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# **Fairy Tale Tourism: The Architectural Projection Mapping of Magically Real and Irreal Festival Lightscapes**

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## **Abstract**

This paper explores how established light festivals such as the Fête des Lumières in Lyon and Lumiere in Durham were first conceived by Robert-Houdin as illusory illuminations in the Loire in the 1950's. The research investigates Debord's (1967, 2014), concept of spectacles as inversions of reality; re-situating light works within authenticity theory by exploring their manipulation of magical reality and irreality. The research uses the authors' experience of event design to assess different interactions of light with the tri-dimensional architectural canvas, suggesting three classifications of animated projection mapping events:

architecturally passive, architecturally physically active and architecturally metaphysically active. Each category has implications for how spectators perceive these installations.

Architecturally passive events may use fairy tale content, evoking atavistic and affective responses, the "skinning" of buildings with magical reality is designed to evoke perceptual duality, and the wobbling unfolding of irreality may ultimately create a state of "illuminated flow."

**Keywords:** Architecture, unreal, irreality, authenticity, spectacle, magical reality, lumiere, light festival, son et lumiere, fairy tale, lightscape, lighting, projection mapping.

## Introduction

In recent years, light festivals, such as the *Fête des Lumières* in Lyon and *Lumiere* in Durham have become established events, attracting large audiences. Literature about light festivals has similarly expanded to assess their form (Edensor and Sumartojo, 2017; Lovell and Bull, 2017; Lovell, 2018; Torre, 2015) their hyperreality as simulacra (Lovell, 2018) and their consumption and atmosphere (Edensor, 2010; 2015; 2015; Edensor and Millington, 2014). This paper makes an original contribution to existing research by considering the undervalued contribution of Paul Robert-Houdin, the originator of the *son et lumière*, to the development of architectural projection mapping. The paper explores Debord's (1967, 2014, p.3) assertion that spectacles "invert the real," by focusing on links between projection mapping, magical reality and irreality, repositioning architectural light works in the context of authenticity. With the recent proliferation of light shows has come a broadening of the types of installations, most of which are described as "mapped-projections," each interacting with the three-dimensional architectural canvas in varying degrees. To clarify this point, and support Edensor and Sumartojo's argument (ibid, p.3) that light shows are not a "homogenous mass," this paper divides projection installations into categories termed architecturally passive, architecturally physically active and architecturally metaphysically active. Whilst there are installations that blur the lines between these categories, or perhaps occupy all three, these classifications allow a better understanding of these projections and the implications for their consumption. Research examining the intent of event creators has been said to be overlooked (Edensor and Sumartojo, 2017) and both authors have staged light works, which informs this work, providing insights into the design intentions.

## **Robert-Houdin and son et lumière**

Son et Lumière is the term given to the process of the dramatic lighting of buildings and external spaces, synchronised with sound and music, specifically designed to entertain. The notion of the spectacular is derived from the Baroque use of the technology of fireworks, “their displays mirroring aspects of war explosions in their audio-visual impact” referencing military power and national identity (Lovell, 2018, p.187). However, although the use of light to entertain predates the 20th Century (Koslovsky, 2011), the concept of synergising light, sound and architecture was conceived much more recently. Architect Bernard Eugene (Paul) Robert-Houdin, grandson of the renowned illusionist and magician, Jean Eugène Robert-Houdin, is celebrated as the creator of the first Son et Lumière event at the Chateau de Chambord, France in 1952 (Gaspar, Howard and Robert-Houdin, 1964).

In his book, *Le Féerie Nocturne des Chateaux de la Loire* (1958), Robert-Houdin acknowledges the way that powerful searchlights used to illuminate Strasbourg Cathedral by the liberating French army in 1918, had had a strong influence on him. Although electric light had been integrated into architecture for both functional and aesthetic reasons for over forty years at that time, this symbolic illumination of Strasbourg Cathedral differed from the then typical relationship between light bulb and building. Until the early 20<sup>th</sup> century, many buildings and structures had been adorned with multitudes of light bulbs, usually tracing outlines, features or geometries (McQuire, 2008, p. 119). Robert-Houdin, in highlighting the Cathedral as a beacon of victory for the French army ensured that the building, and not the light itself, remained the focal point, with viewers regarding the *effect* of the light, rather than the *source*. Robert-Houdin recognised the symbiotic relationship of light and architecture and as Curator of the Chateau de Chambord, he continued to use light in this way, nurturing a rapport between the audience of the 1950s and the monument of the 1550s. The shows

initially consisted of multi-coloured lights directed at the chateau façade, highlighting features, whilst accompanied by live musical performances and occasionally involved theatrical performances. As he stated (1954, p.16): “We can do better and more at Chambord and make real fairy spectacles, playing with lumière so that we can... give ourselves to all the fantasies allowed by modern technology.” The inaugural son et lumière show was an immediate success and other displays soon followed, with Robert-Houdin exporting his expertise to create similar events across the rest of France, into Europe and the United States.

Since Robert-Houdin’s initial experiments in the Loire Valley, many son et lumière events have failed to advance their ambition or scope. Indeed, the development of digital projection equipment, and the advent of mapping software in the early 21<sup>st</sup> Century has facilitated bigger and brighter projections and enabled a proliferation of light festivals, to the extent that the sensation of “projection mapping fatigue” (Chai, 2018) has been mooted. Cities such as Sydney, Geneva, Singapore, Stuttgart and Durham, now stage annual festivals. The participative and atmospheric qualities of these light festivals are emphasised by Edensor and Sumartojo, (2017, p. 1) to dispel criticism (Mercer and Mayfield, 2015) that events such as Sydney’s *White Nights* are a “neoliberal form of entertainment,” imposed on communities as “passively-consumed spectacles.” Torre (2015, P. 211) notes the large crowds and communal nature of projection mapping, stating that the technique promotes, “a visibly and equally shared experience” and sensations of *communitas* (Turner and Turner, 1978) indicate a potentially powerful crowd atmosphere, highlighting the difference between this form of virtuality and the solitary experience of most virtual realities.

### **The Magically real and the unreal**

When the word *spectacle* is applied pejoratively to light installations, as described above, it implies broad-spectrum inauthenticity. Yet, in *The Society of the Spectacle*, Debord (1967, 2014, p.3) traces how “reality emerges within the spectacle and the spectacle is real,” also noting that “reality is inverted.” Lovell and Bull (2018, p.8) have explored the plasticity of authenticity by applying Fjellman’s (1992, p.255) heuristic terms “real real, fake real, real fake and fake fake” to tourists’ consumption of staged and unstaged authenticity in English historic cities, (see Table 1). While assessing notions of fake and real and recognising that realit(ies) are culturally mediated, embodied and subjective, Lovell and Bull (ibid) introduced the concept of spatial magical reality, assessing how unexpected encounters with public art made some settings seem surreal and fantastical to observers. The term magical reality is more appropriate than Robert-Houdin’s magical illusions when exploring how some light installations combine the built environment and the marvellous to embody aspects of the imagination in the world. Magic realism combines “...realism and the fantastic, so that the marvellous seems to grow organically within the ordinary, blurring the distinctions between them” Faris (2004, p.1). The expression magic realism was first used to describe a Latin American literary genre and epitomises the disconnection between and meeting of old and new worlds in the post-colonial era (Stretcher,1999, p.267-269). As Arthur C Clarke (1962, p.14) stated: "Any sufficiently advanced technology is indistinguishable from magic," and projection technology still seems as if it brings a wondrous future world to bear on the contemporary and past.

Magic realist author Carlos Fuentes perceived the genre architecturally in the: “...vernacular Baroque churches, with their very austere and abstract exterior severely contrasted with the dark space of the interior with its golden, luminous retablo, which produce the quality of a dream-like experience” (Burian 1997, p.50-51). According to architect Adam Sharr (2008,

p.6) “numerous architects behave as magical realists.” He attributes to them “strange and fantastic events which defy belief,” “curious happenings,” and “subversions” of practice; architectural magical realism is said to take form in the optical illusions and amorphous work of Zaha Hadid. Robert-Houdin chose the title *La Féerie Nocturne des Châteaux de la Loire* for his photographic book of light works and for him, the son et lumière clearly fell into the realm of the fairy tale as he details the fantasy of “magic castles and enchanted palaces” (1954 p.18). While reality is, as stated earlier, visually and culturally mediated, animated projection mapping can only further the possibilities of subversion, inversion and disruption.

In addition to magical reality, this paper introduces the category of irreality. The art curator and philosopher Nelson Goodman (1976) first used irreality to describe fantasy world-building and it has since been employed by philosophers such as Sartre (2004, p.3), who asserted that the imagination is “the great “irrealising” function of consciousness.” Swinford (2001, p.77-78) argues that irrealism’s characteristics include “mutation” and the “usurpation of the natural.” If magical reality is the embodiment of the imagination in the everyday world, then irreality transforms the everyday in an imagined world. The term was used by Torre (2015, p.204) to describe projection-mapped animated light installations, emphasising the impression they give of structural metamorphosis. This paper contests that some of these events are unreal and others are magically real.

### **Architecturally Passive**

Light installations interact with architecture in different ways; some incorporating elements of magical reality and others attaining full irreality (see figure 1). Some “mapped” projections could be said to be architecturally passive, using buildings as screens, like open cinemas. Passive light installations clearly link to their origin in the magic lantern and



popularity of phantasmagoria (Benjamin, 1999, p.526), but without reference to the architectural space itself. At the 2017 *Fete des Lumières* in Lyon, Nathanaelle Picot and Gaël Picquet, collectively known as Pixel “n” Pepper, displayed *Enoha fait son Cinéma* at the Place des Terreaux, using both the Hotel de Ville and the Musée des Beaux Arts as the canvas for their work (see figure 2). The piece referenced the historic links that Lyon has with the birth and development of film, highlighting seminal cinematic moments, starting with a tribute to Georges Méliès’ *A trip to the Moon*, and concluding with an allusion to Scott Derrickson’s *Dr Strange*, referencing works including Kubrick, Lucas and Spielberg. The piece predominantly used the two historic buildings as large projection screens, fleetingly keying into the architectural detail. Despite this partial interplay between the projection and the architecture, *Enoha fait son Cinéma* must be considered passive overall, a tribute to cinema, but not to the architectural components. Categorising this type of projected work as passive does not imply that there is little or no connection between the light and the surface it falls upon, but arguably, these passive works do not promote or develop the relationship between audience and building, and in fact, they tend to disregard the architectural canvas they are using. The building acts as an illuminated manuscript, but while the designs adorn the text of the architecture, they are related to but separate on the page.

Some architecturally passive projections have a deeper relationship with the built canvas. In 2014, Gilbert Coudène’s *Terre aux Lumières*, shown at the same site at the *Fête des Lumières*, extensively referenced the art contained within the Musée des Beaux Arts. The relationship fostered between animation and building in this instance, is one based on cultural reference and not on a synergy with the architectural geometry. In 2015, the Musée des Beaux Arts in Lyon attracted just over 330,000 visitors. Whereas over just four days in December 2014, an estimated 900,000 spectators stood in the Place des Terreaux to watch

Coudène's work. Although few can argue against the merits of viewing the artwork in its actuality, it should be acknowledged that this projection of the art reached a far greater audience. McQuire (2008, p.149) states: "A crucial role for new media art in public space is the potential to avoid the filter of sites such as the art gallery, and thereby engage audiences who might never cross that threshold." This seems to be evidenced by the attraction of between 2 and 3 million visitors to Lyon for the *Fete des Lumières*, over just a few nights each year. In addition to this, it could be argued that visitors to the museum, whilst appreciating the setting, are not there for the building itself, but for the art contained within. Conversely, those regarding the projection-mapped façade are, in a sense, there to appreciate the building, albeit in a different form to its intended appearance. In Coudene's work, the relationship between the audience, culture and architecture is deepened using projection mapping.

Civic buildings or cathedrals do not lose their sense of presence or become entirely defamiliar when experienced as projection canvases; Torre (2015, pp. 202-203) maintains that site specificity is a key ingredient in projection mapping, distinguishing it from the duplicative nature of the traditional cinematic experience. He argues that "A...movie can play simultaneously on 3000 cinema screens anywhere in the world, and thanks to the generic nature of the screen (being smooth, flat and white) the movie will look more or less comparable regardless of where it is shown." When describing the use of monumental heritage structures for light projection, Lovell (2018, p.191) refers to their locational narrative and "immanent and imposing presence." In some cases, the building "maps the designer" with its architectural foibles and significance, thereby affecting the design possibilities (Lovell, 2018, p.189).

Although the installation could be described as architecturally passive, the experience may still be affective; audiences co-create and assess experiences. If architecturally passive projections may be considered cinematic, McGowan, (2012, p.74) describes how film audiences are “open to the gaze,” projecting their emotions onto the screen, although the object of desire is not physically there. Robert-Houdin (1954, p.22) wrote of the “enchantment of night-time fairy stories” and fairy tales draw on deeper-seated atavistic fears which can be summoned with the silhouettes and shadows of magic lanterns. The “technological uncanny” Collins and Jervis (2008, p.1) caused by the shadows created by urban lighting and the timing of events at the liminal, gloaming “creepy time,” (Edensor and Sumartojo, 2017, p.12) contribute to audience suggestibility. Some lighting companies and artists consciously *design in* magical reality, using fantasy content, which may be unrelated to the architecture. As the company LCI Productions delineates, discussions with local stakeholders during the planning of an event at Conwy Castle encouraged them to weave local distinctiveness into the content in a fairy tale format in acts of myth-making. During the show, a unicorn and mushrooms sprout, a crow makes princesses vanish, gingerbread men wave, and a giant silhouette of a woodcutter with an outsized scythe slices through a Sleeping Beauty forest in a form of “Disney reality” (Fjellman, 1992, p.60). As Lovell, (2018) and Torre (2015) have observed, the renowned light show at Santiago de Compostela similarly draws on mythology, featuring dragons and forests reclaiming the building in a post-anthropocentric world. In addition to magical content, the effects may bend reality in a Harry Potteresque twist, for example in their work *Aquarium*, at London Lumiere (originally shown at Durham Lumiere in 2014). Factory artists Benedetto Bufalino and Benoit Deseille turn an iconic red telephone box into an aquarium of exotic fish. These installations are consciously designed as magically real, myth-making what could be termed the “heritage marvellous.”

### **Architecturally physically active**

Architecturally physically active works take technique and effect a step further, truly disrupting the night. In February 2018, projection artist Ross Ashton and sound designer Karen Monid displayed their installation *Line* at the Cheriton Light Festival in England. The work, involving the projection of light and dark shapes onto the surface of a small church, sought to create an “architectural metamorphosis.” The installation had previously been shown at Cambridge and Napa, California, albeit mapped to different geometries. They provide a luminous cloaking of the building, which neither seeks to deceive nor conjure illusion, but merely aims to clothe the built form in a new skin. The skin developed by physically active installations resembles “Second Space,” or “un espace proper” (Lefebvre, 1991), a pure space of intellect, projecting the vision of the projection-mapping architect and the original architect. Patrice Warrener, a regular contributor to light festivals over many years, also uses light in this way, creating polychromatic overlays that alter the way we look at a building or façade. *Chromolithe*, the name Warrener gives to this process, exemplifies this notion of re-skinning a building. Projection mapping, has an opportunity to harness a symbiotic relationship between the image and the building; “concretizing the animation”, as Torre (2015, p. 205) argues, giving depth to two-dimensional images. While the “skin of light” covers the building, the projections entwine with it like tattoos, saturating blank surfaces with colour. In an event, *Cathedrals of Light*, with which one of the authors was involved, Monet’s series of paintings of Rouen Cathedral were aligned to and projected back onto the exterior of the building. The sum of paint, stone and light was physically active, unlike Coudene’s Musée des Beaux Arts projection. Instead, Monet’s intangible “enveloppe” of the same light on the same building at different times of day (Thompson, 2018, p.165) was revealed, melting the cathedral by abstracting it; recreating not the painting, but the essential *en plein air* illusions of impressionism.

Far from being virtual, the “enveloppe” effect captured in the paintings is mirrored in the way that the projected augmentation of buildings fosters a physical connection through skinning. The interrelationship between the projected photons of light and the material surface of the architecture creates a bond not experienced through other means of virtual augmented reality. It is essential to note that this connectivity between light and architecture is physical, the photons either being reflected off, or absorbed into the material surface of the building. This microscopic infusion represents the actuality of projection mapping, setting it aside from other forms of augmented reality, which simply place digital filters between the eyes of the viewer and the recorded space in the image. Pioneers of projection mapping originally used the term Spatial Augmented Reality, and this phrase perhaps better describes the interplay.

In September 2017, the technique of skinning was appropriated for the South-West Porch entrance of Canterbury Cathedral in a project organised by one of the authors (see Figure 3). The experimental work aimed to test the way in which precise masking of projected video textures could highlight the elaborate nature of the architectural detail, and thereby draw attention to them. This masking allowed elements of the façade, such as the canopy, the framework and the statues to be highlighted, which when illuminated, appeared to glow skeletally in the dark. It could be argued that this isolating of each element assists the viewer to appreciate the detail, and, unlike the experience during daylight hours, avoids the distraction of the whole and makes the material magical. Myopic architectural appreciation of individual features forms a key part of the experience.

As this paper has discussed, the term spectacle has been used sweepingly by critics to describe light festivals. Lovell (2018) has suggested that projection-mapped installations may also be defined as simulacra (Baudrillard, 1981), moving from first to third-order as they are

performed. In fact, different events may resemble different types of simulacra; for example, the process of skinning could be said to be a hyperreal (Baudrillard, 1981; Eco, 1986) technique, creating a sensory and physical light copy of the building, suggestive of a second-order simulacrum, or fantastical, phantasmagorical copy which supersedes the original structure (for the duration of the event). Leal (1995, p.101) states that: “In magical realism the writer confronts reality and tries to untangle it” and lighting designers turn this concept on its head; they tangle realities using skinning. Rather than passively spectating, the effect on the viewer is potentially active and hyperreal; skinning is designed to overwhelm the senses, inverting and wobbling reality. Instead of being “dazzled” by electronics into machine-like states, as Diack (2012, p.11) suggested, when the inanimate is animated, viewers may switch on the “illuminated gaze” (Lovell, 2018, adapted from Urry, 2002), which is open to enchantment and the marvellous, leading to vertiginous sensations of wonder and immersion. Stretcher (1999, p.267-269) observes that magic realism is “a worldview that permits the "magical" to coexist with the "real,"” and both light and architecture have equal stakes; the illuminated gaze retains the duality of magical reality, the building remaining beneath the effect, made marvellous.

### **Architecturally metaphysically active**

Active projections have the capacity to interact with architecture on a metaphysical level, as well as physical, irrealising, de-situating and erasing the historicity of buildings. These projects could be said to abstract, reinterpret and resituate structures in the realm of the lived imagination. Liminality was defined by Turner (1974) and Shields (2013) as the movement from one stage to another and architecturally metaphysical installations move from real to irreal. In 2012, Canterbury Christ Church University hosted Golden Night, part of their 50<sup>th</sup> Anniversary celebrations. Lianne Clark, a student at the University of Kent, produced a series

of projections that sought to interact with an unremarkable administrative campus building. Devoid of architectural decoration, detail and, some would argue, character, the Fisher Building, provided a simple, yet geometrically strong backdrop for Lianne's work. Her series of animations interplayed with the geometry of the building, alluding to moving windows, bouncing façades and spinning floors. Torre (2015, p. 211) refers to the Deleuzian concept of the fold, citing how the building has a relationship with itself, for example "the interior of a form is merely the folding of its exterior." The unfolding of the irreal building, seems to reveal, as Merleau-Ponty (1961, p.132) details, the "inside of the outside and outside of the inside." With over 3,000 people attending the event to witness this architectural transformation, this example of metaphysical projection mapping demonstrates the way it can draw attention to even the most benign of buildings in a compelling way.

In 2016, at the *Fete des Lumières*, Yann Nguema and EZ3kiel worked together to create *Evolutions* (see Figure 4), an installation incorporated into the façade of the Cathédrale de St. Jean. The award-winning piece is fully realised Spatially Augmented Reality. The Cathedral is a well-used canvas during the festivals, but it could be argued that Nguema's work takes the notion of active projection further than the typical work seen each December. *Evolutions* was a poetic interpretation of the history of the cathedral, alluding to a wider conflict between science and religion. The intricate gothic architectural detail appears to warp and distort, as if influenced by immense external and internal forces, causing the façade to ripple and deform. The work continually interacts with the façade, creating a fully realised metamorphosis of the architecture which crosses over from solidity into animation (Torre, 2015, p.204). This technique is used by other designers such as AntiVJ and could be argued to be the zenith of projection mapping, where both building and light explode into a form which is neither solely architecture, nor solely light. It is no longer a building made marvellous, it is a lived

imaginary and third-order simulacrum, which *precedes* the original, building on Paul Robert-Houdin's intentions by making the imaginary metamorphosing building, rather than the light, the focal point.

Metaphysically active installations are the trompe l'oeil of the modern day and like painted ceilings they are aimed to deceive with tricks of perspective. The illusory effect that forms that basis of this active projection mapping stems from a manipulation of the architectural geometry, tricking our perception of form and space. With the X and Y (read width and height) layout of an architectural façade fixed in place (see Figure 5), much of the illusion of movement typically stems from a perceived manipulation of the Z-axis. This apparent movement in the third dimension is usually produced by the creation of imaginary form or the implied subtraction of the architecture to create space. As Robert-Houdin (1954, p.9) writes of the way in which he tries to use light: "...it is enough to have only one arm of a Greek statue to imagine its perfection, it only needs a keep or a wall to evoke the disappeared castle." This extrusion out from and intrusion into a façade, constitutes a core feature for this type of deceptive work taking the work beyond architectural appreciation. In *Evolutions*, Nquema uses this notion of extrusion to produce an incredibly persuasive illusion (see figure 6). However, the apparent extrusion from and intrusion into architectural facades, what could be described as a convincing application of a fake third dimension onto a façade is dependent upon the vantage point of the spectator or spectators. The further the stretching of the Z-Axis that occurs, the more critical it is to be viewed from the correct position, commonly known as the "sweet-spot." In February, at Cheriton Light festival, the author explored the issue by creating imagery designed to be viewed from a specific vantage point. *A to Z-Axis* used both intrusion and extrusion to imply a fake third dimension, specifically aimed at spectators in a



neighbouring street, so that they could be drawn into this deception. Figure 7 shows the skewed image projected and the resulting view from the sweet-spot.

The irreality of architecturally metaphysically active projection has implications for the light event experience, by (dis) embodying spatial creativity and fluidity, on a non-human scale. Rescher (2003, p.165-168) proposes that: “Our cognitive access to irreality is limited to the suppositional projection of possibilities and these never manage to identify authentic individuals or worlds.” He goes on to say that: “Nonexistents... do not have a claim on actuality of some sort. They are, by definition, something unreal; they are mere objects.” However, light, animation, software, hardware, could be argued to be part of connected experiences. Drawing on actor-network theory, Lugosi and Quinton (2018) argue that technology and the products and illusions associated with it are part of the more-than-human world, which could be equated to what Rescher (ibid) describes as “irreal materiality.” The notion of irreality was discussed by Sartre in relation to the imaginative consumption of artworks, which share commonalities with projection-mapped animation. De Warren (2013, p.99) qualified Sartre’s conception of the irreal when regarding paintings as a state emerging from the combination of the subject of the painting, the painted object and the act of imagination when viewing the painting. As Sartre states: (2004, p.190) “the painting should be conceived as a material thing visited from time to time (every time that the spectator takes the imagining attitude) by an irreality that is precisely the painted object.” Thus, when we look at a painting, to evoke the “presence” of the subject of the painting, the painting ceases to be material and is absented, to be replaced by irreality. In *The Two versions of the Imaginary*, Blanchot (1981) also refers to the manner in which the image follows the object; the object must be displaced to “elsewhere” in order to grasp the image in our imagination. The metaphysically active light show is a third version of the imaginary, the building

sublime, as we have never dared to imagine, radiating impossibilities beyond the mere marvellous to spin windows, liquefy and warp stone with superirrealism.

While the audience is aware that the building does not strictly have agency, irreal materiality gives buildings the what De Warren (ibid) argues is “the spell of a presence, as if the medium surrendered its materiality to the spectral body of the imaginary.” The “spell of presence” (a preoccupation of Robert-Houdin’s grandfather, Jean Eugène, who gave machines the illusion of life as automatons) is created by displacing the physical building with representation, conveying an impossible structure with its own “imagining attitude.” Smith (2015, p.59) discusses the *Animation Culturel* events in France in the 1970s as an example of how events became central to urban cultural strategies, referring to the way in which the word animation was used in the sense of “giving life to, or “to inspirit” public space. The “presence” of irreal materiality is linked to the sentience of place, discussed by Lovell and Bull (2017, p.13) drawing on Schwenger’s (2006, pp. 37–40) assessment of the diffuse Lacanian sensation of objects “looking back.” Architecturally metaphysically active displays emphasise the intersubjective gaze, enabling the viewer to, as Merleau-Ponty (1961, p.132) observes, “see with it” rather than looking *at it*, or *being looked at*. As Lovell (2013, p.190) applied Csíkszentmihályi and Csíkszentmihályi’s (1988, p.416) concept of the “flow” of optimal experiences, to define “heritage flow;” a “transportion” (Green and Brock, 2000) to a “past place,” when tourists visiting heritage cities enter an imaginative, non-representation state. During actively metaphysical light installations, the “illuminated gaze” may retain its characteristics of receptiveness and wonder, developed from the realm of the magically real, becoming a transformative “illuminated flow” as the viewer is absented, deep in the irreal, “elsewhere”.

## **Conclusion**

This paper uses case studies of different projection-mapped events staged or attended by the authors, illustrating from this perspective how, while our individual realities may differ, light installations can invert and disrupt them further, suggesting that some installations offer qualities of experience which are far from the “passively consumed spectacles” or “projection mapping fatigue” dismissed by critics. The three approaches to architectural projection mapping have been clearly delineated in Table 2 and the updated typologies of reality are outlined in Table 3. Both magic realism and irrealty are terms with implications for the authenticity of light festival staging and consumption, which can trace their lineage not simply technically, but conceptually from the “magical illusion” of Robert-Houdin’s *Le Féerie Nocturne des Chateaux de la Loire*.

Many passive works remain two-dimensional in nature, using buildings as screens in Baroque displays of illusory power and employing content unrelated to the architecture and its dreams. The physically active displays invert reality, evoking the marvellous through the skinning of buildings with colourfully tattooed, perceptual shifts, establishing a duality between light and the architecture. It seems to the authors that magic realism’s embodiment of the imagination in the real world epitomises both passive and physically active forms of display, because in both typologies, the building flickers beneath. In contrast, architecturally metaphysically active installations are capable of intrinsically linking light and architecture to displace the static building beneath, giving the “presence” of structural agency, three-dimensional geometrical shifts and possibilities. The research makes a further original contribution to the study of experience by indicating that the illuminated gaze becomes a more transformative state of “illuminated flow” during irreal performances as the spectator looks *into* rather than *at* the light effects. This last category is the third-order simulacrum, *preceding* reality with

material irreality through a quantum unfolding of architectural light-self, vanishing of “elsewhere,” when no-one is there to observe it, leaving the building forever ambiguous.

### **Declaration of Interest Statement**

The authors have no conflicts of interest to declare.

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## Figures

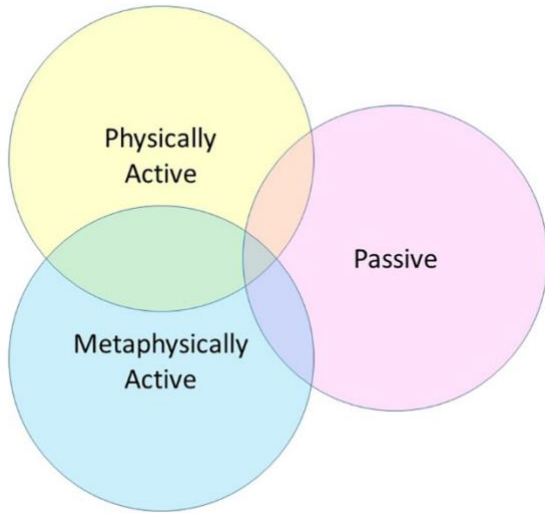
Table 1

<b>States</b>	<b>Sensations</b>
Real real	Heating, existential, elevated, embodied, contemplative, inhabiting the past, sublime, performative, psychoheritage, singular.
Fake real	Cooling, mechanistic, factual, distinction, status.
Real fake	Warming, enjoyment of performance, nostalgia, pretence, re-enactment, irony.
Fake fake	Freezing, critical, alienated, disappointed.
Magically real	Evaporating, enchanted, transported, poetic, the otherworldliness of the everyday
Unreal	Superheating, overwhelmed by reality which seems magnified, sublime.
Hyperreal	Melting, wobble when reality seems to be a copy, simultaneity.

<b>States</b>	<b>Qualities</b>
Real real	Entropic, original, ruined, gritty, slow, singular.
Fake real	Historically accurate reproduction, first-order simulacra.
Real fake	Obvious copies, pastiche, postmodern references, re-enactments, recreations of historic or fictional places, and second-order simulacra, fast, themed, decontextualised.
Fake fake	Poor copies of copies, commodified, placeless, post-truth.
Magically real	Third order simulacra, dreamlike, imaginative, artistic, rescaled, phantasmagorical, uncanny.
Hyperreal	Overwhelmingly copied.
Unreal	Singularity, iconic.
Virtually real	Circulated, viral, holographic, immersive

Figure 1

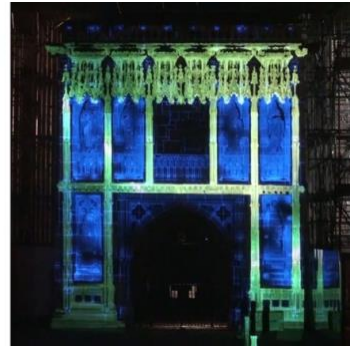
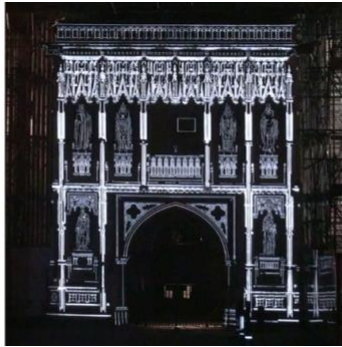




**Figure 2**



**Figure 3**



**Figure 4**



**Figure 5**

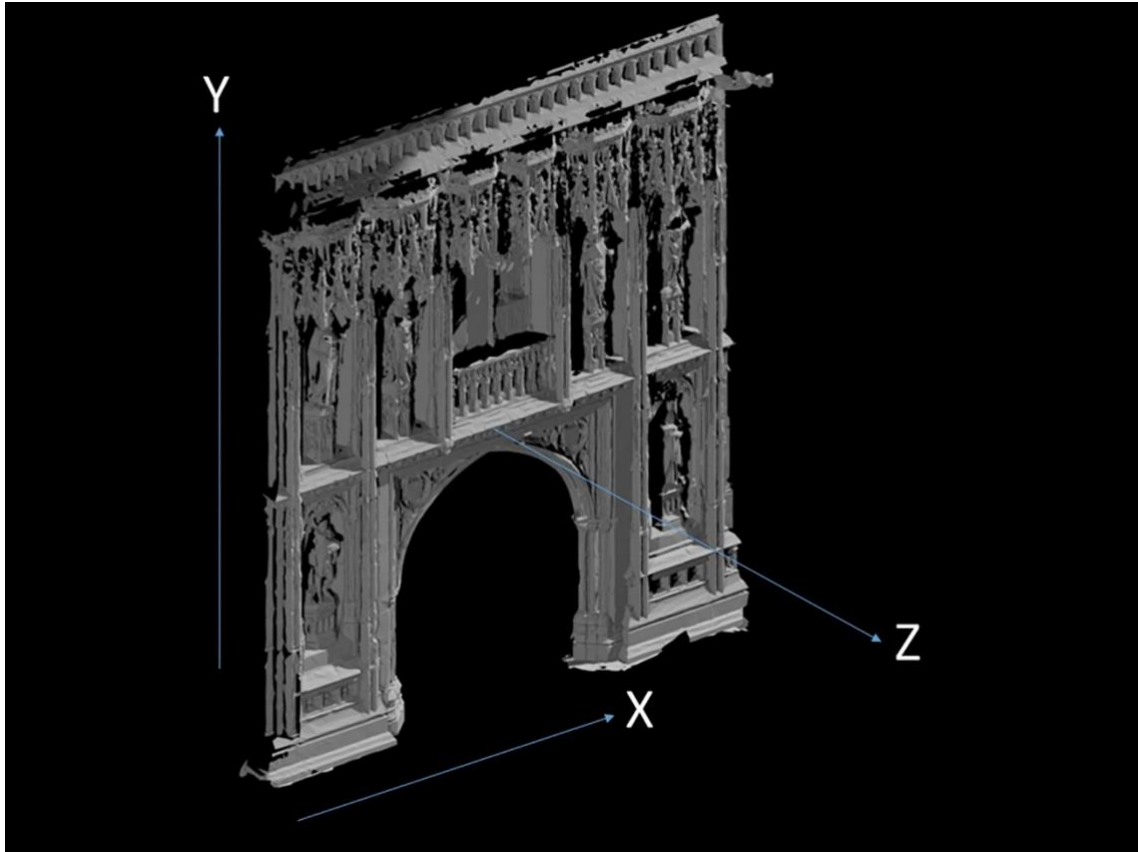
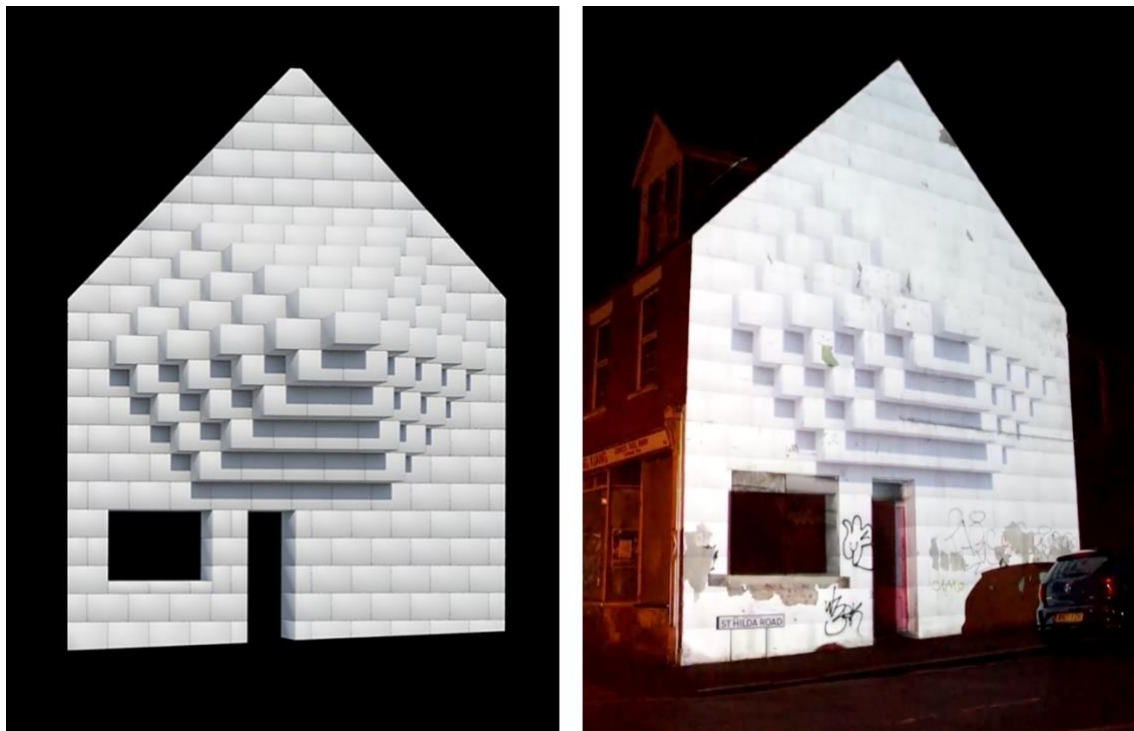


Figure 6





**Figure 7**



**Table 2**

<b>Architectural Typology</b>	<b>Characteristics</b>	<b>Consumption</b>	<b>State of Reality</b>
Passive	Architecture acts as canvas, building and light are separate, the light dominating.	Spectating, gazing at the light effects.	Magically real
Physically Active	Optical illusions, architectural skinning of the building with light, causing duality; the light and building are equal, superseding reality.	Duality of perceptual shifts, illuminated gaze.	Magically real
Metaphysically Active	The building becomes animated and has agency, the metamorphosing form <i>preceding</i> reality, dominating both light and building, which are absent, replaced by a parallel world.	Illuminated flow, lived experience of material irreality.	Irreal

**Table 3**

<b>States</b>	<b>Sensations</b>
Magically real	Evaporating, enchanted, transported, the otherworldliness of the everyday, embodied imagination, marvelling, duality.
Hyperreal	Melting, wobble when reality seems to be a copy, inverted reality, simultaneity.
Irreal	Metamorphosing, world-building, fantasy, imagining attitude, irreal materialisations.

<b>States</b>	<b>Qualities</b>
Magically real	Dreamlike, imaginative, artistic, phantasmagorical, marvellous, fairy tales, mythical, skinning.
Hyperreal	Overwhelmingly copied, rescaled, spectacular, inverted reality.
Irreal	Third order simulacra, metamorphosis, mutation, fantasy, world-building, spell of presence, agency, irreal materiality.

**Figure Headings**

**Figure 1 - Projection Mapping Categories**

**Figure 2 - *Enoha fait son Cinema* by Pixel ‘n’ Pepper**

**Figure 3 - Canterbury Cathedral Southwest porch with illuminations by Griffin**

**Figure 4 - *Evolutions* by Nguema and Ez3kial**

**Figure 5 - 3D scan of Canterbury Cathedral SW porch showing X, Y and Z axes**

**Figure 6 - *Evolutions* by Nguema and Ez3kial**

**Figure 7 – *A to Z-Axis* by Griffin**

**Table Headings**

**Table 1 - Real and Fake Experiences and Qualities (Lovell and Bull, 2018, p.8)**

**Table 2 - Passive, Active and Metaphysical Architectural Projection Mapping**

**Table 3 - Real and Fake Experiences and Qualities of Light Shows (Adapted from Lovell and Bull, 2018, p.8)**