



Are you for real?! Tourists' reactions to four replica cave sites in Europe

Karen Hughes^{a,*}, Mucha Mkono^a, David Myers^b, Stella Echentille^a

^a UQ School of Business, Building 39A, University of Queensland, St Lucia, Q4072, Australia

^b 1182 Numinbah Road, Chillingham, NSW 2484, Australia

ABSTRACT

Creating authentic, non-invasive visitor experiences at fragile heritage sites is challenging. This paper explores the potential of replicas to address the negative impacts associated with over-tourism by examining tourists' reactions to four replica cave sites in Europe. Data were compiled from 1369 TripAdvisor reviews, and revealed that tourists were generally receptive to the notion of replication. Responses ranged from deep appreciation of the effort taken to create immersive replica experiences to a reluctant acceptance that replicas are necessary to protect fragile sites. Not all reviews were positive, however, with some tourists being quite dismissive of the replica experience. Thematic coding was used to create five tourist typologies – the pragmatists, the converts, the believers, the purists and the conservationists. Characteristics of each group are described. Managerial implications for designing experiences at replica sites are outlined, and the contribution replica sites could play in addressing the challenges posed by over-tourism discussed.

1. Introduction

The volume of people travelling both domestically and internationally has increased markedly over the last few decades. While travel restrictions have severely impacted on these numbers in 2020, once the global threat of COVID-19 has lessened, it is likely that travel to far-flung destinations will resume. It is still too early to predict whether (and where) tourist numbers will return to pre-pandemic levels; however, the current hiatus provides tourism managers with an opportunity to reflect and reassess strategies to minimise the potential negative impacts of visitation. Nowhere is this more important than at heritage and archaeological sites, where fragile infrastructure is often not designed to withstand substantial and consistent human traffic (Enseñat-Soberanis, Frausto-Martínez, & Gándara-Vázquez, 2019). For example, numerous sites in Egypt are being damaged by exhaust fumes and vibrations from tourist vehicles, tourists climbing on monuments, tourists entering off-limit areas, and tourists purposefully harming the built heritage through actions such as graffiti and souveniring (Enseñat-Soberanis et al., 2019; Hang & Kong, 2001). Likewise, at Petra in Jordan, the processional stairway is now almost destroyed from tourists riding donkeys to the site. Carvings and monuments have been broken by vehicular activity, mason's marks and inscriptions have been abraded away by the curious, and ancient walls have been toppled by lounging tourists and the illegal sale of antiquities by locals (Comer, 2012).

In response to these concerns, many heritage sites have implemented strategies to manage visitor numbers and ameliorate potential negative

impacts of tourism. Measures include creating barriers, paths and restricted zones (Garrod, 2008; Mason, 2005; Shackley, 2006a); implementing booking systems and entry fees (Fyall & Garrod, 1998; Mason, 2005; Milman, 2020); setting curfews and rest periods/days (Hess, 2019); regulating access and activities (Garrod, 2008; Shackley, 2006b); implementing traffic control measures such as park-and-ride schemes and non-polluting transport options to help control visitor movements and behaviour (Mason, 2005; Robbins & Dickinson, 2008; Shackley, 2006a); setting limitations on the numbers and/or types of visitors allowed access (Milman, 2020); and providing interpretation that encourages visitors to behave in a respectful and responsible manner (Jin & Pearce, 2011; Milman, 2020; Reif, 2020). Installing security measures such as guides, alarms and cameras to reduce souveniring, erosion and other potentially damaging tourist behaviours is also common (Manning et al., 2011; Reif, 2020; Shackley, 2006b).

One visitor management strategy that has yet to gain widespread adoption is the construction of replica sites to either augment or replace fragile heritage sites. In 1991, the UK's Ministry of Environment/Department of Employment suggested the use of replicas to protect at-risk heritage sites; a suggestion that was largely met with scepticism and derision (Mason, 2005). Nearly thirty years on, as more and more heritage sites report negative impacts from escalating tourist numbers, it might be time to re-consider. Could replicas be a viable alternative to 'real' sites? How would tourists react, in view of authenticity considerations? Would they be willing to accept these options if it meant the original would be protected and preserved? These and related questions

* Corresponding author.

E-mail addresses: k.hughes2@uq.edu.au (K. Hughes), m.mkono@uq.edu.au (M. Mkono), david.myers@hdr.mq.edu.au (D. Myers), s.echentille@uq.edu.au (S. Echentille).

<https://doi.org/10.1016/j.tmp.2020.100780>

Received 4 September 2020; Received in revised form 23 November 2020; Accepted 23 November 2020

Available online 28 November 2020

2211-9736/Crown Copyright © 2020 Published by Elsevier Ltd. All rights reserved.

form the core of the current paper. By examining TripAdvisor ratings and commentary, we aim to explore visitors' reactions to four popular replica sites in Europe, and use the insights gained to propose management strategies for the development of successful replica attractions.

2. Literature review

2.1. Overtourism: When too much of a good thing is not a good thing

For many years, academics and practitioners have raised concerns about the potential, perceived and real negative impacts of tourism on host destinations [Tosun \(2002\)](#). First coined in 2012, the term 'overtourism' has been used by media, visitors and residents to voice concerns about places that are experiencing problems due to too much tourism ([Goodwin, 2017](#); [Milano, Cheer, & Novelli, 2019](#)). Overtourism essentially refers to situations where the numbers of tourists exceed the limits of either their physical, social, psychological, infrastructural or management carrying capacities ([Cinnaghi & Mussini, 2015](#); [Visentin & Bertocchi, 2019](#)). This excessive growth of tourists leads to overcrowding which negatively impacts on the tourist experience as well as the lifestyles and well-being of the resident population ([Visentin & Bertocchi, 2019](#)).

Common indicators or consequences of overtourism include, but are not limited to: clashes between groups stemming from differences in rules and regulations about social behaviour; local populations being displaced by increased prices and/or tourism developments ([Nolan & Séraphin, 2019](#); [Visentin & Bertocchi, 2019](#)); environmental problems such as littering and overuse of natural resources ([Cole, 2012](#); [Cole & Browne, 2015](#); [Hess, 2019](#); [Van Der Borg, Costa, & Gotti, 1996](#)); crowding, queues and congestion impacting on the daily activities of both tourists and hosts ([Van Der Borg et al., 1996](#)); and goods and services being designed to meet the needs of tourists at the expense of local consumers ([Goodwin, 2017](#); [Nolan & Séraphin, 2019](#)). Issues are exacerbated by the fact that tourism is seasonal, and tourists often use, but rarely pay for, public facilities ([Goodwin, 2016, 2017](#)). Essentially, the community or destination reaches a point where the hosts and/or the guests are dissatisfied.

Destinations currently experiencing well-publicised overtourism include Venice, Amsterdam, Dubrovnik, Mallorca, Angkor Wat, Santorini and Machu Pichu (Conde Nest [Traveler, 2018](#)). These are "honeypot" attractions – established, well-marketed destinations that are highly desirable to both first-time and repeat visitors ([Goodwin, 2017](#)). Many have unique qualities and features which makes it almost impossible to stem the tide of tourists. Where else but Venice can tourists ride in a gondola? The Venetian Hotel in Macau or Las Vegas perhaps, but it's not a real gondola and the scale and grandeur pale in comparison to the original.

Overtourism seems to be particularly prevalent in places of environmental, heritage or cultural significance; places that often hold World Heritage status. Such status can be awarded to sites that contain at least one of the following features: represents a masterpiece of human creative genius; represents an important interchange of human values; is a testimony to a cultural tradition; is an outstanding example of a built landscape; is an outstanding example of human settlement, land-use or sea-use; is associated with events or living traditions; contains features of outstanding natural beauty; represents major stages of earth's history; represents on-going ecological processes; and/or contains natural habitats for conserving biological diversity ([UNESCO, 2020](#)).

A review of World heritage Sites by [Su and Lin \(2014\)](#) found that Europe has the world's largest concentration of WHSs (42%), followed by the Asia Pacific (20%), the Americas (17%), Africa (10%) and the Middle East (10%). Their analysis revealed countries that are popular tourist destinations tend to also have a high number of cultural or natural world heritage sites. Indeed, modelling the relationship between the number of WHSs and tourist arrivals between 2000 and 2009 across sixty-six countries revealed a positive and robust relationship between

the two ([Su & Lin, 2014](#)).

Acquiring WHS status is not all positive, however. Some researchers argue that the fame of World Heritage Sites is the prime incentive for the average tourist to visit – having World Heritage listing spares the tourist/tour organiser the task of site selection ([Frey & Steiner, 2011](#); [Ryan & Silvano, 2009](#)). But it also means increasing numbers of visitors are almost inevitable. To illustrate, Lijiang Old Town, China was inscribed on the World Heritage List in 1997. Its UNESCO designation saw tourist visitation grow from 200,000 in 1992 to 3.1 million in 1997 ([Wang, 2007](#)). Other well-known WHS attractions are experiencing a similar surge in popularity. Fragile archaeological sites such as Pompeii, Italy experienced annual visitation of 3.4 million visitors in, 2017 (Archaeological Park of Pompeii, n.d.); Angkor Wat in Cambodia welcomed nearly 2.6 million international visitors in 2018 ([Phnom Pehn Post, 2019](#)); and Petra, Jordan attracted 620,367 visitors in, 2017 ([MoTA, 2017](#)). At Machu Pichu visitor numbers reached an unmanageable 5000 a day, forcing the recent introduction of a cap and reservation system ([The Jakarta Post, 2019](#)).

The increasing volumes of visitors to heritage sites poses a number of challenges for management. Indeed, the International Committee on Archaeological Heritage Management has expressed concerns that inadequate regulations "... threaten the outstanding universal value of some, if not all, of these sites" and that some places are focusing on the revenue generated by tourism to the detriment of managing the sites' cultural and natural resources ([Comer, 2012](#), pp.3). At some sites, installing tourism infrastructure to cater for tourists has even created new problems. For example, at the Valley of the Kings in Egypt, alterations to the heritage landscape have made some sites more prone to flash flooding. There is also evidence of damage caused by earlier and ill-conceived conservation attempts, provision of infrastructure to support tourist access to the tombs, and changes to the microclimate of the tombs due to overcrowding ([Weeks & Hetherington, 2014](#)).

The magnitude of visitation to iconic archaeological sites illustrates the importance of skilfully developed site management to cope with the ever-increasing volumes of visitors. One approach that has begun to emerge is the provision of replica sites that mimic heritage sites but are specifically built to withstand large visitor numbers.

Replicas are not new. During the nineteenth century, the plaster reproduction of antiquities was at its zenith in museums such as the Victoria and Albert Museum in London and the Römisch-Germanisches Zentralmuseum in Mainz ([Foster & Curtis, 2016](#)). Archaeological sites were also replicated for public exhibition. For example, in 1821 the tomb of Seti I was reconstructed at the Egyptian Hall in Piccadilly, London ([Pearce, 2000](#)). More recently, there have been pared-down replicas of tourist icons installed in places of leisure and have proven to high functioning spaces for leisure. These include themed hotels and casinos in Las Vegas that sport features such as Egyptian pyramids, gondolas, the Eiffel Tower and Roman baths; and real estate enclaves in China replicating the WHL village of Hallstatt, Austria and central Paris. So, while replicas themselves are not new, creating large-scale replica sites to alleviate visitor congestion at the original site is. The question arises, however, as to whether these sites provide an accurate and authentic insight into the real history of a destination. Can a replica site still evoke similar insights, emotions and sense of connection? Will tourists accept these replica sites as a viable alternative to seeing 'the real thing'?

2.2. Replicas and the quest for authenticity

The concepts of authenticity and staged authenticity have been extensively deliberated for decades. Tourists' drive to experience authenticity was first discussed in detail by MacCannell in 1973 where he postulated that tourists are in search of authentic experiences that allow them to escape from the anxieties of modern lifestyles. These ideas are supported by the existential philosophy of [Heidegger \(1927\)](#) and [Sartre \(1969\)](#), and postmodernist philosophy of [Baudrillard \(1988\)](#),

which propose that postmodernism has triggered a widespread moral, social and identity crisis that has fractured humanity's social existence and individuals' sense of self (Cohen, 1988; Goulding, 2000; Houston & Meamber, 2011; MacCannell, 1973). These philosophers argue that society has entered a new epoch of unprecedented instability, fragmentation, inauthenticity and unfamiliarity, and that the resultant chaos has alienated us from the external world and our internal identity. It is this alienation that has provoked the desire for a truly authentic experience to re-establish oneself in the matrix of existence.

Interestingly, since modern society is arguably inauthentic, those who desire the 'real' and 'true' are turning to the past to fulfil this desire. Consumption of authentic heritage-based tourism experiences has increased markedly during the late twentieth and early twenty-first century (Chronis, 2005; Goulding, 2000; Houston & Meamber, 2011; Lowenthal, 2015). There is growing interest in tourism experiences that revolve around the past; those which offer tourists the chance to travel back in time to experience "what life was *really* like" (Goulding, 2000; Houston & Meamber, 2011). MacCannell (1973) compares the authenticity-seeking tourist to that of a religious pilgrim, noting the similarities in motivations. While the pilgrim journeys to places where religious events occurred, tourists actively embark on journeys to discover places of social, historical and cultural importance; a "contemporary quest for history" (Houston & Meamber, 2011, p. 177). Both are on quests for true and authentic experiences.

The concept of quest is founded on the assumption that there is, in fact, an objectively authentic space which people can occupy (Houston & Meamber, 2011). This temporal space does not exist, however; at least, not in reality. According to MacCannell (1973), many tourist experiences occur in front regions – settings that have been deliberately designed to mimic authentic back-stage or 'real' places. Appealing, but essentially inauthentic. In the context of heritage tourism, for sites to effectively encapsulate the dimensions of a historical narrative in a way that is appealing and palatable, the often complex and multi-dimensional details of history must be skewed and omitted (Chronis, 2005; Cohen, 1988; Goulding, 2000). Raivo (1999) notes that some replica sites, along with more contemporary museums and interpretation centres, are pseudo-historic in that they represent a sanitised form of history. Similar observations have been made by Walby and Piché (2015), who note that while reconstructed Canadian prison attractions give visitors a glimpse into the past, they cannot for obvious reasons, provide a true prison experience. These front regions are, inherently inauthentic and, in accordance with MacCannell's (1973) theory, cannot give tourists a true sense of authenticity.

Scholars argue that MacCannell's version of authenticity fails to allow for the possibility that authenticity resides in the perceptions of tourists themselves (Walby & Piché, 2015), and that not all tourists are seeking authentic experiences (Urry, 1990). Wang's (1999) tourism study conceptually classifies the meaning of authenticity into three distinct categories – objective, constructive, and postmodern. The first, objective authenticity, refers the "realness" of objects that can be measured against absolute and objective criteria. It is usually independently judged by experts, rather than tourists (Steiner & Reisinger, 2006). The second, constructivist approaches, view authenticity as a function of the observer's interpretation. Thus, the same object can be interpreted in different ways by different audiences depending on their personal and idiosyncratic perspectives (Brown, 2013). Lastly, but most relevant to replica tourism, is postmodern authenticity, or alternatively, existential authenticity. This is defined by Wang (1999) as an 'activity-related state' which allows one to escape into a liminal space that blurs the line between the fake and the real. This goes beyond whether the product/service/experience is literally or symbolically authentic to encapsulate the tourist's active role in the experience and their subsequent interpretation of whether the experience was authentic or not.

While this dichotomy may seem clear-cut, scholars have continued to debate the nature of authenticity in tourism, and proposed a number of contested definitions, viewpoints and perspectives on authenticity.

Many researchers conceptualise authenticity as being on a continuum of some sort (Walby & Piché, 2015); rather than black or white, authenticity is viewed as having "a wider spectrum, rich in ambiguous colors" (Wang, 1999, pp. 353).

With advances in technology comes post-modernist authenticity, where the lines between what is real and what is technologically enhanced become blurred; where experiences and toured objects can be 'hyperreal', that is, more real than the real (Ong & Jin, 2017). Settings mimic backstage areas but also have all the conveniences required to meet tourists' needs. At some sites, attempts are made to create spaces and features that have an authentic 'feel', at others they unashamedly do not. Either way, tourists tend to immerse themselves in the activity to the point where they can completely forget their role as a tourist (Cary, 2004). Increasingly, heritage attractions are also including high tech options such as virtual reality (an artificial environment that is presented in a way that encourages users to suspend disbelief and treat it as real) and/or augmented reality (computer-generated multi-sensory effects that enhance the user's real-world experience).

A summary of the main types of authenticity discussed in the heritage tourism literature, together with examples, is presented in Table 1 with key references. In the final column we have indicated how cave replica sites might fit into this matrix.

Table 1 provides an insight into the content and design of tourist sites, and takes some steps towards explaining how tourists perceive and react to tourist settings. We propose to build on this by focusing on tourists' evaluations of their experiences at sites that are clearly marketed as replicas. Of particular interest is whether tourists notice that settings, materials and artefacts are not authentic in the objectivist sense of the word; and if they do, how this impacts on their experiences and learning. Do tourists notice or mind if non-traditional elements are inserted into the setting to give a 'feel' for what would have been there? How 'real' does something have to be in order to create a fulfilling tourist experience?

2.3. Tourists' reactions to replicas

The limited research conducted in replica settings suggests that aesthetics plays a crucial role in visitors' satisfaction. Goulding's (2000) study of consumer behaviour at three heritage sites focuses on the construction of authentic experiences. From qualitative reviews collected in the study, Goulding identified three different visitor groups: the existential, the aesthetic, and the social visitor. Within the identified existential and aesthetic visitor groups, Goulding discusses the heightened importance of aesthetics (of historical artefacts and objects) in creating an authentic and credible past. The aesthetic experience, broadly speaking, is one that encompasses "experiential, symbolic, sensory, and affective dimensions" (Houston & Meamber, 2011, p. 178). Accounts of visitors' experiences show that engagement of the senses (sight, sound, touch, smell and taste) are highly appealing and more enjoyable than simply viewing artefacts through glass or between velvet roping. The importance of providing multisensory experiences has also been mentioned by tourists at penal history museums (Walby & Piché, 2015) and at cave replica sites (Duval, Smith, Gauchon, Mayer, & Malgat, 2019).

There is also evidence that the staging and management of tourists' movements may impact on their perceptions and engagement with replica attractions. Sarial-Abi, Merdin-Uygur, and Gürhan-Canli (2020) studied tourists' reactions to King Tutankhamun's replica tomb situated in close proximity to the original in Luxor, Egypt. Despite it being a replica, tourists rated the replica tomb more favourably than the original because their movements were less restricted. It seems that when control and movement are restricted, tourists perceive the experiences to be less authentic, even when they know they are visiting the original (Beverland & Farrelly, 2010).

Table 1

Types of authenticity commonly mentioned in tourism studies.

Perspective	Meanings of authenticity	Characteristics	Examples	Relevance to replica sites
Objective (Kolar & Zabkar, 2010; Steiner & Reisinger, 2006; Wang, 1999)	The object is genuine, unadulterated, the real thing.	• Artefacts are originals • Authenticity is measured against absolute and objective criteria • Authenticity is judged by experts • Only the original can be authentic	• Attraction is situated on the original site • Buildings and features are original • Artefacts are original	• N/A
Constructive (Brown, 2013; Cohen, 1988; Naoi, 2004; Park, Choi, & Lee, 2019; Mkono, 2012; Walby & Piche, 2015; Wang, 1999)	Authenticity as authority	• Authenticity is defined by experts • Official narratives and stories sanctioned by those who manage the site • History may be tweaked to suit tourist purposes but rarely mentioned • Timeframes not always totally accurate	• Certification • Affirmation through plaques, signs etc. • WHA sites, national parks, museums	• Rare
	Authenticity as genuineness	• Complete and accurate simulation • Historically accurate • May contradict what tourists believe is authentic	• Uses old materials and original methods in reconstruction	• Sometimes, but not always
	Authenticity as historical verisimilitude	• Credible and convincing • Believable to tourists • Personal judgement based on tourists' perception of the site's built and social environment • Layers of meaning and narratives	• Often uses symbolism to convey authenticity (not necessarily historically correct) • Facades denote particular time/place • Period costumes • Stories • People doing craftwork	• Common
Post-modern authenticity (Kim & Jamal, 2007; Ong & Jin, 2017; Park et al., 2019; Rickly-Boyd, 2012; Walby & Piche, 2015; Wang, 1999, 2000)	Existential authenticity	• Authenticity of experience • Incorporates tourists' emotional and psychological reactions • Site is set up to maximise satisfaction with the tourist experience • Features are not original or authentic (or presented as such) but are necessary to support the tourist experience	• Back stage closed to tourists; front stage made to feel real • Like a stage set • Paths to facilitate access • Safety features for compliance • Features that make it a pleasant tourist experience (toilets, landscaping) • Elements that protect the resources and guide tourists' behaviour (barriers, garden beds etc).	• Common
	Hyper-reality	• No distinction between what is real and what is simulated • Allows comingling of physical reality with virtual reality	• Tourists are willing to suspend disbelief • Can include creation of fictitious places (e.g. Walt Disney World's Pandora)	• Common

2.4. Method and approach

Given the largely exploratory nature of our study, in terms of understanding tourists' views and experiences of replicas, it was important to keep our analysis of tourist texts open to multiple interpretations of authenticity, rather than restricted to an a priori framework. Similar exploratory analyses have been used in staged/replica tourist settings such as heritage villages (Goulding, 2000; Rickly-Boyd, 2009), King Tutankhamun's tomb (Sarail-Abi et al., 2020), penal history museums (Walby & Piché, 2015) and the Chauvet-Pont d'Arc replica cave (Duval et al., 2019).

2.5. Research setting

The current study evaluates tourists' perceptions of four popular replica cave sites in Europe: Altamira in Spain, and Lascaux II, Lascaux IV and Chauvet II in France. These sites were chosen because they were specifically constructed to replace and thereby protect fragile archaeological sites. Such replication is not common outside Europe, hence the focus on European attractions. This narrow focus also facilitates comparison between sites, and allows the researchers to identify patterns in the data.

2.6. Altamira

The Altamira cave was discovered in 1868 and is globally renowned for its prehistoric paintings and engravings (Dans & Gonzalez, 2018).

During the 20th century, walls and paths were constructed inside the caves to facilitate access for visitors. Over the years, the presence of visitors began to impact on the cave art. In response, the cave was temporarily closed to the public in 1977, re-opening again in 1982 with a strict quota. In 2002, the cave was again closed amid concerns about continuing deterioration of the paintings. A museum and replica cave were constructed nearby (Dans & Gonzalez, 2018).

2.7. Lascaux II and IV

Lascaux II in France, the world's first replica cave, is located on the same hill as the original cave and opened in 1983. The attraction contains reproductions of 90% of the paintings contained in the original cave (Lascaux, 2017). Lascaux IV, which opened in 2016, is a completely new replica housed in a half-buried building at the foot of the Lascaux hill. It presents content via 3D screens and augmented reality, and markets itself as providing opportunities for tourists to personalise their experience and immerse themselves in the wonder of cave art (Lascaux, n.d.).

2.8. Chauvet II

The fourth site, Grotte Chauvet II–Ardeche, is the world's largest replica cave. Sited a few km from the original, it opened in 2015 and houses full-size artwork in a condensed replica of the original cave system. Ambient features such as lighting, temperature, humidity and noise have been faithfully recreated to augment the visitor experience,

and a virtual reality cave experience is also offered.

All sites feature replica caves and offer various interpretive experiences for visitors. A summary of these, as advertised on the attractions' websites, is presented in Table 2. Annual visitation rates are also included.

2.9. Procedure

Data were compiled from 1369 comments written in English about the four replica sites on the TripAdvisor website. First, the lead author read through all the comments to obtain an overview of the key themes and sentiments expressed. This was followed by an initial thematic coding exercise (Braun & Clarke, 2006) in which visitors' comments were allocated into one of four broad, deductive topic categories, guided by our research aims and context. These were assigned titles and highlighted in particular colors as follows:

1. Comments about authenticity Yellow
2. Comments about commodification Blue
3. Comments about conservation Green
4. Comments about on-site interpretation Magent

In regards to the analysis of touristic interpretations of authenticity, however, our approach is necessarily inductive, that is, open to emergent categories, rather than confined to a singular view of the concept. These classifications were sent to the other three researchers, together with a sample of comments considered to fall within each. The three researchers independently perused the categories and sample comments, then met with the lead author to discuss further. At this point, it was decided to continue with the initial classification. The lead author did so, regularly checking with the other three researchers if there were comments that seemed to belong to more than one category.

Passages of the same color were collated into separate files. These

Table 2
Tourist facilities and activities at each replica cave site.

Site	Features and facilities	Visitation
Altamira	- Interpretive displays about prehistoric life, artistic expression (e.g. painting, dancing, music), and the story behind discovery of the caves - Interactive workshops for adults that focus on how prehistoric people made use of natural resources in the surrounding area - Family education activities such as painting sessions and walks in the garden	277,474 ^a
Lascaux II	- Interpretive displays depicting prehistory, the evolution of mankind and the history of tool-making - Discovery trail that incorporates a view of the entrance to the original cave - Interpretive displays about prehistoric times and cave art - The Lascaux Studio - VR cave experience that allows visitors to make virtual cave art, displays on conservation, opportunities to handle replica objects	250,000 ^b
Lascaux IV	- Audio visual presentations that outline the history of cave art, the cave's discovery, and ongoing research - A 3D presentation of the original cave and other prehistoric caves around the world - Interpretive exhibits about Palaeolithic people, their myths, and their world.	260,000 ^c
Chauvet II	- Life-size animal replicas (e.g., mammoths, bears, lions, and rhinoceroses) - Touch screen terminals and interactive devices 'Behind the scenes' exhibits about the challenges of restoration and constructing replicas. - Audio guides in 11 languages	343,000 ^d

^a Ministerio de Cultura y Deporte, 2019

^b Ministère de la Culture (2020a, 2020b)

^c The Connexion (2017)

^d Ardeche Tourism (2019)

were then reviewed for key sub-themes within each category and apportioned numbers and titles. The resulting sub-categories were independently perused by the three other researchers, and minor adjustments made in cases where all four researchers agreed. This process produced the sub-themes presented in Table 3.

Next, each review was assigned a sub-category number depending on its subject matter. If two or more sub-themes were covered within one review, these were separately color coded. Finally, reviews were combined into aggregated data files to allow for the extraction of representative quotes.

At this point, it was decided to rename the categories according to the tourists' overall response to their experiences, focusing on reactions to replicas and the issue of authenticity. Thus, the authenticity category was divided into five sub-themes:

- those who accepted and appreciated the replicated nature of the caves (a combination of 1.1 & 1.3 – relabelled *The Pragmatists*)
- those who were replica sceptics but found themselves enjoying and learning from the experience (1.5 & 1.6 – retitled *The Converts*)
- those who fully immersed in the experience to the point where they either forgot or failed to consciously realise the caves were replicas (1.2 - renamed *The Believers*).
- those who questioned the validity of the replica process (1.4, 2.1, 2.2 and 2.3 – renamed *The Purists*)
- The two sub-themes in the original third category 'Conservation awareness' were combined into one named *The Conservationists*.

Comments in the original final category 'Interpretation' were not used to develop the tourist typology, but rather, informed our recommendations in relation to the design of effective replica experiences.

In addition to written comments, the 1369 reviewers' overall ratings (terrible – excellent) were extracted and categorised to gain an insight into whether tourists' experiences of replica sites are generally positive or negative.

3. Results

Reviewers' rating for the four replica cave sites are presented in Table 4 – percentages in brackets are the percentage of visitors assigning a particular rating at the site they visited.

Across the four sites, ratings were predominantly positive, with most

Table 3
Sub-themes that emerged from thematic coding of tourists' reviews.

Category	Sub-themes
<i>1: Authenticity</i>	
1.1	Feel of a real cave/atm
1.2	Accept replica as a good substitute for original
1.3	Impressed
1.4	Non-authentic feel
1.5	Replica dismissed scepticism
1.6	Simulacra
<i>2: Commodification</i>	
2.1	Want real objects
2.2	Commercialisation
2.3	Criticism of replicas
<i>3: Conservation awareness</i>	
3.1	Good to save original
3.2	Lack of conservation consciousness/visit real caves
<i>4: Interpretation</i>	
4.1	Inclusive and accessible
4.2	Informative/learning experience
4.3	Not informative
4.4	Exhibit labelling
4.5	Good technology
4.6	Poor technology

Table 4

Visitors' ratings of the cave experience.

Site	Excellent	Very good	Average	Poor	Terrible	Total
Altamira	141 (42%)	86 (32%)	43 (14%)	20 (7%)	18 (5%)	308
Lascaux II	265 (42%)	150 (30%)	62 (15%)	28 (7%)	22 (6%)	527
Lascaux IV	185 (47%)	69 (27%)	29 (13%)	15 (6%)	14 (4%)	312
Chauvet II	152 (58%)	41 (28%)	14 (9%)	8 (3%)	7 (2%)	222
Total	743	346	148	71	61	1369

visitors (79.5%) submitting ratings of 'excellent' or 'very good'. The newest replica site, Chauvet II, did particularly well in this regard, with 87% of the 222 reviews extracted assigning it an Excellent or Very Good rating. Very few visitors thought the experience was terrible, though it could be argued that there is little semantic difference between terrible and poor. Thus, the proportion of visitors expressing dissatisfaction sits between 10% and 15% across the four sites. While not large, this does indicate that some visitors did not enjoy the replica experience and that such sites may have limited appeal to certain proportions of the population.

To explore tourists' reactions to the replica caves further, results are presented and discussed according to the five broad visitor types extracted from the data: *The Believers*, *The Purists*, *The Pragmatists*, *The Converts*, and *The Conservationists*.

3.1. The Believers (approx. 60% of all comments)

Believers are positive and proactive tourists who champion the idea of replica tourism. They seem to have visited the replica site with an open mind and a willingness to invest in the experience. They are eager to escape into the tourist setting, immersing themselves in all the elements that have gone into creating an 'authentic' atmosphere. Generally, they are unconcerned about whether the sites are real or not but will use comparisons to the original to emphasise the excellence of the replica sites:

Could easily be mistaken for the real thing I visited the original cave some years ago and can testify to the authenticity of the reproduction (Chauvet II).

One of our friends was picked from a lottery of early arrivers at the museum that Friday to go down into the actual caves. We learned a great deal from her, and she felt that the recreated cave was a perfect reproduction and actually easier to experience than the real cave (Altamira).

The artistry that has gone into designing the replica cave sites has enhanced the experience of many visitors. The Believers recognise that multiple sensory elements have been included in the site's design to emulate the atmosphere evoked by the original caves. The drama of the space, including the 'dramatic' lighting, the ambient temperature and tactility of the exhibits activated their senses (sight, sound, touch, taste and smell) and contributed to suspension of reality:

Once inside, it's hard to imagine that you are not in the real cave. Even the ambient temperature is the same as the actual cave (Lascaux II).

Though this is not the actual cave, it is a perfect re-creation of the cave paintings and environment right down to the temperature and humidity of the real cave. You feel as if you have visited the actual cave (Altamira).

The smell, humidity and lighting have been carefully crafted to give as authentic an experience as possible (Chauvet II).

Lascaux II is an exact reproduction of the original –also underground, climate controlled, well lit, very very dramatic, accessible (Lascaux II).

Some Believers were particularly impressed by being able to see and feel the rock art. They felt this sensory activation made the experience better than visiting the original sites, using words like 'dramatic', 'immersive', 'atmospheric' and 'complex':

The fact that museum is a replica actually was even better, as one could

learn in detail the paintings (Lascaux II).

The visit was actually something more than just a visit to another cave (Lascaux II).

Whilst this is a replica it in many respects is better than the real thing because it has so much added interpretation (Lascaux IV).

The immersive features of the replica sites seemed to allow visitors to escape into the experience. Believers often expressed sentiments of escapism and emphasised the blurred lines between reality and fantasy:

I am a caver professional geologist Lascaux 2 is a reproduction of the environment of the real cave .it is astonishing had I not known that it was not the real cave neither my caving expertise nor my geological training would have alerted to me that it was a reproduction (Lascaux II).

I felt an intimacy with the cave and its paintings which i know is ridiculous because it is a facsimile. After 5 min you do start to feel it is a real cave and the atmosphere generated is authentic (Chauvet II).

3.2. The Purists (approx. 21% of all comments)

The Purist is a naysayer who does not appreciate replica tourism – for them, it's all about authenticity and value for money. This group seeks an immersive and authentic experience and finds no appeal in the fake and replicated. They have strong pre-conceived ideas and generally struggle to change their opinion, even if they enjoyed their visit. Perceived value for money is particularly important - many felt swindled out of their money because they had expected a 'real' experience. They accuse the sites of supporting mass tourism, making money and commercialisation. For Purists, the replica lacks the honesty and authenticity of the original:

The whole experience was too busy and commercialised.... (Lascaux II).

A reproduction it wasn't worth the wait or cost (Lascaux II).

Guides are absolutely useless, they hired them only to organize the whole process of money-making, so more people get to see replica and pay 16.5 euros to stay for half an hour in the cave (Chauvet II).

Perceived lack of information also led to disappointment. Many were unaware that the sites were, in fact, replicas, and that visitors were no longer able to visit the original caves:

We felt conned and disappointed to discover it was a plastic replica! I asked a guide and she told me it wasn't the real cave. This was not made clear to us at any time (Altamira).

Ok, first things first and as others have noted, this is not the original Chauvet Cave, so you will NOT see any real prehistoric paintings during your visit. Unfortunately, we discovered that only when we were about to enter the cave, so at that instant it was a big disappointment (Chauvet II).

Additionally, there was evidence that Purists rely on vagaries to express their dislike for the replica cave sites. Many felt that the replica sites lacked 'magic', 'atmosphere', 'spirit' and 'authenticity', and emphasise that the 'emotion' that they hoped would be evoked by the ancient rock paintings fell short of 'excitement':

To be honest for me it means nothing to look up at a drawing that someone did 20 years ago and be told 'ooh the real one is 18,000 years old' sorry I am not excited by that (Altamira).

Although a lot of money has been invested in the museum and the "Neocave", the latter falls short of reproducing the all-important ambience of cave art – the darkness and the typically demanding access, not to mention the associated dripping stalactites – without which you might as well look at good quality photographs.

It is of note that many purists used Disney and its associated theme parks as a point of reference in regards to the replica sites' execution of authenticity and realness. Most had a negative tone, highlighting the similarity between replica sites and the staged authenticity of Disney theme parks:

For me it was like going to Disney World and nothing there was for real. The rebuild is just a copy and does not reflect the reality (Altamira).

The whole thing is like Disneyland, technology for technologies sake, meaningless and unworkable (Lascaux IV).

I understand the scientific need to do so but building a huge touristic spot

around replicas is ... weird. It's like a prehistoric Disneyworld (Chauvet II).

I found the entire experience lacking in giving me any feeling for the actual artwork. Reproduction was really only fair and Disney could do better (Altamira).

3.3. The Pragmatists (approx. 6% of all comments)

The Pragmatists are keenly aware that replica sites are imitations of the original cave sites but understand and respect why this management approach is necessary. Even though some would prefer visiting the original, they were enthusiastic about the alternatives. They particularly appreciated efforts to create replica experiences, and regarded replica tourism as the "next best thing":

I know there are debates about visiting replica sites, but I would definitely recommend visiting this cave if you get chance as it is probably the closest you will get to the real thing (Lascaux II).

It's as close to the real thing you can get without destroying the original (Lascaux IV).

The museum is a good compromise with an excellent recreation of the paintings that exist in Altamira (Altamira).

Pragmatists are aware that it is no longer a question of whether one site is better or more authentic than the other. They feel that the replicated art still encapsulates the artistry expressed by their prehistoric ancestors. Rather a replica site than nothing at all, the Pragmatist would say.

The museum's theme is not about authenticity, but offering essential information about this remarkable early human artistic production to the general public (Altamira).

The reproduction of the Altamira Cave is better than the real thing that I saw 40 years ago Purists may complain that it is not the real thing, but if it were not for this excellent reproduction no tourist would be able to see and enjoy this spectacular gallery of prehistoric art (Altamira).

Given the choice between seeing a reproduction and never seeing the artwork of our ancestors you have to go for the former option. It merits 5 stars (Chauvet II).

3.4. The Converts (approx. 5% of all comments)

The Convert is a tourist transformed. These are people who are initially dubious about the value of replicas but have visited them anyway. Once there, they become immersed in the experience. Converts appear to go through an epiphany - from initial reluctance to enthusiastic reverence - having understood that while an attraction may be 'fake', it can still be an immersive, meaningful and enjoyable experience.

Authenticity is mentioned many times by Converts. Comments suggest that this group initially assumed that only the real and authentic could be valuable and meaningful. Many approached the replica experience expecting it to be 'tacky', 'boring' and 'artificial', but were subsequently surprised by the insights gained:

I imagined, reading some other T.A. reviewers comments before going, that it was going to be artificial and tacky. How wrong I was. The attention to detail to replicate the original site and then using multimedia displays and information to educate and enthral the visitor about early man was fantastic And we visitors can at least see and learn something with a very excellent exhibition. The alternative is to see nothing and learn nothing because the original caves have to be closed to the masses, who by their very presence, were ruining the original art work (Altamira).

I was nervous I would not be blown away by the reproduction for Lascaux as much as I would for the real thing. I was amazed and in awe walking through the fake cave with the fake paintings. Don't let the word fake fool you this is a must do! (Lascaux II).

Some Converts were concerned as to whether the replicas would provide a meaningful experience, and if it would compare to the original. They seem surprised that the replicas had been meticulously reconstructed to copy the original and provided the same immersive, authentic and enjoyable experience:

Didn't want to go. Who wants to see a copy? Who wants to go underground? Not me. However, my mistake. I know it is a copy but the spirit of the cave lives on in the replica (Lascaux II).

You could doubt (like us because it is fake) but as soon as you step in the cave, you forget it (Chauvet II).

The replica is exact, right down to the crystals glittering on the floors, the scratches left on the walls by cave bears. I don't usually rave about replicas, but this is quite extraordinary (Chauvet II).

3.5. The Conservationists (approx. 8% of all comments)

The Conservationist is largely self-explanatory. These tourists support and champion the idea of replica tourism solely because it conserves precious artefacts. They are enthused by the idea of replica tourism, emphasising the 'great' and 'ingenious' idea of the recreated sites:

The recreation of the Lascaux cave and its drawings has provided an identical work that allows the viewer to see everything much more comfortably than the real thing without destroying it (Lascaux IV).

The ingenious idea of the recreation allows you to see the amazing art without destroying the original (Chauvet II).

a great way to see the marvellous art from prehistory without running the risk of destroying it (Lascaux II).

4. Discussion & Conclusion

Reactions to the four replica sites ranged from full acceptance and willingness to immerse in the experience to comprehensive rejection of replica experiences as commercialised and inauthentic. Some visitors note the presence of reproductions and appreciate the opportunity to experience something akin to the original; some immerse themselves in the experience to the point that they forget about the surroundings being replicas; others can't get past the fact that the site and paintings are reproductions. Clearly, authenticity is in the eye of the beholder. What is promising, however, is that regardless of whether or not visitors thought the sites were authentic, reactions were predominantly positive.

Categorising responses into tourist typologies allows us to see how different groups perceive, interpret and experience replica sites. For the Believer and the Convert, aesthetic qualities such as the surroundings, materials, and ambient features enhance the atmosphere, and encourage them to fully immerse themselves in the cave setting and experience. The drama of the space, including the 'dramatic' lighting, the ambient temperature and tactility of the exhibits activate visitors' senses (sight, sound, touch, taste and smell) and contribute to their suspension of reality. Many noted that, once inside, they simply forgot the caves were a reproduction. These findings align with claims by [Goulding \(2000\)](#), [Rickly-Boyd \(2009\)](#) and [Houston and Meamber \(2011\)](#) that aesthetics are essential in establishing narrative and authenticity. Thus, it would seem that any attempt to insert replica experiences into mainstream tourist portfolios will need to consider these elements very carefully – replica experiences supported by poor or unconvincing aesthetics may be worse than no visitor experience at all.

For some tourists, however, attempts to recreate the look and feel of prehistoric caves were met with derision. This was particularly evident in the Purist group. Here, the main concern seemed to be a feeling of being duped or cheated by being presented with reproductions. As mentioned, the use of replicas is relatively new in tourism – perhaps visitors hadn't expected or even envisioned reproductions being a possibility. It's likely that most of those in the Purist group would probably not have visited had they realised. Indeed, Purists were clearly reluctant to accept replica sites – for them, perceived commodification and commercialisation had reduced the value of their experience. The new replicas of Chauvet II and Lascaux IV received considerable criticism in this regard. Obvious signs of modernity and newness have clearly detracted from the 'heritage' experience. While tourist products, services and experiences will inherently be commodified and modernised

to a certain degree, it seems replica sites should not underestimate the importance of camouflaging and concealing modern trappings. Our data suggests that they would also benefit from being more explicit in their advertising about the caves being replicas.

Comments referring to Disney's execution of staged authenticity were unexpected but intriguing. The replica sites have been perceived as comfortable, palatable and sanitised versions of the real caves, which may be redolent of the manicured experiences Disney theme parks offer; aesthetically pleasing but, essentially, a facsimile. The replica sites studied here are a modernised, refined experience that no longer require visitors to navigate through the close confines of actual caves, but rather stroll through the well-lit walkways with ease, similar to visiting a regular museum. This ease of accessibility was noted and appreciated by many; however, researchers such as Raivo (1999) and Walby and Piché (2015) argue that sanitisation of historic sites and events may dilute their authenticity. While this is possible, we must not forget that the main purpose of replica experiences is to protect the original. Once visitors know this, perhaps they will be more accommodating. Exhibits that clearly explain why replicas are necessary, including photographs and diagrams that clearly articulate past and potential impacts of visitation on the surface of the original caves, would help in this regard.

Several reviews mentioned Disney and its associated theme parks as a point of reference to the replica sites' execution of authenticity and realism. Rides and attractions deliver an amalgamated experience of reality and fantasy that is generally perceived in a sincere and authentic way. For the guest, the lines become blurred to the point where a liminal space is developed - when people visit Disney, they willingly suspend their sense of disbelief and enter into a fantasy. This is true for most historical and thematic attractions - aesthetics are used to establish a truth that is co-created by the site and its visitors (Tesler-Mabé, 2017; Houston & Meamber, 2011; Milman, 2020). Further studies exploring guests' reactions to the design and delivery of staged authenticity in theme parks may illuminate, more comprehensively, the elements that contribute to creating an effective replica heritage experience.

5. Conclusion

It is clear that the vast majority of visitors who reviewed the sites embrace a postmodernist view of toured objects, allowing them access to existentialist and constructivist forms of authenticity - ones they can define and negotiate for themselves. By focusing less on the objectivist dimensions of authenticity, they are liberated from the rigid boundaries of real and fake. They essentially transcend the restrictive and even tiresome quest for the real-real, and embrace a fake-real, thus problematising the dichotomy prescribed by notions of objective authenticity. The observations here corroborate the view that in post-modernity, where tourist experiences increasingly incorporate simulated reality (Buchmann, Moore, & Fisher, 2010), the real-real is a case of ever-receding horizons. Given that we live in an increasingly digital world, it is possible that the notion and importance of authenticity in tourist settings will recede altogether. Definitions and descriptions of various types of authenticity may soon be passé; rather, researchers may simply have to accept that each tourist perceives and experiences their own version of authenticity regardless of the 'realness' of site. In the future, tourists may come to expect and accept that tourism experiences include some level of manipulation - the distinction between what is historically real, what is partially real and what is replicated may blur to the point where tourists no longer notice or care about the difference. Results obtained in the present study suggest we are already treading down this path. This has important implications for theory development as it suggests that new approaches to conceptualising and measuring tourists' perceptions and satisfaction with heritage experiences may be needed.

Replica sites go beyond what is objectively real and authentic by offering experiences that are authentically fulfilling to the visitor. The Believers, the Conservationists and the Pragmatists were highly

responsive to this existential escapism - they seemed to be quite willing to suspend their conceptions of reality in order to immerse in the tourist experience. Their openness to experiencing something different, albeit not the original, was clearly evident in their comments. The Converts were initially less receptive, but also showed signs of being able to suspend disbelief, subsequently conceding that replica sites can provide meaningful insights. This suggests that replica experiences can not only protect fragile sites, they can also add real value to the tourist experience. The only visitors left to convince are the Purists - these will be harder nuts to crack. Emphasising the conservation and/or experiential benefits of replicating fragile heritage sites is unlikely to work. Perhaps the best strategy is to be completely open about the site being a replica in the hope that people who cannot see beyond objective authenticity will choose not to visit.

As with all studies, there are several limitations we need to acknowledge. First, reviews tend to represent the 'extremes' of tourist experiences - reviewers are usually either delighted or very dissatisfied. Accordingly, the 'middle/average' sentiment could be misleadingly underrepresented in our research. There is also no guarantee that the rating scale was interpreted in the same way by all reviewers. Second, our study only focuses on cave replicas. It is possible that in other contexts, findings would be different - tourists might be far less enthusiastic about replicas of iconic buildings that are viewed as living cultural spaces, rather than as (historical) heritage, for example. Further research to ascertain whether the responses and tourist typologies reported here are common across other types of replica sites would enhance our understanding of how tourists react to the concept of replication for education and conservation purposes. Third, we limit our analysis to reviews written in English, thus our findings may not be fully representative of all tourists who visited replica sites. Other cultural groups might have divergent views in that their reactions to replicated artefacts and interpretation of 'realness' and 'fakeness' may be quite different to what is reported here. It's highly likely some cultural groups are more receptive to the fake than others, and might even prefer the fake. Finally, our analysis relied solely on reviews posted to TripAdvisor. We concede that onsite interviews to tease out key findings could have enriched our insights and understanding of tourists' reactions to replica experiences; however, current COVID-19 travel restrictions prevent visitation to the sites.

Nevertheless, results obtained in this study suggest replicas are an effective approach for managing the impacts of high visitation at fragile or over-visited heritage sites. The practicality of using such an approach may, however, depend on the nature of the original. Not everything can or should be replicated. Spiritual sites, for example, hold personal meanings for people that may transcend conservation imperatives. Furthermore, the 'aura' of a site is also not always transferrable or replicable. Even if replication is feasible, the issue of who wields power in determining how and what should be replicated needs consideration. What if local custodians do not want a replica to be built? Or what if everyone wants one? A proliferation of replicas may have the unintended consequence of cheapening otherwise sacred sites. The last thing we want is to replace overtourism with over-replication. Perhaps some sites will have to make the difficult choice between closing to tourists or being 'loved to death'.

There are several management implications that emerge from this study. First, it is evident that some tourists were unaware they would be viewing replicas, and that this apparent deception by management had negatively impacted on their visit. Although tourists are told the caves are replicas at the entrance, by this stage it is too late to make an informed decision about whether or not to visit - they are already committed. It is therefore important to market replica sites as exactly that - replicas. Admittedly, mentioning replication in marketing materials may reduce the overall volume of visitors, but this is probably better than having to deal with complaints and disappointment from those expecting to view originals.

Second, our study shows that tourists' initial antipathy towards

replicas can be overcome if management provides justification for the replica experience. This suggests that sites featuring replication should clearly explain the potential negative impacts of visitation on the fabric of originals (through means such as diagrams, exhibits, time-lapse photographs), and how using replicas helps to fund the long-term conservation and protection of fragile heritage. If tourists can be assured that their visit has long-term and widespread benefits, they are more likely to be receptive to viewing a replica. Promoting the positive aspects of replication could also include reference to a more 'up close and personal' tourist experience. By their very nature, replica sites can offer opportunities to approach, photograph and maybe even touch the replicated surfaces – something rarely permitted at original sites.

Third, there was heartfelt appreciation of the effort that had been invested into creating an experience that replicates the original as closely as possible. These findings support studies by Goulding (2000) and Walby and Piché (2015) whose respondents also noted the importance of creating multisensory and realistic replicas. In our study, comments about authenticity were evident across all five tourist types – even those who remained sceptical and negative about the use of replicas expressed grudging admiration for the level of detail that had been employed to create an immersive and believable cave experience. The frequency of reviews mentioning cave atmospherics (e.g., temperature, humidity and lighting) indicates the importance of placing ambient features at the forefront of design. A replica should look, feel and smell like the original, or at least what tourists expect of the original. Various health, safety and accessibility regulations preclude replica cave sites being *exactly* like a cave, but if it replicates the original in most aspects, tourists don't seem to notice minor vagaries. For example, some tourists mentioned that the temperature is *just like* a real cave but in fact the temperature inside the replica is much warmer (Duval et al., 2019).

This research raises many questions worthy of further exploration. In particular, future studies should aim to probe tourists' in situ experiences at replica sites to firstly, discern how tourists perceive, interpret and differentiate between the real and the fake; and secondly, explore how their existential views of authenticity impact on their experiences. Using a more diverse sample (including those from different language and cultural groups) would deepen these insights. The issue of whether, when and where replication of tourist sites is acceptable to both tourists and host communities, and how these sites can be managed for mutually beneficial conservation and tourist outcomes also requires further investigation.

CRedit authorship contribution statement

Karen Hughes: Conceptualization, Methodology. **Mucha Mkono:** Conceptualization, Methodology. **David Myers:** Conceptualization, Methodology. **Stella Echentille:** Data curation.

Acknowledgements

None.

Declaration of Competing Interest

None.

References

- Ardeche Tourism. (2019). The Touristic Places. Retrieved from <http://pro.ardeche-gui.de.com/les-sites-touristiques>.
- Baudrillard, J. (1988). *Consumer society in poster*. In Baudrillard: Selected writings. Stanford, CT: Stanford University press.
- Beverland, M. B., & Farrelly, F. J. (2010). The quest for authenticity in consumption: Consumers' purposive choice of authentic cues to shape experienced outcomes. *Journal of Consumer Research*, 36(5), 838–856.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Brown, L. (2013). Tourism: A catalyst for existential authenticity. *Annals of Tourism Research*, 40(1), 176–190.
- Buchmann, A., Moore, K., & Fisher, D. (2010). Experiencing film tourism: Authenticity & fellowship. *Annals of Tourism Research*, 37(1), 229–248.
- Cary, S. H. (2004). The tourist moment. *Annals of Tourism Research*, 31(1), 61–77.
- Chronis, A. (2005). Our byzantine heritage: Consumption of the past and its experiential benefits. *Journal of Consumer Marketing*, 22(4), 213–222. Retrieved from <https://doi.org/10.1108/07363760510605326>.
- Cimnaghi, E., & Mussini, P. (2015). An application of tourism carrying capacity assessment at two Italian cultural heritage sites. *Journal of Heritage Tourism*, 10(3), 302–313.
- Cohen, E. (1988). Authenticity and commoditization in tourism. *Annals of Tourism Research*, 15(3), 371–386.
- Cole, S. (2012). A political ecology of water equity and tourism. *Annals of Tourism Research*, 39(2), 1221–1241.
- Cole, S., & Browne, M. (2015). Tourism and water inequity in Bali: A social-ecological systems analysis. *Human Ecology*, 43(3), 439–450.
- Comer, D. C. (2012). Petra as a bellwether archaeological site on the world heritage list. In D. C. Comer (Ed.), *Tourism and archaeological heritage Management at Petra Driver to development or destruction?* (pp. 3–28). New York: Springer.
- Conde Nest Traveler. (2018). 15 Beloved Places Struggling With Overtourism. Retrieved from <https://www.cntraveler.com/galleries/2015-06-19/barcelona-bhutan-places-that-limit-tourist-numbers>.
- Dans, E. P., & Gonzalez, P. A. (2018). The Altamira controversy: Assessing the economic impact of a world heritage site for planning and tourism management. *Journal of Cultural Heritage*, 30, 180–189.
- Duval, M., Smith, B., Gauchon, C., Mayer, L., & Malgat, C. (2019). "I have visited the Chauvet cave": The heritage experience of a rock art replica. *International Journal of Heritage Studies: IJHS*, 26(2), 142–162.
- Enseñat-Soberanis, F., Frausto-Martínez, O., & Gándara-Vázquez, M. (2019). A visitor flow management process for touristified archaeological sites. *Journal of Heritage Tourism*, 14(4), 340–357.
- Foster, S. M., & Curtis, N. G. W. (2016). The thing about replicas-why historic replicas matter. *European Journal of Archaeology*, 19(1), 122–148.
- Frey, B. S., & Steiner, L. (2011). World Heritage List: does it make sense? *International Journal of Cultural Policy*, 17(5), 555–573.
- Fyall, A., & Garrod, B. (1998). Heritage tourism: At what price? *Managing Leisure*, 3(4), 213–228.
- Garrod, B. (2008). Managing Visitor Impacts. In B. Garrod, & S. Wanhill (Eds.), *Managing Visitor Attractions*, (pp. 108–125). Routledge.
- Goodwin, H. (2016). *Responsible tourism: Using tourism for sustainable development* (2nd ed.). Wolvercote, Oxford: Goodfellow Publishers Ltd.
- Goodwin, H. (2017). The challenge of overtourism, *Responsible Tourism Partnership Working Paper 4*. Retrieved from <http://haroldgoodwin.info/pubs/RTPWP4Overtourism01/2017.pdf>.
- Goulding, C. (2000). The commodification of the past, postmodern pastiche, and the search for authentic experiences at contemporary heritage attractions. *European Journal of Marketing*, 34(7), 835–853.
- Hang, P. L. K., & Kong, C. (2001). Heritage management and control: The case of Egypt. *Journal of Quality Assurance in Hospitality & Tourism*, 2(1–2), 105–117.
- Heidegger, M. (1927). *Sein und Zeit*. Niemeyer: Tübingen.
- Hess, J. S. (2019). Thailand: Too popular for its own good. In R. Butler, & R. Dodds (Eds.), *Overtourism: Issues, realities and solutions*. Oldenbourg: De Gruyter.
- Houston, H. R., & Meamber, L. A. (2011). Consuming the "world": Reflexivity, aesthetics, and authenticity at Disney World's EPCOT center. *Consumption Markets & Culture: Themed Experiences and Spaces*, 14(2), 177–191.
- Jin, Q., & Pearce, P. (2011). Tourist perception of crowding and management approaches at Tourism sites in Xi'an. *Asia Pacific Journal of Tourism Research*, 16(3), 325–338.
- Kim, H., & Jamal, T. (2007). Touristic quest for existential authenticity. *Annals of Tourism Research*, 34(1), 181–201.
- Kolar, T., & Zabkar, V. (2010). A consumer-based model of authenticity: An oxymoron or the foundation of cultural heritage marketing? *Tourism Management*, 31(5), 652–664.
- Lascaux. (2017). Lascaux, Lascaux II, III...And next ?. Retrieved from <https://www.lascaux.fr/en/blog/detail/25-lascaux-lascaux-ii-iiiand-next>.
- Lowenthal, D. (2015). *The past is a foreign country - revisited*. Cambridge University Press.
- MacCannell, D. (1973). Staged authenticity: Arrangements of social space in tourist settings. *American Journal of Sociology*, 79(3), 589–603.
- Manning, R., Valliere, W., Anderson, L., McCown, R. S., Pettengill, P., Reigner, N., ... Goonan, K. (2011). Defining, measuring, monitoring, and managing the sustainability of parks for outdoor recreation. *Journal of Park and Recreation Administration*, 29(3), 24–37.
- Mason, P. (2005). Visitor Management in Protected Areas: From "Hard" to "Soft" approaches? *Current Issues in Tourism*, 8(2–3), 181–194.
- Milano, C., Cheer, J. M., & Novelli, M. (2019). *Overtourism: Excesses, discontents and measures in travel and tourism*. Wallingford, Oxfordshire, UK: CABI.
- Milman, A. (2020). Visitor management in highly-visited attractions: Lessons that practitioners can learn from U.S. theme park industry and the national parks. In H. Pechlaner, E. Innerhofer, & G. Erschbamer (Eds.), *Overtourism: Tourism management and solutions* (pp. 123–143). London: Routledge.
- Ministère de la Culture. (2020a). Archéologie.culture.fr. Lascaux. Retrieved from <http://archeologie.culture.fr/lascaux/fr/lascaux-ii-et-iii>.
- Ministère de la Culture. (2020b). Conservation and Perspective: The Preservation of the Lascaux Hills. <http://archeologie.culture.fr/lascaux/en/preservation-lascaux-hill>.
- Ministerio de Cultura y Deporte. (2019). Cifras de visitantes de los Museos Estatales. Retrieved from <http://www.culturaydeporte.gob.es/visitantemuseo/buscarAnios.do>

- ?action=busquedaInicial&museo=Museo%20de%20Altamira&prev_layout=visit antemuseo&layout=visitantemuseo&clave=2.39&language=es.
- Mkono, M. (2012). Authenticity does matter. *Annals of Tourism Research*, 39(1), 480–483.
- MoTA. (2017). Petra witnesses ‘considerable’ rise in tourist numbers. Retrieved from <https://www.mota.gov.jo/NewsView.aspx?NewsId=1407>.
- Naoui, T. (2004). Visitors’ evaluation of a historical district: The roles of authenticity and manipulation. *Tourism and Hospitality Research*, 5(1), 45–63.
- Nolan, E., & Séraphin, H. (2019). Venice: Capacity and tourism. In R. Butler, & R. Dodds (Eds.), *Overtourism: Issues, realities and solutions* (pp. 139–151). Berlin: De Gruyter.
- Ong, C.-E., & Jin, G. (2017). Simulacra and simulation: Double simulation at a north song dynasty theme park. *Tourism Geographies*, 19(2), 227–243.
- Park, E., Choi, B. K., & Lee, T. J. (2019). The role and dimensions of authenticity in heritage tourism. *Tourism Management*, 74, 99–109.
- Pearce, S. M. M. (2000). Giovanni Battista Belzoni’s exhibition of the reconstructed tomb of pharaoh Seti I in 1821. *Journal of the History of Collections*, 12(1), 109–125.
- Phnom Pehn Post. (2019, January 2). Angkor hosts 2.6M visitors. Retrieved from <https://www.phnompenhpost.com/business/angkor-hosts-26m-visitors>.
- Raivo, P. J. (1999). In this very place: War memorials and landscapes as an experienced heritage. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.556.9967>.
- Reif, U. (2020). Constantly adapting - approaches for effective visitor monitoring and adaptive visitor guiding in the Black Forest National Park. In H. Pechlaner, E. Innerhofer, & G. Erschbamer (Eds.), *Overtourism: tourism management and solutions*. (pp. 112–122). Routledge.
- Rickly-Boyd, J. M. (2009). Establishing authenticity in a tourist landscape: Spring mill Pioneer Village. *Material Culture*, 41(1), 1–16.
- Rickly-Boyd, J. M. (2012). Lifestyle climbing: Toward existential authenticity. *Journal of Sport & Tourism*, 17(2), 85–104.
- Robbins, D., & Dickinson, J. (2008). Transport to visitor attractions. In B. Garrod, & S. Wanhill (Eds.), *Managing Visitor Attractions*. (pp. 108–125). Routledge.
- Ryan, J., & Silvano, S. (2009). The world heritage list: The making and management of a brand. *Place Branding and Public Diplomacy*, 5(4), 290–300.
- Sarial-Abi, G., Merdin-Uygur, E., & Gürhan-Canli, Z. (2020). Responses to replica (vs. genuine) touristic experiences. *Annals of Tourism Research*, 83, 102927. <https://doi.org/10.1016/j.annals.2020.102927>.
- Sartre, J.-P. (1969). *Being and nothingness*. London: Methuen.
- Shackley, M. (2006a). Visitor Management at World Heritage Sites. In A. Leask, & A. Fyall (Eds.), *Managing world heritage sites*. (pp. 84–93). Elsevier.
- Shackley, M. (2006b). Costs and benefits: The impact of cathedral Tourism in England. *Journal of Heritage Tourism*, 1(2), 133–141.
- Steiner, C. J., & Reisinger, Y. (2006). Understanding existential authenticity. *Annals of Tourism Research*, 33(2), 299–318.
- Su, Y.-W., & Lin, H.-L. (2014). Analysis of international tourist arrivals worldwide: The role of world heritage sites. *Tourism Management*, 40, 46–58.
- Tesler-Mabé, H. (2017). A Mickey Mouse kind of Europe: representations of Europe at Walt Disney World. *Journal of Contemporary European Studies*, 25(2), 197–210.
- The Connexion. (2017). Lascaux IV sees record visitor numbers despite critics. Retrieved from <https://www.connexionfrance.com/French-news/Lascaux-IV-sees-record-visit-or-numbers-despite-critics>.
- The Jakarta Post. (2019). *Machu Picchu introduces new rules for* (p. 2019). Retrieved from <https://www.thejakartapost.com/travel/2019/01/16/machu-picchu-introduces-new-entry-rules-for-2019.html>.
- Tosun, C. (2002). Host perceptions of impacts: A comparative tourism study. *Annals of Tourism Research*, 29(1), 231–253.
- UNESCO. (2020). The Criteria for Selection. Retrieved from <http://whc.unesco.org/en/criteria/>.
- Urry, J. (1990). *The tourist gaze: Leisure and travel in contemporary societies*. London: Sage.
- Van Der Borg, J., Costa, P., & Gotti, G. (1996). Tourism in European heritage cities. *Annals of Tourism Research*, 23(2), 306–321.
- Visentin, F., & Bertocchi, D. (2019). Venice: An analysis of Tourism excesses in an Overtourism icon. In C. Milano, J. M. Cheer, & M. Novelli (Eds.), *Overtourism: Excesses, discontents and measures in travel and tourism* (pp. 18–38). Wallingford, Oxfordshire: CABI.
- Walby, K., & Piché, J. (2015). Staged authenticity in penal history sites across Canada. *Tourist Studies*, 15(3), 231–247.
- Wang, N. (1999). Rethinking authenticity in tourism experience. *Annals of Tourism Research*, 26(2), 349–370.
- Wang, Y. (2007). Customized authenticity begins at home. *Annals of Tourism Research*, 34(3), 789–804.
- Weeks, K., & Hetherington, N. (2014). *The valley of the kings: A site management handbook*. Oxford: Oxford University Press.

Karen Hughes is a lecturer in tourism management at the University of Queensland’s Business School, Australia. She has taught and published in the areas of interpretation, visitor management, sustainable tourism, tourist behaviour and wildlife tourism. Karen has a particular interest in the design of interpretive signs and experiences.

Dr. Mucha Mkono has published on a diverse range of themes relating to sustainability in tourism studies. Her work draws on social media platforms to understand how various tourism issues are contested in the public domain.

David Myers’ specialisations include cultural heritage and ancient history. The focus of his interest in cultural heritage is the relationship between UNESCO World Heritage listed archaeological sites and the tourism industry that has developed following the inauguration of the World Heritage Convention (1972). His specialisations in ancient history are twofold. The first incorporates late period Egyptian sculpture from the 26th Dynasty to the Hellenistic era. The second is Minoan material culture and cult covering the LMIIIB/C period, a transitory time of population movements that represents the twilight of Minoan civilisation.

Stella Echentille is a University of Queensland alumni, having completed a Bachelor of International Hotel and Tourism Management in 2019. She currently works at the University of Queensland as a Research Assistant and Academic Facilitator in the area of sustainable tourism and visitor management. Her latest research focuses on the environmental activism of Greta Thunberg and the emergence of ‘flight shaming’ in relation to aviation travel. She hopes to pursue a career in academia.