

Institution: University of Bristol		
Unit of Assessment: 33) Music, Drama, Dance, Performing Arts, Film and Screen Studies		
Title of case study: <i>The Lost Palace</i> : using theatre and innovative technologies to transform visitor experience of history and establish a new model for immersive storytelling		
Period when the underpinning research was undertaken: 2015-2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s): Dr Paul Clarke	Role(s) (e.g. job title): Senior Lecturer in Performance Studies	Period(s) employed by submitting HEI: 09/2007-present
Period when the claimed impact occurred: 2015-2020		
Is this case study continued from a case study submitted in 2014? N		

1. Summary of the impact

Dr Clarke's practice as research has pioneered interactive ways of experiencing history where it happened. The award-winning collaboration with Historic Royal Palaces (HRP), *The Lost Palace*, impacted the public, museum professionals, and creative industry partners. It attracted over 20,000 visitors to Banqueting House, enriching their cultural experience and engagement with the history of Whitehall, London. The collaboration shaped HRP's approach to interpretation, leading to the development of their new R&D Studio and new business opportunities. Creative technology collaborators have applied these innovations to other commercial projects, and the success of *The Lost Palace* has enabled them to promote and grow their business. It has influenced other international museums and heritage organisations to change their digital interpretation practices.

2. Underpinning research

Through a series of practice as research enquiries, Dr Clarke has used site-specific storytelling and creative technologies to explore relationships between place, history and memory. These projects have developed ongoing collaborations with creative industry partners, experimented with new forms of guided tours, and explored potential applications of theatre, binaural audio and location-sensitive mobile devices in heritage contexts.

Piloting location-based storytelling

In 2010, Clarke worked with app developers Calvium to create *Give Me Back My Broken Night* [3.1], a guided tour of the future of a place, using GPS devices and mobile projectors. In 2011, Tate Britain commissioned a *son et lumière* by Clarke's company Uninvited Guests and sound designer Lewis Gibson as part of the *John Martin: Apocalypse* exhibition (September 2011 - January 2012). This pioneering approach to interpretation used theatre, surround sound and projections mapped onto Martin's *Last Judgement* [3.2] triptych to animate the paintings and 'push at the boundaries of conventional gallery experience' (Martin Myrone, Tate curator, *Daily Telegraph*, 2011). In their *Talking Objects* publication, The British Museum used it as an example of 'successful collaboration' and an inspiring approach to 'animating museums', 'breathing new life into a collection, changing cultures and behaviours in relation to collections'. This led to *Memory of Theatre* (2012) [3.3], Clarke's REACT Heritage Sandbox project, a collaboration with Gibson, Calvium and Tom Morris, Artistic Director of Bristol Old Vic (BOV). A new oral history archive was created of audiences' memories of BOV, which were recorded binaurally and made publicly accessible in the theatre using an innovative indoor, location-based app. Knowledge from these projects was brought together by Clarke in *The Good Neighbour* [3.4], a theatrical guided tour of Lavender Hill and nearby streets (Battersea Arts Centre, October - November 2012), which drew on local archives and documentary interviews.

Pioneering immersive experiences in heritage buildings and sites

The partnerships Clarke developed led to collaborative work on a prototype for Historic Royal

Impact case study (REF3)

Palaces (HRP, 2015), chosen from among 90 proposals for production as a full visitor experience for Banqueting House, the last remaining building of Whitehall Palace. This commission addressed the problem of how to offer a tour of historic buildings that no longer exist, as the palace burnt down in 1698. It was also an experiment into how rich a digital experience can be without the use of screens, and whether multi-sensory technology, including haptics, could enable felt connections with the past. The research output, *The Lost Palace* (2016-17) [3.5], which Clarke wrote, directed and co-designed, was a new visitor experience commissioned by HRP, developed in collaboration with Calvium, Gibson and theatre producers Fuel, along with designers Chomko & Rosier and multimedia design studio Limbic Cinema. The conceptual and technical approaches were informed by learning from the pilot projects outlined above. Clarke dramatised historic events, based on archival documents, which were delivered in situ on the streets of Whitehall, using theatre and emerging technologies to enable visitors to experience history where it happened. The method developed employed binaural recording techniques to reproduce the acoustics of the absent buildings and produce a 3D, augmented audio experience, such that visitors were immersed in the historic scenes. In terms of technical development, Clarke co-conceived a bespoke, handheld, wooden device, with no screen or buttons, which worked like a “historical surveillance device”, and co-designed a range of novel interactions, including gestural triggers and haptic responses, which gave the users roles in the 16th and 17th-century narratives.

3. References to the research

- 3.1 **Clarke P**, Speakman D and Uninvited Guests (2010-16), *Give Me Back My Broken Night*, performance, Soho Theatre (2010); European City of Culture programme, Guimarães, Portugal (2012); Bristol Temple Quarter commission (2013); *De Keuze Festival*, Rotterdam Schouwburg (21-28 Sept 2013, part of Het Nieuwe Instituut's International Visitors programme); Brigstow Institute Launch, Bristol (2016); The Albany, as part of *Hothouse* programme at Deptford Lounge, Deptford (2016)
<https://www.watershed.co.uk/ished/theatresandbox/projects/2010/give-me-back-my-broken-night/>
<https://www.watershed.co.uk/audio-video/open-city-give-me-back-my-broken-night/>
<https://givemebackmybrokennight3-blog.tumblr.com/page/2>
- 3.2 **Clarke P** and Gray S (UoB) with Gibson L and Uninvited Guests (2011-12), *The Last Judgement: a lecture at intervals*, audiovisual installation, Tate Britain, part of *John Martin: Apocalypse* exhibition <https://www.tate.org.uk/whats-on/exhibition/john-martin-apocalypse/john-martin-room-guide/john-martin-room-5>
<https://www.youtube.com/watch?v=mm4d7ZiXP1k>
<https://www.theguardian.com/artanddesign/2011/sep/25/john-martin-apocalypse-tate-review>
- 3.3 **Clarke P** with Morris T, Pyxis Design, Calvium and MAYK (2012), *Memory of Theatre*, location-specific mobile app, Bristol Old Vic. Also presented as an audio installation as part of *The Rooms*, REACT Festival, The Island, Bristol (2015) <http://www.react-hub.org.uk/projects/heritage/memory-theatre/>
<http://www.react-hub.org.uk/articles/rooms/re-live-rooms/>
<http://old.react-hub.org.uk/heritagesandbox/projects/2012/memory-of-theatre/>
- 3.4 **Clarke P** with Gibson L and Uninvited Guests (2012), *The Good Neighbour*, a theatrical guided tour, Battersea Arts Centre (BAC), London, (13 Oct-4 Nov 2012). Remade with Gibson as *The Good Neighbour Audio Tour* (8 Oct -6 Nov 2013)
<https://www.ayoungentheatre.com/review-the-good-neighbour-battersea-arts-centre-uninvited-guests/>
<http://exeuntmagazine.com/features/uninvited-guests-the-good-neighbour/>
https://books.google.co.uk/books?id=BSAhAQAAQBAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q=%22the%20good%20neighbour%22&f=false
- 3.5 **Clarke P** with Uninvited Guests, Gibson L, Chomko & Rosier, Limbic Cinema, Calvium and Fuel (2016-17), *The Lost Palace*, visitor experience, Historic Royal Palaces, Banqueting House, London [https://research-information.bristol.ac.uk/en/publications/the-lost-palace\(aba69875-7640-468e-9361-125274b9e59f\).html](https://research-information.bristol.ac.uk/en/publications/the-lost-palace(aba69875-7640-468e-9361-125274b9e59f).html)

Research projects and grants

- **Clarke P** and **Uninvited Guests**, *The Lost Palace* prototype, Historic Royal Palaces, 2015, GBP10,000
- **Clarke P**, **Uninvited Guests**, Gibson L, Chomko & Rosier, Calvium, and Fuel, *The Lost Palace* production, Historic Royal Palaces, 2016, GBP250,000
- **Clarke P**, *The Lost Palace* funding to rework and develop Historic Royal Palaces, 2017, GBP80,000

4. Details of the impact

Through the creation of a new visitor experience, *The Lost Palace* [3.5], Dr Clarke's research has produced cultural and economic impacts, benefitting museum professionals, the public, and digital creatives.

Changing Historic Royal Palaces' approach to immersive technology and visitor engagement

Museums and heritage sites have often struggled to create engaging digital content. By using theatre and innovative technologies, Clarke enabled Historic Royal Palaces (HRP) to create an immersive experience for visitors to engage with history where it happened. HRP 'learnt vast amounts from *The Lost Palace* that will be able to inform how Banqueting House is developed as a visitor attraction and how we can tell the story of this palace that's no longer there' [5.1]. It transformed their interpretation strategy at Banqueting House, understanding of the potential of technology, and creative partnerships.

The Lost Palace ran every 20 minutes for 16 weeks across summer 2016 and 2017, for audiences of around 20, attracting over 20,000 visitors to Banqueting House, some of whom had not visited HRP before. 37% of *The Lost Palace* visitors were between the ages of 25-34, which is rare for a heritage attraction [5.4]. A family-friendly version with stories and interactions specially designed for 7-14-year-olds resulted in high engagement from young audiences, plus there were out-of-hours 'lates' with content specifically targeted at adults. Furthermore, HRP benefitted economically from additional ticket sales of GBP12 for the adult tour and GBP7 for children.

Following successful collaboration, prototyping and production of *The Lost Palace*, HRP established a new R&D Studio in late 2016, which incorporated lessons from Clarke's research and the iterative, user-centred design process (<https://www.hrp.org.uk/research-and-development-studio/#gs.iinpej>). This in-house creative development studio provides opportunities for artists in residence to explore new forms of public engagement with heritage. It has led to commissions of performance, digital installations, and immersive storytelling at other HRP locations (e.g. *The People's Revolt* with East London Dance and Hofesh Shechter's *East Wall: Storm the Tower*, Tower of London). *Lost Palace* partners Chomko & Rosier subsequently took part in these residencies, developing two further multisensory visitor experiences in the form of permanent installations for Henry VIII's Kitchens and Base Court at Hampton Court Palace (<https://chomkorosier.com/kitchens.php>; <https://chomkorosier.com/base-court.php>). According to the Head of the R&D Studio at HRP, *The Lost Palace* was 'innovative in its approach to collaborating with creative partners and shows a huge leap in the use of digital technologies within a heritage environment' [5.1]. The founder of MuseumNext states 'The result is a triumph and shows the benefits of both collaboration and investing in R&D. What could have been another unremarkable museum app [was] instead something truly memorable and immersive'. For him, it was 'pioneering', 'one of the best executed digital experiences I've seen from a museum', and 'has a ton of lessons for those trying to make magic happen with digital in a heritage or cultural setting' [5.2].

The project significantly raised HRP's and creative partners' reputations in the area of digital heritage/interaction and led to international awards, including the IMAGINES Project of Influence award at The Best In Heritage awarded by ICOM (International Council of Museums) and Europa Nostra (Dubrovnik 2018). This recognises the multimedia/technology project judged to have made the best impact on global museum professionals and to have the 'potential to produce change and advance professional practices by their power of inspiration'. *The Lost Palace* also received Best Achievement and Interactive and Games Awards at European Heritage in Motion (2017), and the Museums + Heritage award for Innovation (2017), the judges

of which wrote, 'a genuinely innovative project which successfully harnessed new technology to bring to life the history which surrounds us in a new multi-sensory, tangible way'. It was also shortlisted for a 2017 IXDA award (global network for interaction design) [5.3].

The Lost Palace was critically acclaimed in professional museum and technology publications, and in the popular press. *Museums Journal* wrote that, 'both the technology and the content are of high quality and, just as importantly, are used together effectively to bring the past to life. Buzzwords such as immersive, innovative and intuitive can be overused, but in this instance, they feel justified'. *BBC Click* described it as 'a really thrilling experience... beautifully constructed & well put together... neither the theatre nor the tech unbalanced each other' and *Time Out London* as 'Funny, moving and fascinating, it's a brilliantly created tour with plenty of smart surprises... more attractions should be creating experiences like this'. Mar Dixon, of Teens in Museums, the multinational CultureThemes and Twitter's Ask a Curator Day, said it was the 'perfect marriage of storytelling and technology'. It 'Brings history to life in an immersive way. Great for all ages. Even my teen loved it!' [5.5].

Inspiring digital innovation in the wider museum and heritage sectors

The Lost Palace created a new approach to digital interpretation in historic buildings and museums, an approach that has been shared widely within the sector. It has been used as a point of reference in the field of museum interaction and digital heritage and led to invitations to present at professional conferences internationally over 2017-2020: MuseumsNext, New York 2019 and Rotterdam 2017; MTI2017, Paris; Digital Design Weekend, V&A; REMIX Summit Sydney; Culture Technology Entrepreneurship, Oxford University; Digikult, Heritage Istanbul 2018; keynote at The Best in Heritage 2019, Dubrovnik; Exponatec, Cologne 2019; StoryFutures AHRC Creative Cluster Story Lab, National Gallery; National Lottery Heritage Funded Inspiration Day at Battersea Arts Centre; 5G and Smart Tourism Workshop, The Roman Baths, Bath. The project's method of recording dramatised accounts in immersive 3D has been taken up by New York's Met Museum in the production of a binaural audio experience as part of *Visitors to Versailles* (2018). For the Managing Editor and Producer of the Met's Digital Department, when researching a solution for creating a "you-are-here" audio experience, 'the key turned in the lock when I attended a museum conference and learned about [*The Lost Palace*, a] walking tour produced in London that mimicked the 3D sound we experience naturally [by using] binaural sound recordings' [5.6]. *The Lost Palace* is cited as an exemplary 'audio journey', a 'form of audio augmented reality', in *Immersive Content Formats for Future Audiences*, a report produced for Digital Catapult, 2018, and is used as a case study in *Inspiring Creativity, Heritage & The Creative Industries*, a report on fruitful collaborations between creative industries and the heritage sector, produced for the Heritage Alliance, the biggest national coalition of heritage organisations. It is also the case study for the 'Social Experiences' theme in *Immersive Experiences in Museums, Galleries and Heritage Sites*, a discussion paper for the AHRC Policy and Evidence Centre, led by Nesta, 2019 [5.7].

Enhancing visitors' experience, engagement with history, and connection to place

The Lost Palace enabled visitors to experience historical events in the exact locations where they happened in an accessible, multisensory way that engaged them emotionally with people and stories from Whitehall's past. 93% of visitors agreed that 'the experience was unique to others I've had at visitor attractions', noting how different it felt to the simple museum audio guides they had previously tried. For 92% of those surveyed it 'brought the history of this time and place to life' and 90% agreed that it 'made me feel more connected to the past' [5.4]. The Nesta discussion paper [5.7] argues that *The Lost Palace* shows 'how powerful social interactions can be during immersive experiences', which 'can seed strong connections not only between people and place, but from person to person also'. Visitors said, I 'definitely haven't connected to history like that before', that it gave them a 'whole new understanding of [the] history of Whitehall!' and, 'if history had been taught this way, I might not have become a scientist!' One wrote, 'I was amazed how easily modern life drifted to the background whilst the past became more vivid and alive around me'. They had 'never experienced anything like' it, found *The Lost Palace* to be 'an incredible immersive experience', 'such an imaginative venture', 'evocative', 'innovative, informative + fun', 'exceptional, playful and very moving!' [5.8].

Creating new business opportunities for creative industry partners

The Lost Palace has led to additional economic benefits for the creative industry partners involved. The methods, applications, and technologies developed have been transferred to other contexts and enabled them to successfully bid for new commissions totalling GBP350,000. Calvium stated that ‘fundraising liking *Lost Palace*’ and its ‘resounding success’ has led to opportunities to tender. It has ‘helped with brand building’ and ‘as a case study for general sales pitches’, specifically ‘to demonstrate [their] capability for working on novel uses of technology’ [5.10]. Their White Paper, ‘Optimising Digital Innovation for Cultural Heritage Institutions’ focuses on *The Lost Palace*, shares the approach and makes ‘recommendations for other heritage organisations’ on how to deliver ‘new, richer, and more engaging visitor experiences’ [5.9]. *The Lost Palace* directly led to theatre sound designer Gibson being involved with many other heritage projects (totalling GBP74,100). Gibson was approached by ATS Heritage, who design audio and multimedia guides, after they saw *The Lost Palace*, and together they commissioned binaural content for numerous other historic sites, including The Cutty Sark, Orford Castle, The Royal Hospital Chelsea, Osborne House, Canterbury Cathedral, The Painted Hall (Old Royal Naval College), and Hever Castle. Gibson is also producing an audio-led exhibition, using cutting edge locative technology developed by NOUS (Austria) for the new Hans Christian Andersen Museum in Denmark opening in Summer 2021 (GBP50,000). Gibson added ‘this commission came about because the creative directors of the project saw *The Lost Palace* and it involves a great deal of skills... developed on the project’ [5.10]. For partners Limbic Cinema, ‘having a small part in the award-winning project... has definitely added some calibre to our pitch documents’. They have since won several commissions locally for education and historic institutions, including: five new permanent installations for Bristol’s We The Curious (GBP70,000); four pieces of digital heritage interpretation for Bristol Old Vic, including an AR collaboration with Zubr and projection-mapping with Aardman (GBP70,000); and the SS Great Britain’s anniversary event (GBP15,000) [5.10]. Newly established company Chomko & Rosier commented that the industry attention from the success of *The Lost Palace*, its experimental nature and ambition, led to further projects within the heritage sector for clients including National Trust, and further work for HRP at Hampton Court. For them, the value of earnings resulting from *The Lost Palace* is within the region of GBP60,000-GBP80,000. For Rosier it ‘informed how we manage collaborations and gave us the confidence to work with creatives and professionals from a wide range of disciplines’ [5.10]. It also ‘gave other institutions and commissioners confidence in our ability to collaborate in such ways’ and ‘to deliver large scale public work’. ‘There is continued interest in *The Lost Palace* within the heritage sector and beyond’, which ‘continues to lead to invitations’ and create ‘opportunities’ [5.10].

5. Sources to corroborate the impact

- 5.1 Museums and Heritage Advisor – Articles, [New visitor attraction The Lost Palace opens to tell the story of the once magnificent Whitehall Palace](#) (July 2016) [Accessed 8 February 2021]; [The Lost Palace II – return of Historic Royal Palaces’ VR Sensation](#) (July 2017) [Accessed 22 September 2019]
- 5.2 MuseumNext Article (January 2017) [New Immersive Heritage Experience – The Lost Palace](#) [Accessed 22 September 2019]
- 5.3 *The Lost Palace* awards
- 5.4 Historic Royal Palace’s visitor survey evaluation findings (September 2016)
- 5.5 *The Lost Palace* press reviews (2016-2017)
- 5.6 New York Metropolitan Museum of Art (April 2018) – Blog article, [Eavesdropping on History: The Ideas behind The Met’s First 3-D Audio Experience](#) [Accessed 22 September 2019]
- 5.7 Exemplar case studies: Heritage Alliance report (October 2019); Policy and Evidence Centre Discussion Paper (November 2019); Digital Catapult Report (June 2018)
- 5.8 Visitor reviews: Twitter and TripAdvisor (2016-2017)
- 5.9 Calvium White Paper: ‘*The Lost Palace: Optimising digital innovation for cultural heritage institutions*’ (May 2017)
- 5.10 Testimony from creative industry partners: Chomko & Rosier, Lewis Gibson, and Calvium (October 2020)