

Bridging the Gaps: Performance, Time and Space

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Abstract

Traditional Chinese opera is an immersive experience that transports the audience to an alternative time and space. Alongside other forms of performance and theatre, traditional Chinese opera is the nearest established art form to emerging mixed reality experiences and, as such, is a natural platform for presenting immersive narratives. How can emerging technology (VR/AR/MR/XR) be used in China to enhance local culture and creativity? Is it possible to integrate urban and rural aspects and promote traditional Chinese art forms? In order to attract new audiences there are many gaps to bridge beyond pure location such as age, education and culture. What are the potential challenges and opportunities in evolving UK-China creative clusters through research-industry collaboration to deliver mixed reality projects? How can the UK-China teams collaborate internally and internationally to develop creative immersive output?

To offer some answers to these questions, I will share my insights as a participant in the AHRC funded project workshop *'UK-China Collaborations in the Creative Industries'*, *'Bridging the Gaps'* workshops (Shanghai & Leeds, 2019) and my experience as creative lead on numerous immersive technology projects. Science fiction narratives of inter-dimensional experiences serve as a primer for the possibilities of mixed reality technology, while also appealing to the young and old, of varying education and culture, in urban and rural locations. I will highlight specific visionary UK-China sci-fi stories and explore how these examples of literature — which 'bridge the gaps' of time and space — serve as inspiration for our research and creative practice.

Keywords: traditional Chinese opera, mixed reality, immersive narratives, science fiction, portals.

Introduction: UK–China Collaborations

In November 2018 I travelled to Shanghai following selection as a delegate for the AHRC workshop *'UK-China Collaborations in the Creative Industries'*. Participants from academia and industry spent 2 days (6-7 November) at Shanghai Theatre Academy discussing how partners from the UK and China could collaborate and create lasting partnerships. My activity there led to being involved in a funding application by Dr Haili Ma from the University of Leeds – *'Bridging the gaps: mixed reality traditional Chinese opera in rural and urban Shanghai heritage sites'* – which was successfully awarded an AHRC UK-China Creative Industries Partnership Development Grant. I subsequently attended a briefing workshop for award winners at the Museum of London (20 March 2019) and then returned to Shanghai in April 2019 for a 3-day workshop specifically for the project *'Bridging the gaps: mixed reality traditional Chinese opera in rural and urban Shanghai heritage sites'*.

This second Shanghai workshop provided the project team with an opportunity to examine the challenges involved and begin the exploration of potential activity models and research paths. At this stage the project team consisted of Dr Haili Ma with fellow academics and organisations from China (Shanghai Dramatic Arts Centre, Shanghai Theatre Academy,

Shanghai Yue Opera House, Chuansha Opera Village, Pudong Municipal Government) and the UK (HumanVR, Slung Low, Viridian FX, Opera North). We addressed the challenge of how we could possibly use emerging technology (VR/AR/MR/XR) in China to enhance local culture and creativity, with the specific goal of integrating urban and rural environments in order to promote traditional Chinese art forms. With a goal of attracting new audiences, we identified that there are many gaps to bridge beyond pure location, for example; varying age groups, different levels of education and experience of culture. The project team formed the idea that our partnership could be viewed as a piece of string, with each individual project a unique 'pearl' which has a specific contribution to 'bridging the gaps'. At the end of a very fruitful 3 days, we had identified several potential 'pearls' of collaborative work that the UK-China team could create together with their collective skills.

On 29-31 May 2019, I participated in a follow-on workshop at the University of Leeds (UK) with visits to creative organisations in Leeds, York and Sheffield. For this workshop, team members from China travelled to the UK representing Shanghai Dramatic Arts Centre, Shanghai Arts Research Institute, National Digital Lab (Shanghai Theatre Academy), Shanghai Yue Opera House and Pudong Municipal Government. On the first day we convened in the School of Performance and Cultural Industries at the University of Leeds to recap on our work from the previous month in Shanghai and agree what we needed to achieve over the following few days. Several questions were identified including: how can emerging immersive technology be used in China to enhance local culture and creativity? Is it possible to integrate urban and rural aspects and promote traditional Chinese art forms? What are the potential challenges and opportunities in evolving UK-China creative clusters through research-industry collaboration to deliver mixed reality projects? And how can the UK-China teams collaborate internally and internationally to develop creative immersive output?

To approach an answer to these questions we began by investigating the current state of technology in the areas of virtual, augmented and mixed reality with a presentation from the newly formed University of Leeds Centre for Immersive Technologies. This demonstrated how disparate sections of the university have combined to explore and share their interdisciplinary experiences of the impact and possibilities surrounding these emerging platforms. Several fact-finding visits were then conducted to the premises of the Yorkshire-based partners in Leeds, York and Sheffield to discuss specific skills that could be ingrained in the project and any unique aspects that could be explored. A particular highlight of the team's off-site activities was a visit to Leeds Town Hall to see Verdi's *Aida* performed by Opera North. Watching the spectacle of an Egyptian narrative performed in Italian by an international cast in Yorkshire, we realised that global creative collaboration takes many forms! Finally, we held a group discussion where individual team members presented their ideas for integrating urban and rural aspects, promoting traditional Chinese art forms and other thoughts on 'bridging the gaps'.

Digital heritage and alternative realities

In order to devise effective proposals for 'bridging the gaps', I drew on my experiences and insights as project lead and industry partner on two collaborative VR/AR projects: *The Virtual Hole in the Road* (2016) – a VR version of a former Sheffield brutalist landmark – and *Experience Castlegate* (2018), an augmented reality recreation of Sheffield Castle.

The Virtual Hole in the Road (2016) is a virtual reality reimagining of an iconic sub-level structure that formed a central part of Sheffield (UK) city centre from 1967 to 1994. The project was an opportunity to re-examine the structure's relationship with the urban fabric of the city and the lives of its inhabitants. The aim was to provide a unique opportunity to 'relive' the experience for those that remembered and a taste of what it was like for those that couldn't (because, for example, they were too young or not living in the city 1966-94). The intention was not to create a nostalgic or 'retro experience' – the virtual space was envisaged as an alternative reality where the 'Hole in the Road' still exists. Presenting stories in a virtual setting enabled those experiencing the location to think of it in a new and exciting way, as the inaugural visitors did when walking through the hub for the first time in 1967.

The experience was presented at the Millennium Gallery, Sheffield, as part of the 'Futurecade' during the University of Sheffield's 'Festival of the Mind', 16–25 September 2016. Two Oculus Rift (DK2) kits were used for visitors to engage the virtual reality location, accompanied by two large screens displaying live feeds from each headset. Visited by over 9,000 people in ten days, the project proved beyond any doubt that awareness and interest in local heritage can be achieved with virtual reality models. One unexpected outcome of the project was the strong reaction from the city to reviving a place that hadn't even been properly recorded or archived. A former utopian concrete structure that was taken for granted in the past was now being viewed as an iconic and important piece of lost heritage. The staff in the Millennium Gallery exhibition space were constantly engaged by the 'time tourists' who recalled their own memories of the original space unprompted, proving that locations that hold value for people can be the most unlikely of places.



Experience Castlegate (2018) is an augmented reality installation commissioned for the University of Sheffield's 'Festival of the Mind'. The exhibit expanded on work from *Digital Engagement for Heritage-led Urban Regeneration* (2017), a UK project funded by AHRC as part of their 'Next Generation of Immersive Experiences'. A central part of the work was creating a 3D virtual model of the former Sheffield Castle which was destroyed in 1648 on the orders of Oliver Cromwell during the English Civil War. The castle has been effectively removed from not only the landscape but also the collective memory of the population of Sheffield (UK). *Digital Engagement for Heritage-led Urban Regeneration* attempted to restore the castle to the city via immersive technology, which was further established via the AR recreation exhibited at the 'Futurecade' (Millennium Gallery, Sheffield) in September 2018 and the National Videogame Museum, July–September 2019. In addition to the AR exhibit, a 'fly-through' of the virtual model was projected at a large scale onto a modern

building on the site of the former castle, effectively restoring the medieval structure to the physical space it had occupied 400 years ago.

The augmented reality installation featured a large-scale wooden model of the modern-day Castlegate district within the city of Sheffield, created by students from the Sheffield School of Architecture (University of Sheffield). Visitors to the exhibition were handed one of several iPads to hold in front of the model which – via QR code activation – revealed a highly-detailed CGI model of the huge medieval castle, correctly scaled and positioned in correspondence to the modern day location. Once the display was activated, visitors could move closer to the model and see each individual stone in the castle walls, or peer into the courtyard and examine the internal houses and stables. The AR exhibit proved to be very popular with visitors of all ages, particularly young children and senior citizens, neither of which are age groups typically associated with new technology adoption. This unexpected path for ‘bridging the gaps’ should be recognised as another unique and inclusive factor of immersive technology that separates it from videogames and other digital content platforms.

Abiding time portals

A solid free-standing rock in the centre of the Chinese village of Chuansha has transcended the many different times and events surrounding it. The stone may exhibit some scars of history and show signs of wear as a concession to the elements but, essentially, its shape has remained the same during each era that it has witnessed. Within this schema, we can view the rock as a ‘time machine’ – an abiding portal present in various dimensions. The stone is our entry point to various spaces in time, as everything changes around it, the portal remains constant. A presence such as this could be considered or re-imagined in a local, regional, national, international, intergalactic or extraterrestrial sense. Is the stone a ‘water rock’ from Chuansha Village, or an asteroid floating in space?

This concept has been represented within film on many occasions via a camera fixed on a single point for a particular passage of time. The subject may be a tree, transformed by the seasons in an endless cycle of blossom and nakedness, oblivious to the hours, days and months surrounding it. Or a tall glass and metal building, dancing with shadows from neighbouring structures over the course of an urban day. But what if the subject could be viewed not for days and months – or even years – but decades and centuries? In terms of transcending time, the idea has similarities to the ‘time machine’ described in the eponymous story by H.G.Wells (1895), with the significant difference that the portal is not a human-made device created specifically for time travel, but any object within our environment, past or present.



Such a portal can be used within traditional Chinese opera to take an audience to another location or time. Seeing a familiar structure presented in an unfamiliar way – for example – an ancient monument that looks new, or a new building that looks weathered by the demands of time, instantly takes the viewer to another dimension. Linking an outdoor structure or environment to the indoor performance space is also a possible solution to combining aspects of urban and rural China. Using immersive technology, physical features from a rural village can magically and convincingly appear on an urban theatre stage, transporting the metropolitan audience to another space outside of the city. Equally, an iconic historical building or a modern utopian skyscraper appears as a digital ghost in the middle of a rural community, recreating the urban experience in a rural setting. This metaphorical linking of sites opens new possibilities for a locational solution to ‘bridge the gaps’ within traditional Chinese opera and other performance-based artforms.

The idea of transporting the audience to another time is already omnipresent in traditional Chinese opera. Updating the concept with the inclusion of time portals creates the possibility to promote traditional Chinese art forms – such as Yue Opera – in fresh and exciting ways that could appeal to new and young audiences. The visual device for such a transformation could be a digitally simulated canal, stone bridge, historic wall or single water rock. Key to the success of any such simulacrum is that it relates to an object in the physical environment, preferably one that is familiar to the audience. To see a familiar object or structure placed in a different dimension is potentially a very powerful experience. We are used to seeing iconic structures around the world – such as the Eiffel Tower or Egyptian Pyramids – in different eras surrounded by people dressed accordingly for the period, but the impact is much stronger when the reference point is local or recent. Of the people in Sheffield that experienced ‘The Virtual Hole in the Road’, the citizens who remembered and had walked through the original space had a particularly strong reaction to the virtual recreation as it provoked and resonated with their memories of the ‘real’ location.

Inter-dimensional collaborations

In order to ‘bridge the gaps’ we need a creative approach as a catalyst for innovative solutions that will appeal to people of varying ages, education, locations and cultures. Visionary stories of science fiction and futurism can transcend the boundaries associated with space and time and societal differences, creating harmony and shortening the physical and psychological distances between people. Such storytelling can also inspire fruitful paths for collaboration, particularly on an international scale. To highlight this, I suggest two narratives of science fiction; one from China and one from the UK.

The Three-Body Problem (2008) is the first novel in a trilogy by the Chinese writer Liu Cixin that has become one of the most popular science fiction stories in China and a worldwide sensation. The timeline of the story spans the past, present and future where a Chinese scientist makes contact with an extraterrestrial race called the Trisolarans, who inhabit a planet orbiting the three stars in the Alpha Centauri system. The title refers to the three-body problem in orbital mechanics and also a virtual-reality video game – *Three Body* – played by one of the main characters in the story which involves guiding civilizations to survive extreme climate change.

A Dream of Wessex (1977) is a psychological science fiction novel by the British writer Christopher Priest. Within a secure government facility in England in 1985, participants in a psychic experiment travel into the future to uncover solutions to current and imminent environmental disasters. While their physical forms lay in a dormant hypnotised state their unconscious minds unite to create a world within which they form different identities and personalities. Without ever leaving the drawers of their mortuary-like environment these 'cosmonauts of inner space' develop new lives in the future, becoming active community members and citizens within a collective, virtual, reality.

Despite being written in different countries and more than 30 years apart, these two stories have many similar themes and devices, the most prominent being the use of virtual reality or 'psychological time travel' to access the past or future and address issues in the present. Such narratives of inter-dimensional experiences serve as a primer for the possibilities of mixed reality technology, and I propose that these exemplary examples of UK-China creativity 'bridging the gaps' serve as inspiration for our research.

Traditional Chinese opera and other forms of performance and theatre are currently our closest models for mixed reality experiences, due to the spatial nature of the performance and the possibility for activity to occur in a 360 degree radius of the stage; from the wings and floor to the rear of the auditorium. Consequently, such artforms present us with numerous opportunities for presenting and enhancing immersive narratives using mixed reality technology. If we view all operatic performances – including traditional Chinese opera – as immersive experiences that transport the audience to an alternative time and space, then we can approach each event as a unique form of 'time travel'. For the AHRC project – '*Bridging the gaps: mixed reality traditional Chinese opera in rural and urban Shanghai heritage sites*' – we will invite the audience to use their imagination, participate in the journey, and become 'cosmonauts of inner space'.

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Images

Experience Castlegate (photo: Dawn Hadley), Virtual recreation of Sheffield Castle (image: HumanVR), Chuansha Village water rock (photo: Nick Bax), Shanghai Yue Opera House production *Dream of the Red Mansion* (image courtesy of Shanghai Yue Opera House).

About the author

Nick Bax's professional career spans over 25 years within the fields of visual communication and art. He launched creative agency Human in 2007 after being part of the world-renowned Designers Republic team for 15 years. Driven by the discovery of knowledge, technology and culture, Human collaborate with individuals, groups and organisations that make a difference. The studio has exhibited work in galleries and venues in Europe, Japan, Brazil and the United States. Bax is currently a PhD researcher at the University of Sheffield exploring mixed reality storytelling with particular regard to nonlinear time consciousness and the recreation of memory.

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