the viewer’s engagement might oscillate between the two. It

similarly refers to the faithful (and technically masterful) replication of a deep time object in the present as well as past human actions and abilities (which might have been equally masterful). However, the replica also allows us to reflect on the fact that both replicas and so-called deep time objects exist in the present and that they both participate in the unstable and socially constructed temporalities of authenticity and originality.

20.2 Time, Originality, and Authenticity in Deep Time Archaeological Reasoning and Heritage

In this section, we want to explore relationships between notions of time and authenticity in relation to the field of archaeology that is concerned with the deepest past of humanity. We will use the term of ‘deep time archaeology’, which incorporates fields such as Palaeolithic archaeology in Eurasia and Stone Age archaeology in Africa with their respective chronological and cultural divisions (e.g., Upper Palaeolithic, Early Stone Age etc.) (e.g., McGrath and Jebb 2015; Gamble 2014). It relates to the period that is usually understood to stretch from the earliest occurrence of human-made artefacts to the origins of sedentism and agriculture. In chronometric terms, this encompasses the time between ca. 3.4 million years and 10,000 years ago. It is also the period during which humans exclusively lived as hunters and gatherers, and the evolution of modern humans from ancestral forms took place. Few of these statements are, however, uncontroversial and we recognise that they hide an enormous amount of conceptual, spatial, and temporal variability (e.g., view contributions in Cummings et al. 2014). While we will not be able to address these issues in this paper in detail, some aspects will be assessed in our critical exploration of notions of time below.

Deep time archaeology has its origins in the nineteenth century and was integral to the establishment and widespread acceptance of humanity’s antiquity (Gamble 2021). It also contributed to the appreciation of the depth and complexity of the earth’s antiquity and past changes in geography, climate, animal, and plant communities, and so on. In the absence of radiometric dating methods, absolute age was estimated by the depth of stratigraphies, the (perceived) crudeness of human-made artefacts, and the association between artefacts and the remains of exotic, non-endemic, or extinct animal species. These foundational developments were almost exclusively restricted to Europe with an emphasis on French cave sites (Trigger 2006, 138–155, but see e.g., Chakrabarti 2020). A progressive element was already included in the first attempts at systematically structuring the evidence into different temporal phases. While the Old Stone Age (Palaeolithic) was defined by the association with faunal

remains, the New Stone Age (Neolithic) was defined with reference to the sophistication of its stone tools (Chazan 1995). This distinction placed a temporal boundary between the Palaeolithic and the Neolithic that reflects the fundamental Western understanding of human development as a progressive social and technological emancipation from nature (Porr and Matthews 2017). The boundary between the two ‘Stone Ages’ relate to a division between nature and culture, and, in chronological terms, between (biological) evolution and (social/cultural) history. Only humans are able to create history and are no longer purely subjected to the processes of biological evolution. Among others, Ingold (2000, 373–391; 2004) has convincingly demonstrated that this division cannot be sustained and that it is a product of an essentialist understanding of humanity. Accordingly, the point of the origin of history (and, allegedly, fully modern human beings) continues to be a matter of considerable disagreement depending on the perspectives and backgrounds of the respective authors (Porr and Matthews 2017). Deep time archaeology is full of these themes and tensions, which include the origins of art, the origins of big game hunting, the origins of the division of labour and so on. While we will come back to the origins of art below, it needs to be stressed that one of the defining features of deep time archaeology is the focus on the origins of certain phenomena that are regarded as constitutional for the present or the human condition. Gamble and Gittins (2004) have criticised that because of this orientation, approaches towards deep time evidence tend to be selective and limited and are ignorant towards the possibilities of understanding the breadth of complexities of the deep human past. It also needs to be stressed that the focus on origins firmly rests on an essentialist understanding of the respective phenomena and the assumption that they remain unchanged over time and are, indeed, the same phenomena during the Palaeolithic/Stone Age and today. A statement like ‘Grotte Chauvet represents the origins of art’ is only possible within such a framework.

Within archaeological reasoning, an essentialist orientation is furthermore dependent on the ontology of the Western world and modern structures of perception and interpretation, particularly a homogenous understanding of time and space (Porr 2020). Every archaeological endeavour must navigate and conceptualise the tension between individual expressions of human or hominin actions and large-scale temporal developments. In deep time archaeology, this tension between different temporal scales is most amplified. Individual cases of human activities that can sometimes be related to single individuals (stone knapping or painting episodes) must be linked to developments that stretch over thousands of years and sometimes hundreds of thousands of years. Within deep time archaeology, large temporal scales have traditionally been emphasised with a focus on time-averaged evidence and collections (Bailey 2007). The influ-

ence of human agency and socially specific contexts was neglected for a long time (Gamble and Porr 2005). However, this orientation still needs to be integrated with evidence for single and often high-resolution episodes of human or hominin actions, which provide temporal nodes of possible revolutions or origins (Gamble 2007). In this way, the temporality of the deep human past consists of nodes of activities that are conceptually linked either in deep time with each other or between deep time and the present along connections within the universal understanding of time and space in which historical processes and events occur (Porr 2020, 197–199).

The above-mentioned elements are structuring the discussion about the origins of art as well as the related debates about the interpretation and evaluation of European Palaeolithic (cave) art. During the nineteenth century, the first objects that were described as Palaeolithic art were engravings of animals on bones that were found in archaeological layers and partly in association with the bones of (locally) extinct animals (David 2017; Ucko and Rosenfeld 1967; Bahn and Vertut 1988). While these objects did not generate a substantial discussion about the origins of art, this changed with the discovery and acceptance of Palaeolithic cave or parietal art in the early twentieth century, which has remained at the centre of public and academic debates (Moro Abadía and González Morales 2008, 2013). While academic assessments about the deep origins of art have more recently moved towards Africa and Asia, European Palaeolithic art is generally still presented and perceived to be linked to the global origins of artistic human capacities, particularly in public discourses. The Eurocentric heritage of the early phases of the research history remains influential. More importantly, within this understanding, the painted caves are understood as nodes and locations, where a phenomenon (e.g., art) originated that has a direct connection with the

presence and every human being. In this way, they participate in humanity's essence. This understanding can be linked to the Western view of the temporality of humanity itself, which views the human as a being consisting of layers of global evolutionary and historical development. The essence of humanity, its core, can move unaffected through time and a wide range of material expressions (Porr 2020, 197). Temporal depth acquires dimensions of significance, purity, authority, and wholeness, which connects to the unbroken fascination with origins in archaeology and in the Western imagination in general (Said 1985). In the discussion of heritage, we want to argue, therefore, that in the context of deep time archaeology and Palaeolithic cave art, the notion of authenticity needs to be understood within a framework of originality. The latter term draws attention to the importance of time and temporal depth in this context and the importance of origin narratives (Fig. 20.1).

Authenticity remains an equally controversial and key concept in the study and assessment of heritage. It has been stressed repeatedly in the literature that the understanding of authenticity has changed dramatically over time in the Western world (see e.g., Shiner 1994). The emergence of the modern understanding of authenticity mirrors the establishment of the world's and humanity's antiquity during the late 18th and 19th centuries. During this time, authenticity became to be linked to the antiquity of an object itself: "Authenticity was seen as inherent in the object, and the experience of authenticity was thus dependent on the preservation of the original fabric of the object, monument, or place" (Duval et al. 2020, 144). More recently, these processes are understood in a more relational way and authenticity is regarded as an emergent feature of emotional and perceptual engagement. It is not the object itself that emits an aura. Rather, observers negotiate their understandings of

Fig. 20.1 Gilles Tosello reproducing rock art of the Chauvet Cave in his Toulouse studio. (Photo: Carole Fritz; reproduced with kind permission)



authenticity in relation to certain material properties (such as patina, damage, material decay etc.). Holtorf (2013) has described these characteristics in objects as reflections of ‘pastness’. They not necessarily relate to the chronological antiquity of an object. They rather are constructed based on assumptions and orientations that observers, visitors, or consumers bring to these engagements and allow the establishment of relationships between themselves and the deep past as outlined above. While ideas of authenticity in the context of heritage have diversified considerably, we want to hypothesise that in the Western context, the element of authenticity experienced as originality remains particularly strong and especially in the context of deep time archaeology and Palaeolithic cave art. The latter example allows to make a strong case for the perception of painted caves as places in which time has been suspended and through which visitors are able to travel back in time when entering them. This understanding points to a complex conceptualisation of the temporality of the present, which can be linked to the heterogeneous temporal understanding of modernity (Smail and Shryock 2013) and the dialectics between synchronicity and coevalness (Fabian 1983) in the historical and ethnographic evaluation of human difference. These preliminary considerations point to the complexities of the conceptualisation of time in the context of deep time archaeological evidence and the transformation of the latter into heritage. They are not reflective of a coherent consensus but rather of a reservoir of interpretations, views, and orientations, which can be accessed and activated in the engagement with deep time evidence and heritage. As such, they will also play a role in the negotiation and assessment of replicas and fakes in this context, which we will discuss now.

20.3 The Temporality of the Replica

In this section, we will focus on the subject of ‘replicas’, which we understand not only as consciously created to replicate original objects as faithfully as possible but are also “exact three-dimensional” copies at full scale (James 2016, 520). At their core, replicas are a type of heritage interpretation that are designed to transmit “public values, significance and meanings of a heritage site, object or tradition” (Silberman 2013, 21). Replicas are a regular occurrence in a wide range of contexts across cultural landscapes and institutions. They are an established aspect of museums where they can be displayed in exhibitions or are simply being sold in the museum shop. ‘Replicas’ need to be distinguished from ‘fakes’, which are created, and displayed or used deceptively (McGhie 2009, 353–354). As such, fakes have been produced to create a false sense of authenticity, have been erroneously acquired at auctions for astronomical prizes and have had entire exhibitions built around them. The distinc-

tion between fakes and replicas is a crucial one. However, the difference between these two categories does not reside in the object itself or its material qualities but in its social context, emotional engagements, circumstances, and in the motivations surrounding the creation and the use of the respective object. Because of these aspects, a replica can become a fake during its lifetime and *vice versa*. In this section, we want to discuss some of these temporal aspects, which have to do with social interactions and the related creation of meaning. We are interested in the temporality of the replica and, to a lesser extent, the fake.

Above, we have discussed the importance of the notion of authenticity in the context of the processes of the creation of heritage. But how do replicas participate in and reflect these processes? Replicas gain their authenticity in the same way that original objects gain their authenticity. These are social and relational processes of emotional and perceptual engagement. However, in the case of replicas, these processes depend on the recognition and the appreciation of the authenticity of the original object that is replicated. The viewer can simultaneously marvel at the technical brilliance and artistic quality of the replica that was recently created as well as its deep time dimensions (where technical brilliance and artistic qualities might also be a factor). The material aspects of the replica are secondary in this respect because they might or might not involve the same types of materials as in the original object. In temporal terms, the replica exists within two temporalities simultaneously and the viewer’s engagement might oscillate between the two. In the first instance, the viewer is fascinated by the faithful replication of a deep time object in the present. In the second instance, the viewer appreciates past human actions and abilities (and the link to significant past phenomena such as past creative capacities or the ‘origins of art’). While these aspects are not a focus of this paper, in the case of fakes, these temporalities are not equally accessed, because its relationship to the present is not realised by the viewer. The deception creates a false sense of authenticity and originality. The replicas that we discuss in this paper gain their authenticity through their reflection of the processes of authentication and dating of Palaeolithic evidence and Palaeolithic cave art. It is worth reflecting on these processes in some detail because the great antiquity and development through time of Palaeolithic art contributes considerably to its present fascination and ascribed value.

From its recognition in the early 1900s, Palaeolithic cave art dating has been in continuous development. Influential researchers pioneering its study, such as Henri Breuil (1877–1961) and André Leroi-Gourhan (1911–1986), sought to date Palaeolithic cave art on stylistic grounds and arrange it into its “correct chronological order” (Leroi-Gourhan 1968, 59). While some crucial differences existed between their respective visions, their approaches were primarily

based on the analysis of themes, techniques, and the superimposition of cave art images to develop chronologies and assign them to different cultural periods, such as the Aurignacian, Gravettian, Solutrean and Magdalenian (Gay et al. 2020, 1). One of the most important aspects of these stylistic approaches were Breuil's and Leroi-Gourhan's belief that the evolution of Palaeolithic cave art "in graphic and aesthetic terms, extended over millennia in a single ascending curve that spans the entire Upper Palaeolithic" (Leroi-Gourhan 1965, 38 as cited in Clottes 1996, 277–278). This is significant because it positions Palaeolithic cave art as evolving linearly from 'simple' to 'complex'. Based on this assumption, Palaeolithic cave art was assigned to different stylistic periods, such as Pech-Merle to Style III (archaic) and Rouffignac Cave to Style IV (classic) (Gay et al. 2020, 1; Leroi-Gourhan 1968, 66) that were supposedly characterised by increased degrees of sophistication. While these types of stylistic dating techniques and aesthetic forms of evaluation and appreciation remain essential to the study of Palaeolithic cave art, and rock art more broadly, the development of radiometric dating techniques fundamentally transformed the temporal landscape and contributed to a new appreciation of Palaeolithic art's antiquity.

In the late 1940s, an American nuclear chemist, Willard Libby (1908–1980), his research collaborator, James Arnold (1923–2012), and graduate student, Ernest Anderson (1920–2013) initiated what is now known as the first "radiocarbon revolution" at the University of Chicago (Taylor and Bar-Yosef 2014, 20). It began in 1946, when Libby first proposed the possible effects that cosmic rays might have on the earth's atmosphere and it culminated in 1954, when ^{14}C measurements from about 500 samples had been collected (Arnold 1992; Taylor and Bar-Yosef 2014, 286; Wood 2015, 61). July 12th, 1948 is often considered the "birthday" of radiocarbon dating (Taylor 2009, 202). This was the day on which the first age determination measured by radiocarbon dating was calculated. It was performed by Arnold on a sample of acacia wood from the tomb of Zoser at Sakkara, which was provided by Ambrose Lansing, then a curator at the Department of Egyptian Art at the Metropolitan Museum of Art (Libby 1980, 1017; Taylor 2009, 202; Taylor and Bar-Yosef 2014, 283–284). It was one of six samples of archaeological and geological material published in Arnold and Libby's seminal paper, *Age Determinations by Radiocarbon Content: Checks with Samples of Known Age*, which, as the title suggests, reported tests of radiocarbon dating for "samples of known ages". Using dates from the historical chronology of Egypt and comparing results from radiocarbon age determinations, Libby and Arnold stated that the "agreement between prediction and observation is seen to be satisfactory" (Arnold and Libby 1949, 678–679). This proved essential for establishing the legitimacy of radiocarbon dating (Höflmayer 2018). Yet, results from the second sample mea-

sured by radiocarbon dating, which was not published until 1967, produced a contrasting result. It was performed on a sample of wood from the Hellenistic period, which had been supposed by John Wilson, the then director of the Oriental Institute at the University of Chicago. When measured, the ^{14}C was "statistically indistinguishable from that obtained on biomethane – meaning it was a modern piece of wood" (Taylor and Bar-Yosef 2014, 284). While Wilson acknowledged that these results "did not surprise him, as fakes were a common feature of the Egyptian antiquities trade," Libby was "furious" and later stated that had he encountered more fakes "faith in radiocarbon dating would have been rapidly shaken and the research abandoned" (Libby 1967, 9; Taylor and Bar-Yosef 2014, 284).

In 1951, the first age determination for Palaeolithic cave art was published. The age, $15,516 \pm 900$ BP (C-406), was measured from a sample of charcoal that was taken from the Shaft of the Lascaux Cave's "occupation level by M. Séverin Blanc in 1949 and consisted of conifer *Abies* or *Larix*" (Arnold and Libby 1951, 112; Ducasse and Langlais 2019, 132). In 1958 and 1959, samples of charcoal from the Passageway and Shaft were taken and produced additional age determinations of $17,190 \pm 140$ BP (GrN1632) and $16,100 \pm 500$ BP (Sa102) respectively. Around 1966, fragments of reindeer antler were taken and yielded $18,600 \pm 190$ BP (GifA96682) while assegai bone measured $18,930 \pm 230$ BP (Gif1101110) (Gentry et al. 2011, 482; Glory 1964; Leroi-Gourhan and Allain 1979). It is the radiocarbon dating of the reindeer antler that is particularly important because, as we will show below, it plays a major role in structuring the temporal relationships that influence the visitor experience provided by the rock art replica Lascaux II. Yet this relationship, and indeed temporal relationships with Palaeolithic cave art more broadly, have also been impacted by the developments of another "radiocarbon revolution" that occurred in the 1980s.

In 1987, the first studies were published employing Accelerator Mass Spectrometry (AMS) as a rock art dating technique (Hedges et al. 1987; Van der Merwe et al. 1987). This development in radiocarbon dating was transformative for rock art studies because it allowed organic samples as small as one mg to be scraped from paintings and dated (Moro Abadía and González Morales 2007; Valladas 2003). It was quickly applied to Palaeolithic cave art with age determinations of charcoal pigments in bison images measured to $12,890 \pm 160$ BP (GifA91319) at Niaux, $14,330 \pm 190$ BP (GifA91181) at Altamira, and $12,910 \pm 180$ BP (GifA91172) at El Castillo (Valladas et al. 1992: 69). It was also used to produce the initial dates of Chauvet Cave which measured to $30,940 \pm 610$ BP (GifA 95,126) and $30,790 \pm 720$ BP (GifA 95,132) for two rhinoceros and $30,430 \pm 570$ BP (GifA 95,128) for a bison depiction. These determinations were also supported by other dates from a torch mark made on top

of calcited paintings $26,120 \pm 400$ BP (GifA 95,127) and two pieces of fallen charcoal from another torch $26,980 \pm 410$ BP (GifA 95,129) and $26,980 \pm 420$ (GifA 95,130) (Clottes et al. 1995: 1134). From these initial dates, AMS radiocarbon techniques have served as a bedrock for comprehensive dating programs at Chauvet Cave and have been employed alongside Uranian Thorium Thermal Ionisation Mass Spectrometry (U/Th TIMS) to determine ages of charcoal, bone, and calcite (Clottes and Geneste 2012). Both dating techniques have proven essential to determining two periods of human activity within the Chauvet Cave dating from 37,000–33,500 BP and 31,000–28,000 BP (Quiles et al. 2016).

It needs to be stressed that the radiometric dates for Chauvet Cave remain controversial for some researchers (Pettitt and Bahn 2015a; Pettitt and Bahn 2015b). They also were challenged shortly after the publication of the first dates as they contradicted the established stylistic sequence of Palaeolithic art as outlined above (Züchner 1995, 1996). We are not able to delve into these discussions here. However, these debates show that radiometric dating techniques depend to a large extent on a complex interplay between the past and the present. They are techniques that translate physical or material properties that exist in the present into past processes. They are also fundamentally interpretative processes of inference and extrapolation (Bayliss 2009; Jacobs and Roberts 2007). These aspects are underlined by the increasing application of mathematical and statistical modelling in radiometric dating (Bayliss 2015; Hamilton and Krus 2018). Perhaps more than other aspects of contemporary archaeology, they are reflective of a probabilistic understanding of reality. This situation is slightly ironic because radiometric dating techniques are generally presented and perceived as precise and absolute (and, in that respect, in opposition to traditional relative dating techniques). Radiometric dating techniques appear as the ultimate way of validating the idea that an object or a structure belongs to the past or a different time. However, all objects that are radiometrically dated, exist in the present. They are not frozen in time. They have not remained unchanged. In fact, in all radiometric dating techniques, the determination of the age of an object depends on processes of change. For example, in radiocarbon dating, this is the decay of isotopes through time; in optically stimulated luminescence dating, it is the accumulation of photons in the crystal matrix of quartz grains. Consequently, the replica exists as much in the present as the original object. They similarly gain significance through the above-mentioned processes of interpolation and inference. As demonstrated above, fakes can briefly disturb this illusion. They interrupt the imagination of the ability to access an aspect of the past through a contemporary object. Fakes are interlopers and trickster objects, but their disturbances can equally be caused by bad sampling practices,

incomplete sample documentation, archival errors, depositional ambiguities, and sample contamination. The antiquity or pastness of the original object is as much an illusion as the antiquity or pastness of the replica. They both exist in the present and participate in the unstable and socially constructed temporalities of authenticity and originality.

20.4 Time, the Visitor Experience, and Rock Art Replicas

Our discussion so far has highlighted several important elements. Palaeolithic painted caves can be perceived and conceptualised as places in which time and history are suspended. They refer back in time to a point of origin of human achievement or capacity. The replicas of these caves, however, are reflective of two simultaneous temporalities; they refer both to the past and the present. In each case, there seems to be an underappreciation of the fact that both the replica and the original exist and are constituted in the present. All of these aspects come together in an enhanced form in the visitor experience of the immersive replicated rock art sites Lascaux II and Chauvet Cave 2. Both sites entirely surround the visitor in a fabricated environment removing them from the outside world. Both sites encourage an appreciation of the accuracy of the replication and the sites the replicas are copying. Both sites inspire imagination, wonder and belief. To truly understand how these ideas are created for visitors, it is important to remember that the term ‘visitor experience’ is related to each person’s “immediate or ongoing, subjective and personal response to an activity, setting or event outside of their usual environment” (Packer and Ballantyne 2016, 133). It is personal, subject to change, immediate yet continual. It is not, as it was once described, the result of a transmission sent by an organisation and passively received by an individual (Rounds 1999). It is constructed and framed by a personal context (a visitor’s unique experience, knowledge, motivations for visiting, preferences, interests, and attitudes), a sociocultural context (including a visitor’s social interactions that occur with other visitors and staff) and a physical context (an organisation’s architecture and design as well as the objects and artefacts contained within) (Falk and Dierking 2012, 26–29). While it is not essential to discuss a visitor’s personal context in light of this chapter’s subject, it is crucial to acknowledge how the sociocultural and physical contexts are shaped by the management and design of Lascaux II and Chauvet Cave 2 and how these aspects impact the contentions we have made above. This will enable a broader discussion below of the visitor experience provided by rock art replicas and what these temporal dimensions mean for visitors who chose to interact with them.

Chauvet Cave 2 and its original are located in the Ardèche, southeast France. Chauvet Cave is situated in the side of a

limestone cliff overlooking the Ardèche River and natural nearby archway known as the Pont d'Arc (Geneste and Bardisa 2014, 174). It contains over 1000 graphic representations, including 425 animal figures, in addition to thousands of animal skeletal remains, trails of animal and human footprints, combustion structures and flint artefacts (Bocherens et al. 2006; Caverne du Pont d'Arc 2016). In 2014, Chauvet Cave was inscribed into the World Heritage List for meeting two out of ten criteria. Soon after the Cave was discovered in 1994 by the three speleologists Jean-Marie Chauvet, Eliette Brunel Deschamps and Christian Hillaire, the decision was made to never open the site to the public and instead, satisfy visitor demand through the creation of a replica (Clottes 1995, 30). The result is Chauvet Cave 2, a sprawling complex consisting of a welcome centre, giftshop, on-site museum (Galerie de l'Aurignacien or The Aurignacian Gallery), restaurant (La Terrasse), event space, Palaeolithic Camp, and replica. It is situated just two kilometres from Chauvet Cave on the Razal Plateau, a densely wooded area of about 29 hectares overlooking the town of Vallon-Pont-d'Arc (Duval et al. 2020, 145; Caverne du Pont d'Arc 2016). The replica is housed in an enormous round grey concrete building that is engraved with patterns created by scanning the Chauvet Cave (James 2016, 523). It condenses the original cave from 8400 m² to 3000 m² and selectively reproduces 82 sections of the site's archaeological and geological features. Through a combination of scanning, modelling, casting and hand painting, the replica is within millimetre accuracy of the original Chauvet Cave (Duval et al. 2020, 148–149). For visitors, the result of this display, and the broader Chauvet Cave 2 complex, is striking (Fig. 20.2).

Visitors to Chauvet Cave 2 typically attend the site for 3 h (Caverne du Pont d'Arc 2016). During this time, visitors move through the grounds on a network of dry gravel paths that connect the buildings by no more than a few minutes'



Fig. 20.2 The reproduced Panel of Horses at the second last stop inside the replica at Chauvet Cave 2. (Photo: Carole Fritz; reproduced with kind permission)

walk from one another. Five information shelters spread throughout the site serve as rest stops and present visitors with information on both the Chauvet Cave and the replica. One shelter, for example, details the dating activities at the Chauvet Cave and states that both dating and stylistic features of the cave paintings “allow us to assign them to the Aurignacian culture, that is, the first *Homo sapiens* culture known in Europe”. This message is reinforced in The Aurignacian Gallery, where five reconstructed human figures depict the “daily life of Aurignacian families and the activities of the artists” and replicas of Aurignacian mobility art, including the *Löwenmensch* found at Hohlenstein-Stadel in the Swabian Jura in southern Germany, are displayed in well-lit cases (Caverne du Pont d'Arc 2016). Yet, it is the paintings inside the replica that most visitors are eager to see (Mayer 2020, 123). Similar to an original rock art site, the only way to see the paintings is through a guided tour of the replica. In the summer season, guided tours occur every 6 min in groups of about 25 visitors. Visitors meet their tour guide outside of the replica to collect their headsets, which allow them to hear the narration of the guide throughout their tour. Moving down an enclosed concrete ramp and waiting at a set of double doors visitors are instructed not to take pictures or video, not to touch the replica and to turn off their mobile devices (Mayer 2020, 93). With the anticipation building, visitors listen intently as their guide (who vary slightly in their approach) says softly, “I’m going to take you back a bit in time. It’s 18 December 1994” before describing how the Chauvet Cave was discovered and the reasoning behind the site’s permanent closure to the public. The guide then goes further:

We will travel 36,000 years into the past. We’re going to make a huge leap back in time to the Ice Age when Aurignacian people lived... I hope that everyone understands that this visit might completely change your perception of who the *Homo sapiens* were and I’m going to do my best to make that happen. Welcome to the Cave (Duval et al. 2020, 152).

It is here that the illusion begins. The double doors open, and visitors are carefully ushered onto a wide platform that hovers above the floor of a pristine cave complete with sparkling stalagmites and stalactites, floors littered with animal bones and bear-scratched walls. The double doors close and visitors are at the first of ten stops of a roughly 50-minute tour. Throughout, visitor attention is directed to large red dots made by palm prints of ochre, a bear skull placed on a large block, a unique representation of an owl on the cave wall, and more. The final two spectacular stops, which include the Panel of Horses and the Panel of Lions, are described by the guide as the beginnings of art and human visual expression (Mayer 2020, 95). The impact of these interpretations on some visitors is evident. Visitors interviewed after their tour said to one of us (LM) (Mayer 2020, 148–164) (Fig. 20.3):

The tour guide was very good because she really got you in the zone... so by the time the door opened you were already thinking you were going into a cave (I29-R2-M-48)

I think you forgot it was man made so you went with it, I mean I suppose it's like going into the [movie] theatre or something, you lose touch of reality... (I08-R1-F-35)

[I] was saying to these guys that we were going to show them the, you know, earliest ever art... [from] 36,000 years ago... (I23-R1-M-42)

It's actually incredible... when you consider how old that is, you know, it starts your mind thinking well, 'what were those people thinking? Why were they drawing it?' (I24-R1-M-56)

These comments can be contrasted with those made in relation to another immersive rock art replica, Lascaux II. The Lascaux Cave and Lascaux II are located in the Dordogne department in southwest France. Lascaux Cave is situated in a hillside overlooking the Vézère Valley and the picturesque town of Montignac. The Cave was discovered by four boys, Marcel Ravidat, Jacques Marsal, Simon Coëncas and Georges Agniel, and the dog Robot in September 1940. It contains over 150 paintings and 1500 engravings distributed throughout the cave that provide sweeping views of horses, aurochs, ibex, and deer (Delluc and Delluc 1984, 194). In 1947, the owner, Count de la Rochefoucauld-Montebel, instigated several changes to make the cave more accessible to visitors. This included removing rock and sediment deposits that blocked the entrance, lowering the cave's floor, and installing lighting and a walkway (Martin-Sanchez et al. 2015, 282). In July 1948, Lascaux Cave was opened to the public and visitor numbers quickly grew to 1500–2000 per day. By 1960, damage to the cave was evident. Its microclimate had become disrupted by condensation, higher temperatures, and increased carbon dioxide levels. Green stains along the walls had also begun

to appear and by 1962, they had spread to critical levels (Martin-Sanchez et al. 2015, 282–283; Mauriac 2014, 244–245). In 1963, the owner closed Lascaux Cave to the public, and plans were made to create a “faithful” replica of it. After several delays and 11 years of stop-and-start work, Lascaux II opened to the public in 1983. Through 500 tonnes of carefully modelled concrete, meticulously sculpted surfaces and hand painted images, Lascaux II reproduces two of the Lascaux Cave's seven sectors, the Hall of the Bulls and the Axial Gallery, to within centimetre precision. A small museum precedes the replica, which is designed to provide information about the Lascaux Cave's archaeology and historical environment (Delluc and Delluc 1984, 195). Both sit underground in a buried complex about 300 m from Lascaux Cave and are supported by additional facilities, including a giftshop (James 2017: 1368). As a whole, this site provides an increasingly intimate experience for visitors.

Visitors to Lascaux II typically begin their tour soon after arriving at the site. After queueing at the undercover replica entrance area, they are ushered down a flight of stairs and into the first of two museum chambers. It is here that the tour starts. In a group of about 20, the guide directs visitors to a map of Lascaux Cave and explains that they are about to see about 90% of its paintings. The guide then moves visitors to a set of black and white pictures and vividly describes how four teenage boys discovered the cave and how they, “just like you in a few minutes,” entered the Hall of the Bulls for the first time. After hearing the reasons behind shutting the cave to the public, the guide describes how the paintings inside Lascaux II were created using the “same techniques and the same pigments that Cro-Magnons used.” In the second museum chamber, visitors are led to more pictures of the Lascaux Cave, which are used to illustrate the rare use of

Fig. 20.3 The final stop inside the replica at Chauvet Cave 2. (Photo: Carole Fritz; reproduced with kind permission)



black, red, and yellow in rock art in the Dordogne. The guide, almost whispering now, says:

These colours are minerals that Cro-Magnons found in nature and then pounded to make a powder... We know that these paintings are approximately 20,000 years old. Imagine that time. It was completely different. It was the last Ice Age. Temperatures were cold... and reindeer [made up] 90% of their food... These days we are sure that these men, these cave men, never lived in caves... So, the real question is why would they come here? Why would they risk their lives to paint? (recorded during the English tour at 10:10am on 15 August 2016)

It is here that the guide opens up two sliding doors to the first of the replicated rock art chambers, the Hall of the Bulls. The light is low, the temperature is cool, and the guide steadily directs visitor attention from one painting to another through the careful use of a torch. After answering thoughtful questions from visitors, the guide explains that while most animals in the cave have been identified, some, such as those in the Unicorn Panel, remain a mystery. After moving into the narrow Axial Gallery, most visitors are forced to lean up against cold walls of the cave as the guide highlights figures of horses with small heads and large abdomens. Symbols are also illuminated by the guide who instructs the group to take a moment to appreciate the beauty of the paintings before leading them out onto a platform overlooking woods to conclude their tour. After this experience, visitors interviewed at Lascaux II (by LM) said (Mayer 2020, 171–190):

I personally enjoyed the tour guide. She gave it a sense of profoundness... and she gave it some drama... (I82-R1-F-56)

You feel like you're in a real cave... The whole atmosphere, the shape, the walls, the way it looks, the way it feels to touch, the temperature (I67-R1-M-17)

It's like the beginnings of art and that sort of thing (I83-R2-F-56)

[I] felt it was quite moving, you know, quite an amazing thing, you know, art from 20,000 years ago... The people in an evolutionary sense, they were just like you and me, you know, they weren't a different species, they were like us... I personally think it's really extraordinary (I44-R1-M-45)

As the visitor experience of these replicated rock art sites unfolds, the tour guides and the environment of the replica strongly mediate visitor perceptions of pastness and origins. Within the replicated immersive displays, tour guides not only become brokers of physical or emotional access (Weiler and Walker 2014); they become masters of time. At Chauvet, they evoke the notion of time travel (“we will travel 36,000 years into the past”) and the cave as a place of origin. The existence and elaborate design of the replica is celebrated (“I think you forgot it was man made so you went with it”) and denied at the same time or in short succession (“when you consider how old that is, you know, it starts your mind thinking well, ‘what were those people thinking?’”). At Lascaux

II, the guide is just as influential. Visitors are ushered underground and told how they (“just like you in a few minutes”) will discover the Hall of the Bulls for the first time. It is here that time is suspended and the pastness of the replica, or more broadly a sense of authenticity and originality, is bestowed on Lascaux II through its material connection to Lascaux Cave (“the same techniques and the same pigments that Cro-Magnon used”). The guide creates perceptions of time travel by describing the age of the Lascaux Cave’s paintings (“we know that these paintings are approximately 20,000 years old”) and encourages visitors to place themselves in that time (“imagine that time... It was the last Ice Age”). The environment of the replica contributes (“you feel like you're in a real cave... the whole atmosphere, the shape, the walls, the way it looks... the temperature”) as does the visitors themselves through constructing meanings (“it's like the beginnings of art” and “the people in an evolutionary sense, they were just like you and me, you know, they weren't a different species”). Visitors are made aware of the replica but are enabled to appreciate the significance of the original at the same time. They are able to perceive the replicas as modern constructions while connecting them to the age (20,000- or 36,000-year-old) of the original rock art. The visitors, therefore, are able to establish a connection between an origin moment in the history of humanity and their own unique existence in the present.

20.5 Conclusion: Replicated Temporality and Imagined Pasts

The discovery of the Palaeolithic painted caves in France and Spain continue to have a deep impact on public intellectual life far beyond the field of archaeology. It appears that the fascination of the caves has not changed or declined since the general acceptance of their antiquity about 120 years ago. The key to this fascination is, obviously, the notion of art and the connection to the definition of humanity itself. These relationships not only allow a connection between the paintings and every modern observer. They also have fascinated and continue to intrigue a considerable number of art historians and artists (Pfisterer 2008; 2007). Stavrinaki (2020) has recently discussed George Bataille’s deep engagement with Lascaux Cave, which became a key aspect of his writings about anthropogenesis (e.g., Bataille 1955). For Bataille, Lascaux was a miracle that “didn’t just break continuous time; it also contorted it enough to actualise prehistory at the heart of the present” (Stavrinaki 2020, 206–207). Hence, Lascaux is the material reflection of the origins of art in the deep past and because of its miraculous preservation, it enables the experience of this crucial moment of human becoming.

As discussed, these notions have been almost completely preserved in today's visitor experiences of the replicas of Lascaux Cave and Chauvet Cave. The most significant elements of Bataille's vision appear to be largely unaffected by the fact that visitors are not engaging with the original place and the original art. The replication of key aspects of the original as well as the careful mediation provided by the tour guides allow the visitors to negotiate the two temporalities of the replica referencing the present and the deep past. Following Bataille, we could even distinguish four or five temporalities: the present (visitor experience), a shallow past (the creation of the replica), a historical past (the discovery narrative of the caves), the persistence of the deep past (the preservation of the original), and the deep past itself (the creation of the original). We will not be able to discuss and disentangle these intriguing complexities here. However, they rather point to issues that still need to be addressed in future research and how authenticity and originality is constructed and navigated through different and intersecting temporalities. This research could extend to the newer rock art replicas of Lascaux Cave (Lascaux IV) and Cosquer Cave (Cosquer Méditerranée) and virtual rock art caves, which inherently involve the "weirdness" of the digital realm" and include Chauvet Cave, among others (Jeffrey 2015, 145).

In the paper mentioned above, Stavrinaki (2020, 207) argues that Lascaux became the beginning of art arbitrarily because of its perfect preservation but, foremost, retrospectively, "by pure decision of posterity". It is through these processes that elements of origins research (cf. Gamble and Gittins 2004) become entangled in the processes of the creation of heritage. These are processes of the control of time, which have elsewhere been discussed as chronopolitics (Borck 2018). These are always negotiated within dialectical relationships at individual and collective scales and involve the control of origins and the definition of authenticity. In 1973, MacCannell (1973) wrote how authenticity or, more specifically, the search and desire for authenticity, shapes touristic and cultural settings and provides visitors with intimacy and a sense of belonging. The past is transformed from an inherently personal experience to one that is collective and communal, a symbol of continuity and immortality (Lowenthal 1975). Within these processes of collective constructions of the past, descriptions of the art inside the replicas as a 'beginning' can become problematic. When time is brought to a standstill, it can become subject to manipulation and control. When an origin is tethered to one place only, it can become exclusive and exclusionary. In future research and heritage management practices, these are key aspects that need to be critically assessed to fully understand the role of rock art in the twenty-first century and to situate it within past and present processes of globalization.

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Laura Mayer is a lecturer in Archaeology at the University of Western Australia. She completed her PhD on replicated rock art sites that have been used to satisfy visitor demand for originals that have been closed to the public. By reconstructing how these places are experienced by visitors, she explored if they are able to authentically substitute for an original rock art site and determined whether they are an effective heritage management strategy. More recently, Laura has been researching the visitor experience provided by World Heritage Sites in Australia in order to understand if heritage can be used as a tool for reconciliation.

Martin Porr is an associate professor of Archaeology and a member of the Centre for Rock Art Research + Management at the University of Western Australia (UWA). He is an associated investigator of the Australian Research Council Centre of Excellence for Australian Biodiversity and Heritage, Monash University (Monash Indigenous Studies Centre) and an associated researcher at the Frobenius Institute for Research in Cultural Anthropology, Goethe-Universit t Frankfurt am Main, Germany. He has published widely on Palaeolithic art and archaeology as well as general theoretical aspects of archaeological and rock art research. His research has so far focussed on aspects related to the Palaeolithic art of Europe, Australian rock art, and postcolonial/decolonial critiques of human evolution. He has conducted fieldwork in Germany, Thailand, Australia, India, and the Philippines. Between August 2015 and October 2017, he was based at the *Institut f r Ur- und Fr hgeschichte at the Universit t T bingen* (Germany) as a Senior Alexander von Humboldt Research Fellow.

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