

Special Issue:

The Economics of Cultural Tourism – New Topics and Methods

Revived Originals – A proposal to deal with cultural overtourism

Bruno S Frey 

University of Basel, Switzerland

Andre Briviba

Center for Research in Economics, Management and the Arts, Switzerland

Tourism Economics

1–16

© The Author(s) 2020

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/11354816620945407

journals.sagepub.com/home/teu



Abstract

The negative external effects from ‘overtourism’ have become a major subject of discussion. However, the shutdown of domestic and international tourism, which resulted in ‘undertourism’, gives us the chance to reconsider how visits to artistic sites should be organized in the future. It is safe to expect that the problem of cultural overtourism will occur again, further deteriorating the state of historic sites. Negative external effects burden the local population, manifesting themselves in overcrowding, vandalism, and pollution. To counter these developments, we propose ‘Revived Originals’, which is a new conceptual approach designed to identically replicate heavily visited historical sites in a suitable other location. With the support of the most advanced digital technology, such as holograms, ‘Revived Originals’ provide a more intense historical experience than provided by the ‘historical’ sites. Our proposal provides an alternative to overcrowded historical sites doomed to destruction by overtourism.

Keywords

cultural tourism, overcrowding, overtourism, revived original, tourism impacts

Subject classification codes: R11, Z10, Z28, Z30, Z32

Overtourism and culture

The term ‘Overtourism’ first appeared in summer 2017 is difficult to define precisely (Markusen, 2003). It was quickly adopted in the academic literature as well as in newspapers and other publications. Up to now, only a few scholarly treatises devoted specifically to this subject, but some valuable recent studies include Seraphin et al. (2019) and Milano et al. (2019). Several current works examine the interplay of overtourism in the urban context (e.g. Perkumienė and

Corresponding author:

Bruno S Frey, Center for Research in Economics, Management and the Arts, Suedstrasse 11, 8008 Zurich, Switzerland.

Email: bruno.frey@bsfrey.ch

Pranskūnienė, 2019). However, there is still little consensus on the effectiveness and implementation of policy arrangements to tackle the issues fuelled by overtourism.

Overtourism means that public infrastructure, built primarily for local use, is overcrowded. Additionally, the increased use of modern travel applications, such as Airbnb, brings residents and tourists in contact even in previously non-touristic areas (Butler, 2018). Consequently, anti-tourism movements sprang up in multiple destinations, demanding ‘tourists go home’. Overtourism became a much-discussed issue in the municipal elections in Barcelona and Amsterdam (Koens et al., 2018). The world map of overtourism presented by the Organisation Responsible Travel (Francis, 2019) lists no less than 98 destinations in 63 countries subject to overtourism. Over 40 of those destinations are located in Europe. This leads us to focus on cultural overtourism at European sites.

We propose ‘Revived Originals’ as a solution to deal with the extensive issues caused directly and indirectly by cultural overtourism. The lack of promising policies to deal with this issue leads us to propose an increase in the supply, rather than a reduction of demand, of cultural tourism. We consider this to be the most promising, long-term sustainable strategy. The major attractions of heavily visited historical sites are to be identically replicated in a new location, emphasizing a vivid historical experience supported by modern digital technology. In Venice’s case, for example, the Doge Palace, the Saint Marcus Church, the Tower on the Piazza San Marco as well as the square itself and the Rialto Bridge would be exactly replicated and placed somewhere more suitable on the Italian or Balkan coast. These monuments are the major reason why many tourists want to visit Venice, and it is expected that many visitors would accept the offer of ‘Revived Originals’, especially as the replicated sites are to be equipped with the most modern technology, for example, having Dodges, and other historical inhabitants walking around by using holograms.

Before the COVID-19 crisis, consensus exists that mass tourism is likely to increase in the future (Kester, 2016). The shutdown imposed by governments on international and local tourism, which may be called ‘cultural undertourism’, was fuelled by the closure of museums, galleries, theatres and prohibited art festivals, and other artistic activities. This gives us the chance to reconsider how visits to artistic sites should be organized in the future. Normally, traditional thinking and interest group opposition block major strategic changes. The drastic shock imposed by the Coronavirus and the resulting shutdown of the economy allows us to embark in new directions. Moreover, as the recovery of mass tourism must be expected to take substantial time, new ideas can be extensively discussed.

Mass tourism is closely connected to culture – the extreme opposite would be tourists solely interested in nature and wildlife who visit the corresponding national parks and people solely enjoying beach life. Invariably, large capital cities such as Rome, London, Paris, Madrid, Berlin and St. Petersburg have world-renowned museums visited by most of the cultural tourists.¹ Examples are the Vatican Museums in Rome; the National Gallery and the British Museum in London; the Musée du Louvre in Paris; the Museum Island in Berlin; and the State Hermitage in St. Petersburg. Also, medium-sized cultural cities such as Venice, Dubrovnik or Salzburg are visited by millions of tourists. Famous small cities are almost totally inundated by cultural tourists in the daytime. Examples are in France Riquewihr, in the UK Stratford-upon-Avon, in Italy San Gimignano and in Austria Hallstatt.

The following section discusses tourism and its interdependence with culture. The third section offers an overview of the external effects induced by cultural mass tourism and provides representative examples of existing replications. The fourth section introduces the concept of ‘Revived Originals’ as a solution to overtourism. In the fifth section, the impact of replications on tourist

flows is examined. The sixth section discusses the advantages and disadvantages, illustrating the implications for different stakeholders. The final section offers concluding remarks.

Tourism and culture

Even though the definition of cultural tourism is controversial, and which tourists should be included in this category is debated, most authors have a common understanding of the term as tourists who encounter culture either accidentally, specifically desired or as an adjacent activity (McKercher et al., 2006; Richards, 2007b). In line with this differentiation, the cultural tourists' level of interest in the specific content varies and implies two broad categories. The first category includes tourists whose main motivation is to consume culture. The second category consists of tourists who see cultural consumption as a complement or accidental (Jovicic, 2016). Thus, some mass tourists who experience culture accidentally during their travel might fall into the second category and, therefore, the differentiation is to some degree 'fuzzy'. Hence, subcategorizations, which determine the motivation or reason for cultural consumption more precisely, are useful to draw the line.

Specific characteristics of cultural tourists include higher education and high incomes, which is supported by the fact that the average consumption of cultural tourists exceeds the one of leisure tourists by 10% (Richards, 2007a). Today, the average cultural tourist does not look for just high culture consumption but rather prefers a combination of entertainment and education referred to as 'edutainment' (Jovicic, 2016). These characteristics differentiate cultural tourists from, for example, mass tourists.

Tourism and culture are closely connected. Their interdependence has grown substantially in the late 20th century. Supported by the growth of the middle class and more comfortable means of transportation, the larger cultural audience eventually transformed cultural tourism into an influential category of the tourism market.

The pressure of cultural institutions to justify themselves increased, and quantitative performance indicators such as the revenue generated or the number of visitors became the metric on which they were judged. Whether the justification is directed towards the public entity to prove the effectiveness of the subsidy or in a commercial environment is irrelevant for the increasing interdependence of culture and tourism. To satisfy the financial pressure, an increase of the (broader) audience is necessary. However, this increase is limited by a number of obstacles such as the fact that the cultural audience shows persistent characteristics of elitists (Richards, 2001).

Economic reasons for the increased flow of cultural tourists are the continuous rise in average income in many countries (especially in China and India), the increase in leisure time, and the marked fall in airfares. Media also plays a dominant role in publicizing particular cultural sites. Recently, the use of cellular phones for taking and sharing 'selfies' and social media applications such as Facebook or Instagram to recommend a cultural site to one's friends and followers are able to hype new sites (Zeng and Gerritsen, 2014). These platforms changed how individuals consume and plan travel, impacting destination choices (Fotis et al., 2012). For instance, a site must be 'instagrammable'. This phenomenon is also linked to issues such as the unpreparedness of destinations for large unexpected influxes of tourists. Lack of infrastructure and the unexpectedness of visitor growth were indicated to be the main reasons for the perceived overcrowding by residents (Koens et al., 2018). For example, in the past, around 800 visitors came to Trolltunga, a prominent rock in the West of Norway. As of 2020, over 170,000 persons posted pictures with the hashtag

#trolltunga on Instagram, made the place famous and resulted in 80,000 persons travelling to it (Instagram, 2020; Pitrelli, 2019).

Many of the tourists consider it important to share their experiences, for example, in the form of selfies. Forty percent of millennials indicated in a survey they wished to communicate their travel destination on Instagram (D'Eramo, 2017; Zeng and Gerritsen, 2014). 'Geo-tagging' makes it even possible to link the picture's site with the according geographical coordinates to indicate the exact location. In line is the possibility to book your own holidays to that location comfortably through an app.

This signalling effect is particularly relevant for Chinese tourists. Travelling to Venice, Rome, or Florence is an important experience in their life. Cultural and natural sites known from social media are visited, and it is important to show this to friends and acquaintances at home. To shoot a picture of the sites known to them is more important than to really explore them and to become engaged with them (Popp, 2012). If six European countries want to be visited in 5 days, including 'power shopping' activities, the potential engagement is naturally limited and only the most important attractions are visited. These effects are fuelled by social media emphasized rankings, identifying what is taken to be the 'most important' or 'the best' sites (Garcia-Palomares et al., 2015; Ram and Hall, 2017).

Finally, UNESCO's effort to establish World Heritage Sites has induced masses of cultural tourists to visit the places on the List (Frey and Steiner, 2011). Su and Lin (2014) empirically demonstrate that there is a positive relationship between World Heritage Sites and annual tourist arrival numbers. However, the direction of the effect remains a controversial topic (Cuccia et al., 2016; Yong Yeu Moy and Phongpanichanan, 2014).

Consequences of cultural mass tourism

Tourism is an important sector of the economy in many countries such as Italy, France, Spain, Austria, and Switzerland. Numerous individuals profit directly or indirectly, either from the jobs generated in the industry or from income derived from cultural tourists and, therefore, enjoy an improved standard of living (Tosun, 2002).

These positive effects have been partially questioned. For instance, Weaver and Lawton (2001) show that the price of goods and services increases as a result of tourism. Correspondingly, the price of land reflects steady increases due to tourism, too (Lundberg, 1990). Thus, it is not clear whether the local population economically gains so much from tourists. More recently, the social aspect of tourism impact is emphasized more and more in literature. Clear negative consequences exist and are identified as rising traffic congestion and overcrowding (Backman and Backman, 1997). There are also negative perceptions of the environmental impact of tourism. Tourists produce large quantities of waste and often destroy the beauty of the landscape, typically by littering (Gooroochurn and Sinclair, 2005; Rinaldi, 2014). The negative consequences of cultural overtourism also manifest themselves in more vandalism, crime, and pollution (Seraphin et al., 2018). It may well be that the profiting individuals and corporations are located outside the cultural sites, possibly even outside the country. The same holds for the additional jobs created. Many employees come from outside, and the jobs available are not necessarily suitable for the locals.

The substantial negative effects of tourism have recently been emphasized in the scholarly literature (Singh, 2018). The rise in prices is one clearly visible effect burdening the local populations. Many locals can no longer afford to live in the cultural centres of their hometowns and villages as rents have often drastically increased, not least because of Airbnb; a positive

relationship between the amount of Airbnb listings and rising housing prices is shown in Barron et al. (2018). Additionally, there are few, if any, shops left in which the local population can buy food and other necessities at affordable prices. Instead, the city centre is characterized by souvenir shops, currency exchanges, and other tourist-focused enterprises. This particular feature has further implications for tourists as well, as they associate this development with a loss of authenticity (Popp, 2012). Overall, many conditions determine whether the net effects of tourism are positive or negative.

Even more striking are the negative external effects. An individual tourist does not take into account the costs he or she imposes on the locals as well as on other cultural tourists. Consideration of negative ecological externalities is a crucial aspect of achieving a balance between tourism development and ecological costs. This applies especially to a sustainable economic longevity of a tourist region (Marsiglio, 2015). The most common manifestation of such a negative environmental externality is air pollution. In Venice, for example, the air quality is extremely poor due to the exhaust gases of the many cruise ships (Abbasov et al., 2019). Tourists willingly or unwillingly create negative external effects in the form of noise and the production of great amounts of waste and rubbish.

There are also major cultural negative externalities. The ambiance in cultural sites which visiting tourists want to enjoy tends to be destroyed as almost all other people encountered are also tourists. As an aggregate group, they destroy exactly the aspect which they value highly. Additionally, the vast amount of tourists threatens to destroy the historical sites partly due to accidents (this nearly happened in Venice recently by a large cruise ship – see Giuffrida, 2019) but even more drastically by wear and tear. Combined with a lack of regulation and inefficient policy enforcement, wear and tear has led to Machu Picchu's designation as one of the most rapidly deteriorating World Heritage Sites (Hawkins et al., 2009). Moreover, it has been demonstrated that the huge number of tourists visiting Machu Picchu destroys the ancient footpaths, even if consisting of solid rocks (Larson and Poudyal, 2012). It reaches such an alarming extent that even recommendations for soft shoes are given to decrease pressure on the ancient ruins (Barcelona Field Studies Centre, 2007). Another well-documented example of deterioration due to wear and tear are the floors in Westminster Abbey. The marble floors are exposed to excessive use by the sheer quantity of people visiting the Abbey. As measured in 1993 by the Building Research Establishment, the degree of deterioration, measured by the average rate of surface abrasion, is about 1 mm per decade (Fawcett, 1998). Based on the substantial growth in tourist numbers in the past three decades, one can reasonably expect an increasing level of deterioration of cultural monuments. Finally, another important negative externality of cultural mass tourism is that the locals find it increasingly difficult to enjoy their own cultural sites. Since the hosts share the available cultural resources with the tourists, the increasing number of tourists necessarily decreases the possibilities of the locals to consume these cultural resources and, therefore, locals experience a loss in their welfare (Fan et al., 2018). Long queues characterize the entrance to many of the most celebrated World Heritage Sites. For instance, there is a long waiting line to enter the Vatican Museums and the same holds even for St. Peter's Church. Other notable examples are the regular queues in front of the Uffizi in Florence or the Louvre in Paris.

The overall impact and intensity of external effects depend on the respective location and its associated attributes such as economic and sociocultural ones. Additionally, the tourists' type, as well as the connected characteristics and preferences, plays a crucial role in outcomes (Haralambopoulos and Pizam, 1996).

With respect to tourists, overcrowding is not necessarily negative. As examined by Popp (2012), 'good' crowding in an urban context is both possible and associated with tourists' expectations about tourist density. The participation of the local population seems to be a substantial component of 'good' crowding. However, if we consider overcrowding, the negative implications for residents, as elaborated in the next section, start a vicious cycle. Since residents suffer from overcrowding by tourists, their negative attitude towards tourists grows, as can be observed in many European cities (Kuščer and Mihalič, 2019). It also restricts the interaction and willingness to welcome tourists. The chances for 'good' crowding are, therefore, diminished, decreasing tourists' utility (Russo, 2000).

In Luxor, Egypt, the many visitors of the tomb of Tutankhamen were putting the archaeological site at risk. In response, an exact copy of Tutankhamen's tomb was opened to the public near to the original in 2014, while the original remained open to the public as well. The threat of deterioration of wall paintings in the original tomb became severe, justifying replications of the paintings. Technological means such as 3D-scanning were applied to copy the original tomb to achieve an authentic experience for the visitor. Due to the close proximity of the copy and the original in combination with precise replication, many aspects with respect to the authentic experience of the visitor were maintained, such as same size, temperature, lighting, and the overall atmosphere (Wong and Quintero, 2019).

In a far less detailed replication, the Chauvet Cave consisted of fundamental differences in temperature and size, and the experience of visitors was examined by Duval et al. (2019). In 1994, the Chauvet-Pont-d'Arc Cave in southern France was discovered and soon closed to the public because of preservation concerns regarding its prehistoric paintings. The revived original, which is only 2 km away, named 'Cave Chauvet 2 – Ardèche', was opened in 2015 and employed various technological methods to reconstruct an authentic experience for the visitor. The 300,000 additionally attracted tourists and benefits for the region strongly indicate the success of this replica (Duval et al., 2019). Moreover, a majority of the Chauvet Cave copy visitors (80%) felt as if they were in a real cave, not a replica. Even though this copy is a scaled-down version of the original and aspects such as unauthentic temperatures and the presence of other groups hampered the experience of authenticity. Thus, replicated historical sites can adequately imitate such conditions such that visitors can still experience (constructed) authenticity.

So far, we discussed the different kinds of negative external effects. The impact of these external effects is likely to vary depending on the type of a cultural site as well as the geographical location (Lozano-Oyola et al., 2012). One differentiation should be drawn between archaeological sites and historic cities. In general, overcrowding of the respective infrastructure arises in both cases. However, in historic cities, this results in more pronounced tensions with residents who are dependent on regular use of the infrastructure (Seraphin et al., 2018). In contrast with archaeological sites, residents are usually located further away from the main tourist flows and are, therefore, only indirectly affected by this aspect. However, dislocation of marginalized people can be caused by tourism development and would constitute an extreme negative externality (Honey, 2008; Meskell, 2007).

In contrast, the harming impact of tourists on the cultural site itself shows similarities across types of cultural sites. At archaeological sites, the misbehaviour and the sheer volume of tourists' results in damage to the site, for example, Petra, Jordan, or Machu Picchu are frequently raised issues (Haddad et al., 2019). In historic city centres, the same destructive forces typically only affect fragile buildings or historic floors such as in London's Westminster Abbey (Fawcett, 1998). In contrast, newer museums are built to deal with larger tourist numbers. Thus, cultural goods such

as paintings are not affected. However, the misbehaviour of tourists also has a negative impact on historic centres. The residents are negatively affected by higher pollution, noise, and traffic congestion.

To differentiate the effects is, however, not feasible. For instance, the risk of overcrowding with respect to the multi-optionality of urban settings does not apply to Florence, Italy, whose historic city centre is quite small. It consists of main sights such as the Duomo or the Ponte Vecchio, a historic bridge, and includes the so-called beaten track of Florence. This track is characterized by long queues and masses of visitors (Popp, 2012).

Proposal: Revived originals

Our proposal to deal with the negative effects of cultural mass tourism consists of three mutually supporting steps:

1. The most important cultural sites, mainly buildings and squares, are exactly replicated at a suitable place. The sites to be reproduced are those most often visited by tourists and where tourists take the largest number of selfies to document that they visited the place. Such replication today is technically feasible.
2. The most advanced technology is employed to relate a site to the corresponding history and local culture. This can be achieved by fully using the possibilities offered by virtual reality and by holograms to show how the inhabitants of the places led their lives. This can as well be used to represent famous former persons connected to a place in a vivid way. The use of appropriate sounds will augment the effect.
3. The replicated historical sites are to be accompanied by a suitable infrastructure consisting of hotels, restaurants, and shops as well as of transport facilities reducing excessive travel from destination to destination.

A beneficial side effect of 'Revived Originals' would be the reduction of emissions caused by the enormous number of round trips covering the major sites of Italy, Southern Europe, or even whole Europe in a single vacation. Covering many destinations in one trip is quite common in contemporary tourism. Thus, the average time spent by tourists in most cities is quite short.

'Revived Originals' are designed to separate two flows of cultural tourists. What can be called 'normal' visitors are tourists interested in the lively and enjoyable presentation of cultural sites over the course of history. This holds not only for families with children but also for all those tourists who, while interested in culture, do not have deep knowledge of the history of a particular site. It can be expected that this holds for quite a large share of cultural tourists. 'Revived Original' will also be attractive for the great number of tourists who can allocate only little time for a country or a cultural site. Such tourists may profit from the major cultural attractions collected in one place easy to visit and offering many amenities.

In contrast, tourists genuinely interested in culture can still visit the original sites or what they take to be the 'original' site. The academic literature is rather sceptical whether the distinction between an 'original' and a 'replication' can be maintained. Almost all 'original' places have been changed over the course of history, and sometimes this has been done to a massive extent. Thus, for example, the tower in Saint Marcus Square in Venice crumbled and was only rebuilt in 1902 (Leppmann, 1975). This holds not only for buildings but equally for other works of art. The masterpiece entitled 'The Last Supper', which is displayed in the Madonna delle Grazie, was

painted by Leonardo da Vinci unfortunately in such a way that it very quickly faded and, therefore, had to be restored and repainted several times. The painting that can be seen today has little to do with the original work as created by Leonardo (Brambilla Barcilon and Marani, 2001).

Insights from art fakes can partly be used in this context. In contrast to the negative evaluation of art fakes from legal and art historical perspectives, the economic point of view indicates rather positive effects. The original's multiplication on a large-scale creates utility for persons consuming and paying for them (Frey, 2003).

The willingness to pay for imitated originals reveals existing demand and shows that consumers derive utility from the respective object. The quality of imitations can be extraordinary, blurring the differentiation between originals and fakes, as is illustrated by the case of Van Meegeren's forgeries of Vermeer. These forgeries were described as 'the masterpiece of Johannes Vermeer of Delft' by the art historian Bredius (1937). However, after the detection of the forgery, those paintings were suddenly considered inferior and less valuable, as they were called 'grotesquely ugly and unpleasant' by, for example, Jones (1990: 15). Incidents such as this one led to a less sceptical attitude of art historians towards forgeries and reproductions.

The creator of an original artwork benefits from two effects. First, royalties are a source of income from legal copying. Second, in the case of illegal copying, the creator still benefits indirectly through the reputational effect. His or her name is associated with the copy and gets propagated (Frey, 2003). However, in the case of a 'Revived Original', the multiplication takes place once and the major objective is to soften the negative externalities caused by the masses of cultural tourists. In both cases, the demand and utility for cultural tourists increases. Still, Pommerhne and Granica (1995) have shown that with an increasing number of reproductions, the respective aesthetic evaluation falls. This could affect the 'Revived Originals' to some extent. A more important drawback could be that even a perfect copy is valued considerably less than the original. An empirical investigation must determine whether this disadvantage will manifest itself in a lower willingness to pay for a 'Revived Original'. It could, however, be counterbalanced by the more appealing edutainment element as well as by virtual reality technology enabling visitors to enjoy a valuable experience.

Tourists deeply interested in culture benefit yet in another way from 'Revived Originals'. As many tourists will decide to visit the replica, access to the traditional sites is easier, the cultural atmosphere is more appealing because there is a better balance between tourists and local populations, and the cultural buildings are less destructed.

Guiding tourist flows

Whether a 'Revived Original' would incentivize tourists to visit the original site can be illustrated by analysing the tourist flows to Hallstatt, Austria, compared to its replication in China. Hallstatt is a rural village close to Salzburg with about 770 inhabitants. The more than 100,000 visitors per year impose large negative effects on the local population and completely change the atmosphere in the village (Kennedy, 2020).

Figure 1 suggests that the inauguration of the replica in June 2012 did not lead to a significant increase in the number of tourists visiting the original Hallstatt. The data closely around the inauguration indicate that the increase in arrivals from 2012 to 2013 was just 0.76% compared to an average growth rate of 7.29% (from 2000 to 2018). If there were a strong incentivizing effect on Chinese tourists due to the copy in China, the increase would certainly be larger. In comparison to arrivals, overnight stays in Hallstatt exhibit a quite similar development overtime. However, a

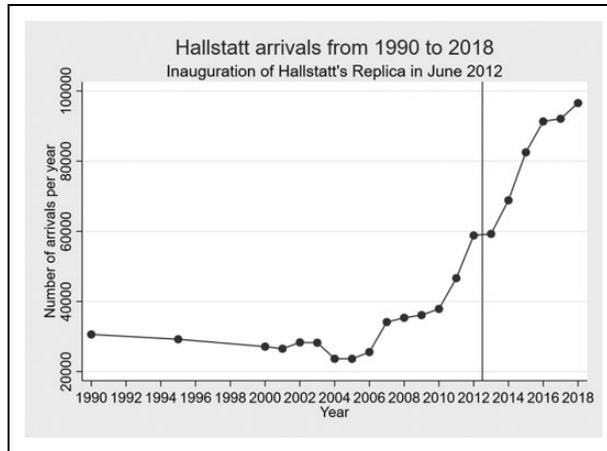


Figure 1. Arrivals per year in Hallstatt, Austria, from 1990 to 2018 and the opening of the copy in China in 2012. *Source:* Bundesanstalt Statistik Österreich – Statistik Austria.

lagged effect of the inauguration is possible but unlikely to have a significant impact since a visit in Hallstatt is only a single destination in usually lengthier round trips covering regions or even the whole of Europe. The visit of the original Hallstatt competes with destinations such as San Gimignano, Riquewihr, or Rothenburg ob der Tauber or other famous destinations. Still, the coverage in the media of this copy in China is likely to have somewhat raised the visitor numbers in the following years, albeit small, by both tourists from China and from elsewhere.

The three most famous replicated caves, namely Lascaux, Altamira, and Chauvet Cave, were undertaken in very close proximity to the original but typically located in a rural area with low population density rather than the next larger city or even the country's capital. In this decision, the importance of the local authenticity of the historic site appears to be crucial.

However, in recent years, replications much further from the original site have been undertaken, such as the Eiffel Tower in Tianducheng, China, the city of Venice partly replicated in both Hangzhou and Dalian, China and the city of Hallstatt in the Chinese province Guangdong, as described above. By providing European cultural sites more locally, residents in the region, especially Chinese people, could be disincentivized from visiting Europe to see the original. Despite this development, the number of people visiting Hallstatt, including Chinese tourists, increases steadily, indicating that the replica's location plays a significant role in encouraging tourism at the original site. Thus, constructing the replica in a similar environment to that of the original seems to be helpful for tourists' experienced authenticity, and, as shown by Duval et al. (2019), authenticity is an important factor in cultural consumption as well as production.

Overall, the acceptance of replications, such as the Lascaux or the Chauvet Cave, is apparently quite high and the incentivizing effect of a replication to visit the original seems to be negligibly small.

An incentivizing effect of visiting the original after experiencing a 'Revived Original' is possible for a share of tourists. In this case, the 'Revived Original' would be a complement rather than a substitute, thereby fuelling overtourism even more. However, the differentiation of tourist types is helpful in this regard and allows us to distinguish between various effects. For cultural tourists with a main interest in 'edutainment' as well as for a substantial share of mass tourists,

'Revived Originals' are likely to be a substitute. In contrast, for cultural tourists preferring high culture, a replica is, at best, a complement to a visit to the authentic site.

However, a major contagious effect is not expected to occur for several reasons. Some tourists from other continents who have visited a 'Revived Original' will only travel to Europe once and, therefore, will not have the opportunity to see the original sites. A large share of tourists will likely not want to see the original cultural sites in the future because they were satisfied with the Revived Original. Instead, they will visit the many other cultural sites around the world that are less overcrowded. Additionally, a reverse effect is also plausible, as a visit to an original site may spark interest in a visit to the corresponding 'Revived Original', which are excitingly designed using virtual technology. Furthermore, those people who prefer the replica over the original cultural site, for whichever specific reason, will tend to visit replications of other cultural sites in the future. Thus, original sites will be less crowded and cultural overtourism will be curbed.

A change in entry prices results in guiding tourist flows. These changes can influence the division of the flow of tourists between original sites and 'Revived Originals'. If there are too many visitors in the former, the entry fee for 'Revived Originals' can be lowered. Furthermore, the amenities valued by tourists at 'Revived Originals' can be improved to provide an additional incentive for visitors. If the number of visitors exceeds a certain threshold, it is very likely that relative price changes will have a systematic influence on the way tourists choose their destination. Since tourists are often subject to financial constraints, they take into account their prospective perceived value for money in destination decisions (Gallarza and Gil Saura, 2006). However, this mechanism will only work if the visitors of originals and 'Revived Originals' overlap. The overlap of tourists can be observed in cases such as historical replications of the caves in Lascaux and Chauvet (Duval et al., 2019).

Cost-benefit analysis

To assess the implications of 'Revived Originals' on the original sites, a cost-benefit analysis is employed for the three major stakeholders: tourists, local businesses, and residents. The results indicate potential drawbacks but also reveal the substantial benefits for the three types of actors.

The overall benefits for *tourists* are primarily characterized by a lower number of fellow tourists, which result in smaller queuing lines and fewer conflicts with local residents. Many of the negative externalities affecting residents such as vandalism, traffic congestion and pollution (Seraphin et al., 2018) are mitigated by a fewer number of tourists. Also, the conflict potential is reduced. Moreover, demands by anti-tourism movements would be met and the attitude towards tourists would improve, to the benefit of tourists as well (do Valle et al., 2011). This leads to a higher utility of cultural consumption at the original site. Tourists carry little cost from the implementation of a 'Revived Original'. The original cultural site, after all, can still be visited. However, the supply with respect to hotels, restaurants, and other typical tourism-focused businesses is expected to decrease, implying a limited choice for tourists at the original sites.

Local businesses would suffer from a somewhat reduced number of tourists at the original site but profit from tourists specifically interested in culture (Richards, 2007a). In contrast to cruise ship visitors, who spend significantly less at destinations, these tourists are expected to have a higher willingness to pay (Larsen et al., 2013). In addition, lower housing rents would benefit local businesses and reduce the emigration of residents. This bolsters local economic activity. As Airbnb and other tourist-related developments have been shown to push up housing prices, the

establishment of 'Revived Originals' will temper rent increases at the original sites (Blanco-Romero et al., 2018). However, a smaller number of tourists is related to reduced revenue for local business.

Currently, *residents* are negatively affected by vandalism, pollution, overcrowded infrastructure, and traffic congestion. When 'Revived Originals' exist, residents at the original sites benefit from lower housing prices and profit from a greater variety of shopping opportunities (Kesar et al., 2015). In the case where fewer cruise ships anchor, air pollution decreases, and the coastal environment is preserved (Abbasov et al., 2019). Reduced work opportunities at the original tourist sites is an undesired consequence. However, the extent of this effect is limited since the 'Revived Originals' are to be placed in a location near the original, providing job opportunities within the region.

Application: A revived original of north Italian cultural cities

To make the idea of historical replication more concrete, it is applied to a site in which the most important cultural treasures of some North Italian cities are represented. Obviously, this can be only a sketch; if the proposal is indeed to be put into reality, it will require many innovative minds.

Many tourists visiting Europe, especially those from other continents, want to see many different cultural sites. They only allocate one or two, or at best three, days to Northern Italy, including Venice. Therefore, they have very little time to visit any one particular site, that is, they cannot 'afford' to spend several days to enjoy the splendour of, say, Florence. Nor can they do so for Verona, Padova, Pisa, or San Gimignano. Hence, it makes sense to focus their visit to one place in which the major cultural buildings and squares are collected, in which these are closely related to history and culture and in which there are suitable hotels, restaurants, and shops to buy souvenirs.

'Revived Originals' would copy the most important buildings exactly, and they would be placed partly in virtual reality. To represent Florence, the Dome, its baptistery, and the Ponte Vecchio would be exactly replicated; to represent Verona, the Roman Arena and the Balcony of Romeo and Juliette; and to represent Pisa, its Cathedral and Leaning Tower.

To put 'Revived Originals' into practice, many conditions must be met. One crucial condition is to find a territory suitable to host the replicas of the North Italian cities, which is convenient to reach for tourists and ecologically sound. Furthermore, unconventional architects and skilful entrepreneurs are needed as well as large investments to erect such a 'Revived Original'. This could, in principle, be achieved from private sources but in many cases, it seems reasonable to engage in a public-private partnership. Careful surveys relating to the specific location and circumstances will need to be undertaken.

Different aspects contribute to the damaging issues connected to overtourism such as traffic congestion, pollution, and tensions with residents (Seraphin et al., 2018). Managerial incompetence is one of the potential drivers and 'Revived Originals' could also be affected negatively by this kind of issue, if not adequately managed. However, the owners of the 'Revived Original' have a personal interest in keeping these problems to a minimum. By leapfrogging, a concept which describes skipping a development stage, especially with respect to infrastructure, many issues can be eliminated or at least mitigated. With proper design, bottlenecks and traffic congestion will be prevented. Air pollution could be monitored, evaluated, and kept at a low level by providing convenient public transport. 'Revived Originals' do not claim to be a panacea for all tourism-related issues.

Perhaps, the greatest problem will be to find sufficient support for our proposal. Without a doubt, those who in German are aptly called ‘Bildungsbürger’ (i.e. citizens with good education) will violently oppose the idea of ‘Revived Originals’. They are likely to consider it a violation of all that they take to be ‘culture’. But it does not seem impossible to counter their opposition. It can be pointed out that they can, of course, still visit what they consider to be the original site. Moreover, they can do so under much better conditions than today because there will be fewer tourists, and they, therefore, have better opportunities to enjoy the culture and atmosphere for which they long.

Conclusion

We are well aware that our proposal is unconventional and rather daring. At first, ‘Revived Originals’ seems to be an outlandish idea. It may even conjure thoughts of Disneyland and other similar theme parks. This, however, is a misinterpretation. ‘Revived Originals’ consist of a most careful replication of the original buildings and a close relationship to history and local culture. If anything, ‘Revived Originals’ resolves the situation of the caves in Altamira and Lascaux, where entering the original caves was forbidden because perspiration and the breathing of air by visitors strongly damaged the prehistoric paintings. The replica caves were rebuilt in close proximity to the originals, the paintings were identically copied, and the caves were put into the historical context. Nowadays, visitors take it for granted that they can only see the replicas.

Our proposal for ‘Revived Originals’ certainly is only one possibility to cope with cultural over-tourism. It can and should be combined with more traditional approaches such as appealing to tourists to behave in an orderly way (World Tourism Organization, 2018), imposing entry fees for the existing sites (as planned by Venice and Macao, see Giuffrida, 2019) or regulating entry with respect to period and time (González, 2018). However, experience shows that many of those policy measures – taxation, advance booking systems, creation of alternative routes, virtual access, a limited number of hotel beds, restricted access to piazza and so on – are rather ineffective or even worsen the situation (Russo, 2000; van der Borg et al., 1996). For instance, imposing an access price upon visitors is not feasible for most cities and other locations because entry cannot be controlled (Venice and Dubrovnik are, in this regard, exceptions rather than the rule). A taxon overnight stays in hotels and Airbnb fails to capture the many cruise ship passengers as well as daytime tourists. Furthermore, it induces them to avoid staying overnight in the cultural cities leading to losses for hotels and restaurants.

An important but often disregarded aspect of introducing entry fees and regulations is the reduced capability to visit cultural sites and a resulting reduced welfare potential for cultural tourists. Our proposal avoids many of these shortcomings by offering additional opportunities for tourists to enjoy culture. Therefore, it is designed to raise tourists’ welfare.

All these considerations are still crucially important though, at present, the policies to combat the COVID-19 virus have led to a shutdown in international and local tourism. This is an opportunity to carefully consider how cultural tourism should be organized in the future. Our goal is to mitigate the pervasive negative external effects of cultural overtourism.

Acknowledgements

The authors are grateful for many comments and suggestions for improvement to Karlis Briviba, Reiner Eichenberger, René L. Frey, Jonas Friedrich, Jürg Helbing, David Iselin, Vanessa Kasties, Wolf Linder, Margit Osterloh, Christoph Schaltegger, Eric Scheidegger, Andreas Spillmann, Armin Steuernagel, Alois Stutzer.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Bruno S Frey  <https://orcid.org/0000-0001-5380-6655>

Note

1. In this article, we focus on cultural tourism in Europe. This obviously does not mean that other Continents do not have corresponding sites. See, for example, the World Heritage List (Frey and Pamini, 2009). Outside Europe sites are heavily frequented by cultural tourists.

References

- Abbasov F, Earl T, Jeanne N, et al. (2019) *One Corporation to Pollute them all, Luxury Cruise Air Emissions in Europe*. Transport & Environment European Federation for Transport and environment AISBL.
- Backman K and Backman S (1997) An examination of the impacts of tourism in a gateway community. *Development in Quality of Life Studies* 1: 6.
- Barcelona Field Studies Centre (2007) *Machu Picchu: Attitudes to Management Retrieved*. Available at: <http://geographyfieldwork.com/MachuTourismAttitudes.htm> (accessed 09 September 2019).
- Barron K, Kung E and Proserpio D (2018) The sharing economy and housing affordability: evidence from Airbnb. *SSRN Electronic Journal*. DOI: 10.2139/ssrn.3006832.
- Blanco-Romero A, Blázquez-Salom M and Cánoves G (2018) Barcelona, housing rent bubble in a Tourist City. Social responses and local policies. *Sustainability* 10(6): 2043.
- Brambilla Barcion P and Marani PC (2001) *Leonardo: The Last Supper*. Chicago: University of Chicago Press.
- Bredius A (1937) A new Vermeer. *The Burlington Magazine for Connoisseurs* 71(416): 210–211.
- Butler R (2018) Challenges and opportunities. *Worldwide Hospitality and Tourism Themes*. 10: 635–641.
- Cuccia T, Guccio C and Rizzo I (2016) The effects of UNESCO World Heritage List inscription on tourism destinations performance in Italian regions. *Economic Modelling* 53: 494–508.
- D’Eramo M (2017) *Il Selfie Del Mondo. Imagine Sull’età Del Turismo*. Milano: Feltrinelli.
- do Valle PO, Mendes J, Guerreiro M, et al. (2011) Can welcoming residents increase tourist satisfaction? *Anatolia* 22(2): 260–277.
- Duval M, Smith B, Gauchon C, et al. (2019) “I have visited the Chauvet Cave”: the heritage experience of a rock art replica. *International Journal of Heritage Studies* 26(2): 142–162. DOI: 10.1080/13527258.2019.1620832.
- Fan DXF, Liu A and Qiu RTR (2018) Revisiting the relationship between host attitudes and tourism development: a utility maximization approach. *Tourism Economics* 25(2): 171–188.
- Fawcett J (1998) Use and abuse: management and good practice in cathedrals and greater churches. In: Fawcett J (ed), *Historic Floors: Their History and Conservation*. Oxford: Boston Butterworth-Heinemann, pp. xix, 250, p. 232 p. of plates.
- Fotis JN, Buhalis D and Rossides N (2012) Social media use and impact during the holiday travel planning process. In: Fuchs M, Ricci F and Cantoni L (eds), *Information and Communication Technologies in Tourism 2012*. Vienna: Springer-Verlag, pp. 13–24.
- Francis J (2019) *Overtourism Mapped: Tourism is Headed into a Global Crisis*. Available at: <https://www.responsibletravel.com/copy/overtourism-map> (accessed 29 January 2020).

- Frey BS (2003) *Arts & Economics: Analysis & Cultural Policy*. Berlin: Springer.
- Frey BS and Pamini P (2009) Making world heritage truly global: the culture certificate scheme. *Oxonomics* 4(2): 1–9.
- Frey BS and Steiner L (2011) World heritage list: does it make sense? *International Journal of Cultural Policy* 17(5): 555–573.
- Gallarza MG and Gil Saura I (2006) Value dimensions, perceived value, satisfaction and loyalty: an investigation of university students' travel behaviour. *Tourism Management* 27(3): 437–452.
- Garcia-Palomares JC, Gutiérrez J and Mínguez C (2015) Identification of tourist hot spots based on social networks: a comparative analysis of European metropolises using photo-sharing services and GIS. *Applied Geography* 63: 408–417.
- Giuffrida A (2019) The death of Venice? City's battles with tourism and flooding reach crisis level. *The Guardian*. Available at: <https://www.theguardian.com/world/2019/jan/06/venice-losing-fight-with-tourism-and-flooding> (accessed 5 April 2019).
- González A (2018) Venice: the problem of overtourism and the impact of cruises. *Investigaciones Regionales* 2018: 35–51.
- Gooroochurn N and Sinclair MT (2005) Economics of tourism taxation: evidence from Mauritius. *Annals of Tourism Research* 32(2): 478–498.
- Haddad R, Harahsheh S and Boluk K (2019) The negative sociocultural impacts of tourism on Bedouin communities of Petra, Jordan. *E-review of Tourism Research* 16(5): 489–510.
- Haralambopoulos N and Pizam A (1996) Perceived impacts of tourism: the case of Samos. *Annals of Tourism Research* 23(3): 503–526.
- Hawkins DE, Chang B and Warnes K (2009) A comparison of the national geographic stewardship scorecard ratings by experts and stakeholders for selected world heritage destinations. *Journal of Sustainable Tourism* 17(1): 71–90.
- Honey M (2008) *Ecotourism and Sustainable Development: Who Owns Paradise?* Washington, DC: Island Press.
- Instagram (2020) #trolltunga. Available at: <https://www.instagram.com/explore/tags/trolltunga/> (accessed 19 February 2020).
- Jones M (1990) Fake? The art of deception, exh. cat. *British Museum, London* pp, 308–309.
- Jovicic D (2016) Cultural tourism in the context of relations between mass and alternative tourism. *Current Issues in Tourism* 19(6): 605–612.
- Kennedy R (2020) *Is Austrian Town of Hallstatt Suffering from Overtourism Due to Link with Disney's Frozen?* Available at: <https://www.euronews.com/2020/01/20/quality-of-life-has-deteriorated-mayor-of-austrian-town-taking-new-measures-against-overt> (accessed 14 May 2020).
- Kesar O, Dezeljin R and Bienenfeld M (2015) Tourism gentrification in the city of Zagreb: time for a debate. *Interdisciplinary Management Research* 11: 657–668.
- Kester J (2016) International tourism trends in EU-28 member states: current situation and forecasts for 2020-2025-2030. Report for the European Commission, Directorate-General for Enterprise and Industry, prepared by the World Tourism Organization (UNWTO). Available at: https://ec.europa.eu/growth/content/international-tourism-trends-eu-28-member-states-current-situation-and-forecast-2020-2025-0_en.
- Koens K, Postma A and Papp B (2018) Is overtourism overused? Understanding the impact of tourism in a city context. *Sustainability* 10(12): 4384.
- Kuščer K and Mihalič T (2019) Residents' attitudes towards overtourism from the perspective of tourism impacts and cooperation – the case of Ljubljana. *Sustainability* 11(6): 1823.
- Larsen S, Wolff K, Marnburg E, et al. (2013) Belly full, purse closed: cruise line passengers' expenditures. *Tourism Management Perspectives* 6: 142–148.
- Larson LR and Poudyal NC (2012) Developing sustainable tourism through adaptive resource management: a case study of Machu Picchu, Peru. *Journal of Sustainable Tourism* 20(7): 917–938.
- Leppmann W (1975) Time and place in death in Venice. *The German Quarterly* 48(1): 66–75.

- Lozano-Oyola M, Blancas FJ, González M, et al. (2012) Sustainable tourism indicators as planning tools in cultural destinations. *Ecological Indicators* 18: 659–675.
- Lundberg DE (1990) *The Tourist Business*. New York: Van Nostrand Reinhold.
- Markusen A (2003) Fuzzy concepts, scanty evidence, policy distance: the case for rigour and policy relevance in critical regional studies. *Regional Studies* 37(6–7): 701–717.
- Marsiglio S (2015) On the carrying capacity and the optimal number of visitors in tourism destinations. *Tourism Economics* 23(3): 632–646.
- McKercher B, Wong C and Lau G (2006) How tourists consume a destination. *Journal of Business Research* 59(5): 647–652.
- Meskell L (2007) Falling walls and mending fences: archaeological ethnography in the Limpopo. *Journal of Southern African Studies* 33(2): 383–400.
- Milano C, Novelli M and Cheer JM (2019) Overtourism and tourismphobia: a journey through four decades of tourism development, planning and local concerns. *Tourism Planning & Development* 16(4): 353–357.
- Perkumienė D and Pranskūnienė R (2019) Overtourism: between the right to travel and residents' rights. *Sustainability* 11(7): 2138.
- Pitrelli MB (2019) Instagrammers love this iconic spot, but there's something they don't want you to see. Available at: <https://www.cnn.com/2019/12/02/norways-social-media-hot-spots-trolltunga-preikestolen-and-kjeragbolten.html> (accessed 14 February 2020).
- Pommerehne WW and Granica JM (1995) Perfect reproductions of works of art: substitutes or heresy? *Journal of Cultural Economics* 19(3): 237–249.
- Popp M (2012) Positive and negative urban tourist crowding: Florence, Italy. *Tourism Geographies* 14(1): 50–72.
- Ram Y and Hall CM (2017) Walkable places for visitors: assessing and designing for walkability. In: Hall CM, Ram Y and Shoval N (ed), *The Routledge International Handbook of Walking*. London and New York: Routledge, pp. 311–329.
- Richards G (2001) The development of cultural tourism in Europe. *Cultural Attractions and European Tourism* 28: 3–30.
- Richards G (2007a) ATLAS cultural tourism survey. Summary report 2007. Available at: <http://www.tram-research.com/cultural%20tourism%20in%20europe.pdf> (accessed 15 April 2012).
- Richards G (2007b) *Cultural Tourism: Global and Local Perspectives*. Hove: Psychology Press.
- Rinaldi A (2014) Externalities and tourist tax. Evidence from Italy. *Rivista di Scienze del Turismo-Ambiente Cultura Diritto Economia* 3(2): 79–91.
- Russo A (2000) The “Vicious Circle” of tourism development in heritage destinations. In: *Proceedings of 40th congress of the European regional science association*, Barcelona, 19 August–1 September 2000.
- Seraphin H, Sheeran P and Pilato M (2018) Over-tourism and the fall of Venice as a destination. *Journal of Destination Marketing & Management* 9: 374–376.
- Seraphin H, Zaman M, Olver S, et al. (2019) Destination branding and overtourism. *Journal of Hospitality and Tourism Management* 38: 1–4.
- Singh T (2018) Is over-tourism the downside of mass tourism? *Tourism Recreation Research* 43(4): 415–416.
- Su Y-W and Lin H-L (2014) Analysis of international tourist arrivals worldwide: the role of world heritage sites. *Tourism Management* 40: 46–58.
- Tosun C (2002) Host perceptions of impacts: a comparative tourism study. *Annals of Tourism Research* 29(1): 231–253.
- van der Borg J, Costa P and Gotti G (1996) Tourism in European heritage cities. *Annals of Tourism Research* 23(2): 306–321.
- Weaver D and Lawton LJ (2001) Resident perceptions in the urban–rural fringe. *Annals of Tourism Research* 28: 439–458.
- Wong L and Quintero M (2019) Tutankhamen's two tombs: replica creation and the preservation of our cultural heritage in the digital age. *ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences* XLII-2/W11: 1145–1150.

- World Tourism Organization (2018) *European Union Tourism Trends*. Madrid: UNWTO, DOI: 10.18111/9789284419470.
- Yong Yeu Moy L and Phongpanichanan C (2014) Does the status of a UNESCO World Heritage City make a destination more attractive to Mainland Chinese tourists? A preliminary study of Melaka. *Procedia-Social and Behavioral Sciences* 144: 280–289.
- Zeng B and Gerritsen R (2014) What do we know about social media in tourism? A review. *Tourism Management Perspectives* 10: 27–36.

Author biographies

Bruno S Frey is a permanent visiting professor at the University of Basel and the research director at CREMA – Center for Research in Economics, Management and the Arts, Zurich. Before, he was a professor at the Universities of Constance, Zurich, Chicago, Warwick and Friedrichshafen; he was awarded five Honorary Doctorates in five countries. He published 25 books and more than 600 articles in scholarly journals.

Andre Briviba completed his Bachelor of Science degree in international economics at the University of Tübingen and currently works as a research associate at CREMA – Center for Research in Economics, Management and the Arts, Zurich.