

**How can designers use
Emotional Architecture to
enhance the experience for
the user?**



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Abstract

Our cities are filled with boring, generic buildings that lead to environments that are unhealthy, uninspiring, and unhappy for users, inadvertently impacting people’s mental wellbeing, physical health and emotional states. For this reason, this dissertation will explore Emotional Architecture and answer the following question: *How can designers use Emotional Architecture to enhance the experience for the user?* This dissertation will conclude by giving practical applications for designers on how they can enhance the user experience of their designs based on critical literature, neurological research, case studies, and social experiments.

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Survey: Wheelwright-Hirth, F. (2024) ‘Not so boring - How do Architects shape our emotional experience of buildings - Social experiment’. Google Drive. Unpublished.

Front and back cover: Wheelwright-Hirth, F. (2024) *Detail of Coal Drops Yard* [Photograph].

Fig. A Fandom (no date) ‘Daydreams’, Disney Wiki. Available at: <https://disney.fandom.com/wiki/Daydreams> (Accessed: 1 June 2025)

Fig. B J.D. (2023) Shanghai, China. Available at: <https://humanise.org/boring-building-index> (Accessed: 1 June 2025).

Fig. 1 FLO London (2025) *Image of the Courtyard Barbican Centre building*. Available at: <https://www.flolondon.co.uk/all-posts/what-to-expect-at-the-barbican-centre-in-2025> (Accessed: 4 January 2025).

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Introduction

In the film *Inside Out*, the story centres on Riley, a young girl moving from small-town Minnesota to the ‘cool and hip’ city of San Francisco. The audience experiences the narrative through Riley’s emotions: Joy, Sadness, Anger, Fear, and Disgust. While Riley feels sadness about leaving her home, she is also optimistic and excited about the new life that awaits her in California. During the long car journey, her emotions imagine the possibilities of what her new home might look like: perhaps a treehouse with a giant slide, making every morning thrilling, or maybe a house made of gingerbread. Anger’s favourite option is a castle that comes complete with a dragon (Inside Out, 2015).

However, the reality does not align with these expectations. After navigating through San Francisco traffic, Riley arrives at the family’s new home: a blue, slightly worn-looking house accessible only via a narrow, grey side street. The emotions are horrified; even Joy struggles to put a positive spin on the situation. While the other emotions express their worry, Joy optimistically suggests, ‘Maybe it’s nicer on the inside?’—but it is not (Inside Out, 2015). Disgust’s first comment is, ‘It smells like someone has died in here’ (Inside Out, 2015), the other emotions react similarly to the bland, dilapidated, and empty interior. Upon entering her new bedroom, Anger, Disgust, Fear, and Sadness all strongly express how uncomfortable the space makes Riley feel. This is not what they were expecting of their new home.

This scene from the film illustrates how our emotions can respond to space, engaging various neural responses. Like Riley, every person reacts to a new built environment differently. Some may interpret this scene as reflecting Riley’s emotional response to leaving her childhood home, where she formed friendships and joyful memories. However, this dissertation argues that more is at play than just a subjective reaction to a new setting—Riley’s emotions are also being influenced and shaped by the home’s architecture.



Fig. A Scene from Inside out (fandom, unknown)

This dissertation explores how designers use Emotional Architecture to enhance users’ emotions and experiences within the built environment by examining the emotional connection between people and architecture, and aiming to identify how designers can better create buildings where positive emotions are evoked.

First, the dissertation will define the term ‘Emotional Architecture’, considering the historical understanding of the term from notable figures such as Mathias Goeritz and George Aitchison, as well as the contemporary research and usage of Emotional Architecture.

Secondly, this dissertation will take the established understanding of Emotional Architecture and apply that to practical applications, analysing and outlining the elements of architecture that evoke emotional responses, using those elements to demonstrate what successful Emotional Architecture looks like in design. These case studies include Coal Drops Yard in London, Maggie’s Yorkshire at St James’s University Hospital in Leeds, and the Learning Hub at Nanyang Technological University in Singapore (Heatherwick Studio, 2024).

In addition, a social experiment will be conducted with participants of various ages, including the author. The social experiment will be a pre-planned route through King’s Cross, with participants documenting their emotional responses through the route, and a survey at the end for further responses.

Finally, this dissertation will conclude by giving practical applications for designers of Emotional Architecture to enhance the users’ experience and, as this dissertation will argue, improve their lives in the built environment.

Methodology

This dissertation uses a mixed-method approach to explore how Emotional Architecture can enhance the user’s experience. The dissertation begins by using a comprehensive review of relevant literature, including academic books, articles, peer-reviewed essays, and journals, providing a better understanding of the historical terminology of Emotional Architecture and an understanding of contemporary research, applying this understanding to practical and actionable elements: Curvaceous Design, Green Spaces, and access to Public Social Spaces.

Three case studies will analyse and evaluate what successful architecture looks like, with practical applications for designers. A social experiment has been conducted where the author and various participants will participate in a pre-planned walk in the King’s Cross area, where their emotional responses will be measured through visual documentation and a questionnaire. These were conducted with the aim of providing firsthand insight into the participant’s emotional responses to the built environment. All these methods will provide a strong framework for how designers can use Emotional Architecture to enhance the users’ experience.

Historical terminology: The Art of Emotional Architecture

In answering this dissertation’s question of ‘How can designers use Emotional Architecture to enhance the experience for the user?’ we first must establish and define what the term ‘Emotional Architecture’ means.

The earliest published usage of the term was in 1953 in the *Manifiesto de Arquitectura Emocional* by Mathias Goeritz, a Mexican painter and sculptor. This publication sees the role of architects and, therefore, their creations (the buildings) beyond their traditionally defined roles – a structure with a roof and walls, such as a house or factory (‘Building’, 2025) – and sees them as emotional and spiritual sculptures for humanity (Núñez-Ruiz, 2018; Pelletier, 2008; Muro, 2024). This is further evidenced by Goeritz advocating the use of modern forms and materials to better achieve emotional and spiritual experiences in architecture, not considering it simply a science, rather a piece of art, evidenced by his insistence on artistic integration (Núñez-Ruiz, 2018; Pelletier, 2008; Muro, 2024). Goeritz’s usage of the term ‘Emotional Architecture’ was thus rooted in an understanding of how architecture was more than simply the construction of a building, but also the emotional experience of those who occupy that physical space.

Another key voice in the earliest usage of the terminology was the modernist architect Luis Barragán, an associate and architectural collaborator of Goeritz (Muro, 2024). Barragán’s understanding of Emotional Architecture, like Goeritz, is that it is flooded with art, craft, beauty, spirituality and theology. These intangible qualities in architecture, when not integrated, would limit the role of buildings to purely functions such as mass production, repetition and standardisation, forgetting the impact on the user (Muro, 2024). Barragán finds it seriously alarming when architectural publications ‘seemingly’ avoid using the words ‘Beauty, Inspiration, Magic, Spellbound, Enchantment, as well as the concepts of Serenity, Silence, Intimacy and Amazement’ (The Pritzker Architecture Prize, 2024).

Whilst Barragán and Goeritz have been credited with the earliest usage of the terminology of Emotional Architecture, ideas of an emotional connection and the built environment had been a topic for many decades. Examples below include the writer John Ruskin (1823-1904) and the architect George Aitchison (1825-1910).

Ruskin explored the concept of the emotional connection to architecture through his writings. An outsider to the profession, leading to criticism from practicing architects, his ideas were condemned as unrealistic. (Wheeler, 2016).

‘In other words, poetry and theory were all well and good for a writer, but not for a busy architect who had projects on board’ (Wheeler, 2016).

Ruskin, unaffected by the criticism he received, believed that there were three distinct stages in which emotion could be incorporated into architecture. First, through the design by the architect; second, in the construction by the craftsmen; and

finally, in the way the public responds to the building (Wheeler, 2016). He emphasised the importance of the emotions instilled in the building during its creation, as these emotions would then be transmitted back to its users (Wheeler, 2016). Here, we see the earliest understanding of what would later be coined ‘Emotional Architecture’, planted deep in the creation process of a building. Ruskin believed that emotions are an essential cog in the architectural machine, aiming to influence society’s general feelings and ultimately contribute to its improvement.

The architect George Aitchison, a contemporary of Ruskin, was also deeply concerned with the emotional connection to architecture, stating that each building should weep with emotions to give pleasure to the user and viewer of the building (Wheeler, 2016). Similar to Ruskin, Aitchison would go further and declare that each building type should communicate a unique emotional purpose, as Wheeler writes in her essay ‘*They cannot choose but Look*’: *Ruskin and Emotional Architecture* (2016):

‘adoration for temples, awe and apprehension for law courts, grace and delight for theatres, terror for prisons, and comfort for ‘ordinary houses’” (Wheeler, 2016).

Based on the consistent overlapping perspectives from Goeritz, Barragán, Ruskin, and Aitchison regarding Emotional Architecture, it is defined as a concept that transcends the traditional role of architecture with a great emphasis on integrating emotion through artistic, spiritual, and poetic elements.

Contemporary theory of the past 20 years

The earliest terminology of Emotional Architecture is rooted in the understanding that the role of architecture and designers extends beyond traditional definitions of expectations and communication, emphasising the need to embed emotions into buildings to create better user experiences.

In the next section, *Emotional Design* (2004) by Donald A. Norman, a researcher, professor, and author, best known for his expertise in cognitive science and product design, *Humanise* (2023) by the architectural designer Thomas Heatherwick, give an understanding of the contemporary usage of the term Emotional Architecture in literature.

Although *Emotional Design* (2004) primarily examines product design, its exploration of what creates an emotional connection with the user and what it looks like practically offers valuable insights for the definition of Emotional Architecture, as buildings by definition are a form of product design (‘Product design’, 2024). Norman dives into the theory behind emotional design and puts forward the simple statement ‘attractive things work better’ (Norman, 2004, p. 17). This is evidenced by the documented research of Masaaki Kurosu and Kaori Kashimura (Japanese scientists). Their research led to the manufacturing of two ATM machines, identical in function, buttons and how they worked; one was designed attractively and the other not. The results were clear, the best was the attractively designed machine, being easier to use and more comforting for the user (Norman, 2004, p.19). A simple change in approach not only served the user in a practical sense – they were able to use it effectively – but also as a testament to the statement coined by Norman; ‘attractive things work better’ (Norman, 2004, p. 17).

This is quite puzzling because the use of the word ‘attractive’ is subjective, and for one person what might look attractive is vastly different to another. Ruth Dalton in her essay *Unlocking the Emotional Power in Architecture* (2023) provocatively highlights this issue in design, with her perspective being concentrated in Architecture:

‘If emotions are solely determined by the viewer or inhabitant, then any efforts to design and shape building experiences would ultimately be utterly futile’ (Dalton, 2023).

However, the research Norman uses of Kurosu and Kashimura would suggest otherwise: whilst attractiveness is subjective, attractive design is effective and functionable for the user. While Norman’s research centres on Emotional Design in the context of product design rather than architecture, the principle that ‘attractive things work better’ offers practical insights for designers. By applying this concept, designers can enhance user experiences through Emotional Architecture, creating spaces that are both functional and emotionally resonant.

It is clear, the aesthetic of a design significantly changes the way we work, approach and emotionally respond to them and is another key tool of emotional design for designers to use to enhance the user’s experience. ‘Emotions are judgemental, and prepare the body accordingly’ (Norman, 2004, p.13).

Norman, with his understanding that attractive things work better, argues that the brain operates on three levels of perception—visceral, behavioural, and reflective—and that successful design engages all three levels to create pleasure, which, in turn, creates emotional connection with the user.

Visceral relates to unconscious, instinctive emotional reactions, often influenced by the appearance of a design. *Behavioural* concerns an object’s ease of use and functionality, also processed unconsciously. *Reflective* operates on a conscious level, getting personal satisfaction from the use of a product, linking it to memories, and creating a direct emotional connection to the object (Norman, 2004, p. 39; Shakirova, 2021). Together, these levels form a holistic connection between emotion and cognition.

Contrary to the common belief that emotions and logic are separate, Norman states that emotions profoundly shape our thoughts and actions. Norman’s insights into the interaction of emotion and logic in design help challenge designers to design spaces that resonate on visceral, behavioural, and reflective levels. By prioritising emotional responses – through aesthetic appeal, functional usability, and deeper reflective meaning – designers can create buildings that enhance the user experience.

Another big supporter of enhancing the user experience of buildings is Thomas Heatherwick, designer and founder of the architectural design studio *Heatherwick Studio*. He sees Emotional Architecture as an antidote to ‘boring buildings’ which he sees as dangerous for humanity (Heatherwick, 2023, p.121). This belief in Emotional Architecture is seen on the Heatherwick Studio website where they proudly declare:

‘We want to see a world where the buildings around us are radically more joyful, engaging and human’ (Heatherwick Studio, 2024).

In *Humanise* (2023) he defines boring buildings in seven mantras: Too Flat, Too Plain, Too Straight, Too Shiny, Too Monotonous, Too Anonymous, Too Serious. (Heatherwick, 2023, p.91-107) Generally, if buildings are too flat, they are boring; if they miss design complexity, they are boring; if they are too straight, they feel hard, unfriendly and unnatural; If buildings are too shiny, made with only glass and metal, there is nothing for our senses to latch on, nothing to hold our eye captive, we overlook these buildings (Heatherwick, 2023, p.91-107). These practical mantras provocatively expressed by Heatherwick give an insight into a perspective of a practicing architectural studio who are regularly engaging with clients in the commissioning process. His passionate cry against boring is also evidenced in his design studios approach which will be documented in the case study section. However, there are many critics of his book *Humanise* and his creative studio’s design philosophy.

‘He underplays such things as the interaction of the look of a building with use, structure, climate and culture, the relationships of exterior to interior and of one building to another. He does not have much to say about the value of simplicity, the occasions when you want a building to be plain, so as not to distract from nature or the human life around, or other more spectacular structures’ (Moore, 2023).

Moore is one of many critics of Heatherwick, arguing that his design philosophy is shallow and overlooks the situations in which buildings can come up against his design mantra. Still, Heatherwick’s challenge of anti-boring buildings comes from a position where he feels that the architectural industry is too-top down focused, focused on the opinions of the architects and commissioners than the feelings and emotions of the people who would eventually navigate those buildings on a regular basis (the public). Believing that the modernist movement within architecture – thanks to its efficiency and mass production – has led to cities full of boring buildings (Heatherwick, 2023, p. 260) that lack the joyfulness he wants architecture to bring to people.

Exploring how non-designers respond to buildings and their emotional responses should be a fundamental part of the research that goes into the design process. Designing a product or building without taking human beings, with their emotions, desires and needs, into the centre of design process is a huge mistake. Based on our previous understanding of Emotional Architecture and the contemporary research of Norman and Heatherwick, the definition is: Emotional Architecture is aesthetically pleasing, complex and human focused.



Fig. B Shanghai, China from the *Humanise* boring index (J.D., 2023)

What does Emotional Architecture look like through practical applications?

With the historical and contemporary understanding of Emotional Architecture established, this dissertation will now demonstrate what Emotional Architecture looks like.

Greenery: Professor Dalton, in her academic essay *The Science behind our Emotional Connection to Architecture* (2022), establishes a key way in which Emotional Architecture can integrate nature into buildings—stating that the ability to view green spaces creates positive feelings of calmness and wellbeing for the user (Dalton, 2022). Dalton, references the study of Shinrin-Yoku (taking in the atmosphere of the forest) and integrating it into architecture, created a more relaxed environment for the user, evidenced by the lower cerebral activity in the prefrontal area of the brain (Dalton, 2022). Further evidence of the effect of green space and nature is shown in how they help hospitalised patients heal. In Roger S Ulrich’s *View through a Window May Influence Recovery from Surgery* (1984), we see that patients recovering from surgery with a window and a view of nature would heal faster than those who look at a brick wall (Ulrich, 1984). Here, we see that the simple integration of green spaces demonstrates what Emotional Architecture looks like and the profound impact it can have on the user’s experience of a building.

An example for this is the Barbican in London, where residents have no private gardens. Missing private green spaces are counteracted by a large public courtyard with an artificial lake and a selection of plants that enrich the space and enhance the living conditions (Barbican, 2025).



Fig. 1 Courtyard of Barbican (FLO London, 2025)

Curvaceous Elements: Another example of Emotional Architecture in practical terms is that people are more likely to consider a building or space as beautiful and visually attractive or interesting, if it contains curvaceous rather than rectilinear elements (Dalton, 2022; Silvia, Barona, 2007). Dalton detailed psychological research that further supports this, with people preferring curved objects over rigid ones. This could be why we see the mantra in Heatherwick’s *Humanise* (2023) saying that if a building is Too Flat and Too Straight, it is boring (Heatherwick, 2023, p.91-107), suggesting that there is something about rectilinear elements in both architectural contexts and in general that leaves the user with discomfort and disconnect.

While rectilinear elements can be seen to evoke such responses, not all agree with that sentiment. Architects like Ema Baklova see rectilinear elements as conveying an emotional sense of order, clarity and structure:

‘They can evoke feelings of stability and strength, which is why they are often used in institutional and commercial architecture’ (Baklova, 2024).

While Baklova sees stability and strength in rectilinear elements, she also understands that there are limitations to using them to enhance emotional spaces for the user.

‘However, excessive use of straight lines can also lead to perceptions of rigidity and coldness’ (Baklova, 2024).

Baklova even references the study of Moshe Bar, an Israeli neuroscientist, who explains where this preference for curvaceous over rectilinear elements comes from. Rectilinear elements activate the brain’s threat perception centre (Baklova, 2024; Venetian Letter, 2020). This could potentially come from an evolutionary biology, as the brain may see rectilinear elements like sharp lines and angles as potential threats (Baklova, 2024).

‘Curves make people feel good. Studies have since looked at car interiors and found the same effect, airport designs, same effect, interior design, same effect. Even great apes at the zoo showed preference for curved designs.’ (Venetian Letter, 2020).

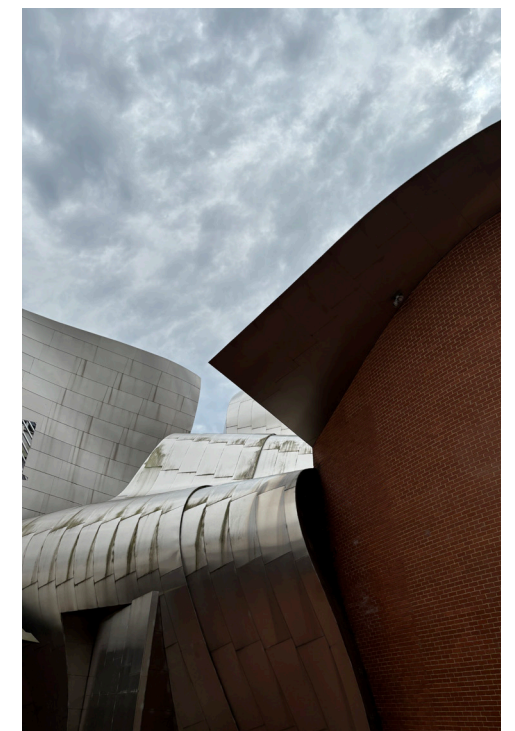
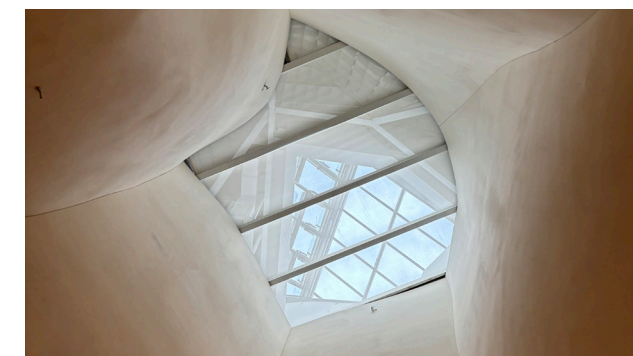


Fig. 2 Front of Marta

Fig. 3 Interior of Marta

Fig. 4 Outside of Entrance Marta

(Figures 2,3 and 4 by Wheelwright-Hirth, 2024)



An extreme but very clear example is the Marta in Herford by Frank Gehry, a gallery in Germany. With its curves and angles it is meant to represent the landscape of the area and the refurbishment of the pre-existing core (Marta Herford, 2025), Gehry showed how curves and unique forms create eye-catching, interesting buildings. (Fig.2, Fig. 3, Fig.4).

These findings highlight the importance of Emotional Architecture in buildings. By understanding people's emotional preferences for curvaceous elements over rectilinear elements, which result in emotions of fear, rigidity, and coldness, designers are better equipped to enhance the user's experience of buildings.

Social Interaction: Further examples of practical applications of Emotional Architecture are highlighted by Dalton in *The Science behind our Emotional Connection to Architecture* (2022) through the use of spaces for social interaction. Dalton references how, in experiments where subjects were shown scenes of social interaction versus empty ones, the ones with spaces for social interactions generated positive emotional responses (Dalton, 2022).

The element of social encounters can lead architects to design spaces where positive emotional reactions can occur. However, this does not measure whether a space is crowded and busy, compared to if it is quiet. The study conducted by Panagiotis Mavros, Martin Zaltz Austwick, and Andrew Hudson Smith entitled *Geo-EEG: Towards the use of EEG in the study of urban behaviour* (2016), where they tested the interaction between urban spaces versus natural environments, and crowded public spaces versus uncrowded ones on people's emotions whilst also testing to see if their emotions differed if they were actively walking or static proved interesting (Mavros, Austwick, Smith, 2016). Their experiment involved participants watching walk-through movies whilst walking or standing still on a treadmill and wearing an EEG Headset. Their results showed that users usually responded negatively to high-density, crowded spaces, reporting more negative emotional responses. On the surface, these results would challenge the notion presented by Dalton of architectural spaces designed for social interaction. However, the study highlighted that the results changed when the busyness of public space was compared with walking versus being static. Spaces with high-density people in had a positive emotional response when walking; no longer were they watching from afar, but by merely walking in those high-density public spaces, the participants felt like they were engaging and excited (Mavros, Austwick, Smith, 2016; Dalton, 2022).

A successful example is the new museum entrance of the Victoria and Albert Museum in London by architecture studio *AL_A* (*AL_A*, 2025). Not only does it draw more visitors in, it brings people together to be able to enjoy art and design together (*AL_A*, 2025). Pedestrians can walk towards the entrance without crossing the big courtyard on the right-hand side and look down into the underground gallery space or interact with the crowd through the middle. It gives everyone the option to walk past or through in a way that makes them feel comfortable.

Whilst there are differences in emotional enjoyment from the engagement of spaces designed for social integration, understanding these conditions can allow designers to create spaces that enhance the user's experience.



Fig. 5 Courtyard of V&A (*AL_A*, 2025)

Case studies

This dissertation began by defining Emotional Architecture, considering the history of the terminology, and looking at contemporary research in this field. Following this, we will analyse three case studies to illustrate the successful elements of Emotional Architecture. Specifically, we will examine three buildings designed by Thomas Heatherwick, whose architectural practice aims to advance emotionally focused architecture. These buildings are Coal Drops Yard (2014) in London's King Cross, Maggie's Yorkshire (2013), a cancer treatment facility in Leeds, and the Learning Hub (2013) in Singapore, a learning facility for the university.

'We want to see a world where the buildings around us are radically more joyful, engaging and human' (Heatherwick Studio, 2024).

Coal Drops Yard, completed in 2024, is a refurbished project made out of two Victorian Grade II-listed buildings in King's Cross, which used to transport 8 million tonnes of South Yorkshire coal a year (RIBA, 2024; Moore, 2018; Roux, 2018), now reimaged into a mixed-use retail complex featuring shops, restaurants, bars, galleries, and office spaces. (Kings Cross, 2024; RIBA, 2024; Moore, 2018).

Fig. 6 Coal Drops Yard (King's Cross, 2025)



The building features the now-iconic kissing roofs that connect the two separate buildings. Designed by Heatherwick Studio, these roofs create 'the illusion of the two roofs being pulled away and joined together', which showcases a remarkable artistic and engineering achievement (RIBA, 2024).

Coal Drops Yard looks just like any refurbished building, adorned with fairy lights to appeal to a specific demographic. Especially on weekends or sunny days, you will notice many tourists strolling down. However, when you turn the corner past the Uniqlo store, the unique design of the two buildings, identified by their 'kissing' roofs, comes into full view, and the viewer no longer sees a regular refurbishment. The viewer is confronted with a complex, organic structure that appears to be floating over the viewer. People stop in their tracks in awe and take photos to document the remarkable structure; it is exciting to look at, and our senses are being stimulated.

Furthermore, for those who pay attention to detail, many small designed elements contribute to the overall experience for the user. Signs indicating the location of the toilets, the lifts, and the arches that frame views of the canal – all these features evoke emotional responses and enhance the space.

The development is open to the public; it features lifts everywhere, entertainment for children, and public seating on two levels, allowing social integration opportunities. We can see evidence of this intention in an interview he gave to the Telegraph in 2018 after the area's initial completion:

'With the decline in other public gathering points – church, for example, or public libraries and community centres which aren't being financed now – we need places to come to for human interaction.' (Roux, 2018).

Heatherwick Studio has successfully designed a stimulating space that includes little elements in every corner. The use of curved roof design has been designed with the importance of Emotional Architecture established above; plants across all the spaces, different materials, and natural light meet the conditions of buildings or spaces

that create positive emotional impact.

However, most people there tend to be well-dressed, with coffee cups in hand, holding shopping bags or carrying laptop bags. This is a common criticism of Coal Drops Yard for the people who live in and around the area and those who visit Coal Drops Yard for shopping. Whilst certainly a piece of architectural delight, one has to ask about the lack of social diversity in the area and this point is brought up by Rowan Moore in his article *Thomas Heatherwick Coal Drops Yard - Shopping in the Instagram Age*:

'It seems to confirm what critics of the King's Cross development argue, that it is really about expanding the wealthy core of London into an area that was previously mixed, and that its values are ultimately those of retail and property' (Moore, 2018).



Fig. 7 Maggie's Yorkshire (Heatherwick Studio, 2025)

Maggie's Yorkshire is a cancer treatment facility operated by Maggie's Charity in St James's Hospital, Leeds, with their motto being 'Everyone's home of cancer care' (Dalton, 2022). It is designed as a group of three large pavilions, each enclosing a counselling room, rooftop gardens, a library, a kitchen, and large open spaces for social interaction' while also creating various intimate spaces for contemplation (Waite, 2020; Heatherwick, 2020). The space is filled floor-to-ceiling with plants inside and outside, giving it a sense of nature and the natural world with additional views of green spaces through the windows.

The clients (Maggie's Charity) requested a space where people could breathe easier and receive genuine healing support. Heatherwick's response was to immerse the space

in light and create an atmosphere of welcome and calmness. The three large-scale pavilions are user-friendly because they truly understand the emotional needs of their users. Carefully curating a space which enhances the users' experience using various practical Emotional Design elements of curvaceous lines, spaces for social interaction, and the intimate uses of green spaces.

The curvaceous surfaces and beams give the feeling of being inside a tree house and even inside nature itself. Soft artificial light and a lot of natural light enhance the user experience, with common descriptions of Maggie's Yorkshire as 'hominess' meeting 'unusualness' (Dalton, 2022). Designed on the last remaining green space in the hospital grounds, Heatherwick Studio decided to embrace this and create an oasis for healing rather than get rid of it. The entire structure is overgrown, and the interior is dotted with plants; they took the Emotional Architecture point of view of nature and natural elements beyond serious. Wherever you are in the building, being close to greenery is ensured. Architectural critics have noticed this:

'In its obvious reliance on nature, as witnessed through its materials, form, extensive planting, engagement with surrounding landscape and engaging use of light, it seeks a kinship of human intimacy with its users and thereby empathises with the sharp emotional traumas into which they may be plunged' (Ijeh, 2020).

The design creates an environment where people can come together to grieve, heal, and support one another in open spaces and find privacy in enclosed counselling rooms. The building was clearly conceived to foster connection among individuals. Notably, the central space emphasises community and encourages social interaction through the practical applications of Emotional Architecture.

Previous Heatherwick Studio critic, Rowan Moore (2020), highlights the strengths of Maggie's Yorkshire, struggling to find significant flaws in its design and execution. Expressing:

'Maggie's charity could find a way of lending their expertise to other agencies in the NHS, such that humane architecture could become a rule and not an exception.' (Moore, 2020).

Moore underscores the significance of human-centred and emotionally resonant architecture, particularly within the healthcare system which is desperate for architecture that enhances the user's experience.

The Learning Hub of Nanyang Technological University in Singapore is Heatherwick Studios' new take on a university building. The design of the twelve interconnected towers features curved concrete cladding, resembling 'giant parsnips' (Frearson, 2015). Collaboration and connection were breathed into its creation for the students and staff, where ideas and opportunities can be fostered and emotions of inspiration cultivated.

The design is a radical contrast to the usual university building – with dark lecture halls, cramped rectilinear structures, lack of greenery, and long dark corridors leading to seminar rooms – naturally eliciting fascination, whether the users are standing outside or inside (Frearson, 2015).

All 56 classrooms are oval shaped to help social and intellectual communication and collaboration. The nooks, balconies, and garden spaces are used for informal social interaction (Frearson, 2015), creating a simple but complex layout with angled columns and curvaceous pods (Dalton, 2022).

The feeling of hominess created by the long line of sight creates an impression of a smaller scale than the reality and adds to the spatial complexity of the building. This fascination and spatial complexity are additionally triggered by all the plants in, on,

and around the building.

'There is an interplay with Singapore's contemporary urban tradition of building a 'city in a garden' and, like Maggie's Yorkshire, it articulates new architectural ways to bring people in closer contact with nature through novel architectural vocabularies' (Dalton, 2022).

All the irregular little details and textured walls, as well as the exterior ones cast in concrete, help to stimulate the senses and make walking through the building an emotionally exciting experience for the user.

'The intertwined artworks are intended to act as a continuous, subconscious source of inspiration for students, portraying an array of imagery from literature to art to science' (The Angry Architect, 2022).

The university building is a place for learning, research, and studying. By creating a fascinating, stimulating environment, the emotional response of the students and staff is a sense of comfort, while being inspired.

Notably, all three projects have been completed for at least ten years, so the understanding of their impact is more realistic than that of Heatherwick Studio's current or unfinished projects.

All the case studies show multiple elements of successful implementation of Emotional Architecture into their design and can help designers to understand how it could look if they follow the guidelines of Emotional Architecture. The following section aims to understand the more user-centred understanding of Emotional Architecture.



Fig. 8
Learning Hub
(Heatherwick
Studio, 2025)

Experimental methodology and findings

To deepen my understanding of Emotional Architecture beyond the theoretical, historical and neurological, I conducted two social-experiment walks through the newly redeveloped King's Cross area to investigate how architecture influences our (the users') emotions. The decision to perform the social experiment came from wanting to see if my and the general public's emotional responses fit within the theoretical, historical and neurological understanding established above.

The decision to focus on King's Cross was made quickly, with its various new building projects completed and others on the way, as well as the architecture that reflects the area's historic character (Kings Cross, 2024). This wide range of new architecture shows how different architectural firms design different buildings for other purposes, laying the perfect foundation for my research. Additionally, having two buildings designed by Heatherwick as part of the walk allowed me to gain insights into people's responses to them. The walk would take 25-30 minutes, starting outside the new Google building currently under construction on Pancras Road, 1 minute from King's Cross Station.

The Brief: The participants and I will follow Pancras Road until we reach Granary Square. Upon arrival, we will continue along the pavement to Coal Drops Yard, passing the Coal Office along the way. After exploring the Coal Drops Yard retail complex, we will climb the stairs and immediately turn left onto Lewis Cubitt Walk. This path will lead us to the historic, now-renovated Gasholders. We will then turn right onto Canal Reach Road, which winds until it reaches York Way, ultimately finishing at Lewis Cubitt Park.

During this walk, I will document everything that triggers emotional reactions, both positive and negative. Additionally, I will have an assistant wearing a GoPro camera film the entire walk. Other participants, who are also conducting the walk as a social experiment on different days, will document their experiences through photos and complete a survey afterwards.

Fig. 9 My walk through King's Cross, a frame per minute from GoPro, colours highlighting emotional responses (Wheelwright-Hirth, 2024)



Individual Social Experiment

Like the participants' walks, I started in front of the new Google headquarters. My initial response was due, in part, to the sheer scale of the building. Unable to see the ground floor because the building was still under construction, I was forced to observe the higher levels with their broken-up floors and details, creating interesting elements.

The opposite buildings tell another story. While the 7 Pancras Square building is eye-catching, the next building up the road, 2 Pancras Square, lacks detail. The regular windows and only straight lines make the building very unstimulating.

Walking across the bridge onto Granary Square, the atmosphere changed immediately. I was surrounded by historical, refurbished buildings. There was substantial space for social interaction, packed with children playing, students socialising, and adults enjoying coffee and catching up with friends on the canal, all of which stimulated my emotions positively.

Walking into Coal Drops Yard, the atmosphere changes to a more sophisticated one, with high-end shops and Christmas markets with hand-crafted products and a view of the kissing roofs. The roofs bring something unique to the building; I am amazed by their architectural and engineering skills and craft every time I see them. Equally exciting are the complex details dotted around Coal Drops Yard, from the signage to the toilets design and lifts.

Turning left out of Coal Drops Yard, I passed the restored Gasholders with a large green social space next to it and 2 Lewis Cubitt Square on the other side, which is in a different style and historical context from the Gas Holders. This contrast highlights the extraordinary Gas Holders building in greater detail, evoking emotions of awe.

The view onto Tapestry Apartments promises an engaging, stimulating environment; unfortunately, I was emotionally disappointed once I turned the corner. The King's Cross Academy had green cages occupying the right-hand side, confusing their purpose. The Meta UK offices on Canal Reach Street, with the sharp lines of the shutters and windows, created an intimidating, uncomfortable and uninspiring atmosphere where innovation felt unwelcome, contradicting their brand. Like Meta UK's offices, the rest of the pre-planned route left me emotionally dry and uninterested.

Thankfully, the best was saved until last with Cadence Court's unique colour, facade, and arched windows. The many arched windows come in different dimensions, sizes, and shapes, giving the impression of being distorted and reshaped as you walk around the building, evoking feelings of joy.

Overall, positive emotional responses throughout the walk were guided by the above-mentioned emotional architectural elements: curvaceous elements like Coal Drops Yard, Gas Holder Park, and Cadence Court, views of green spaces like the Gas Holders, and finally, spaces for social interaction with Granary Square, Coal Drops Yard, and Gas Holders Park.

However, it is worth mentioning that I took this walk with prior knowledge after reading and writing a lot about emotional architecture, so I naturally picked up those little details more than someone without any understanding of Emotional Architecture. For this reason, I conducted a social experiment inviting participants to go on the same walk to see how they would respond.



Fig. 10 My walk through King's Cross, Emotions and their cause (Wheelwright-Hirth, 2024)

Participants Social Experiment

I began contacting potential participants for the social experiment. However, due to the time of year, recruitment proved hard, resulting in seven individuals participating: four males and three females. The participants in this study were of various age groups: two were 70+ years old, two were between 50-70, and three were between 20-30. A larger sample size could have provided more insight. However, the perspectives of these seven participants still offer valuable points of view, which is central to this research.

Like mine, their task was relatively simple: follow the arranged route and take pictures of elements of buildings that they felt emotionally connected to throughout the walk. After they finished the walk, I asked them to answer six questions and upload the pictures to that section. Below are the overall findings from the questions asked, and what is found is interesting:

Question 1: Which building stood out to you the most and why?

From the first question, the buildings that stood out the most were Coal Drops Yard (Heatherwick Studio), the currently under-construction Google Headquarters (Heatherwick and BIG), and the newly restored Gasholders (Wilkinson Eyre Architects) (Kings Cross, 2025).

Heatherwick's eye-catching kissing roof building and the general Coal Drops Yard retail complex received positive reviews with feelings of awe, excitement and surprise, with one participant saying:

'It is such a stark contrast between the old, blocky look of Coal Drops with the modern, sleek design; it's almost a bit jarring' (Wheelwright-Hirth, 2024).

However, in contrast to the positivity Heatherwick Studio has received for Coal Drops Yard, their Google Headquarters project received the opposite, with feelings of disgust at the centre of it with one participant saying:

'shockingly gross, clumsy and out of scale' (Wheelwright-Hirth, 2024).

The last building to result from question one was the Gas Holders, with many positive reviews eliciting emotions of awe, comfort, joy and peace. With a unique emotional feedback from one individual:

'it reminded me of the first tastes of independence. Feeling small but capable in the face of a titanic construct. Like something out of a Zelda game' (Wheelwright-Hirth, 2024).

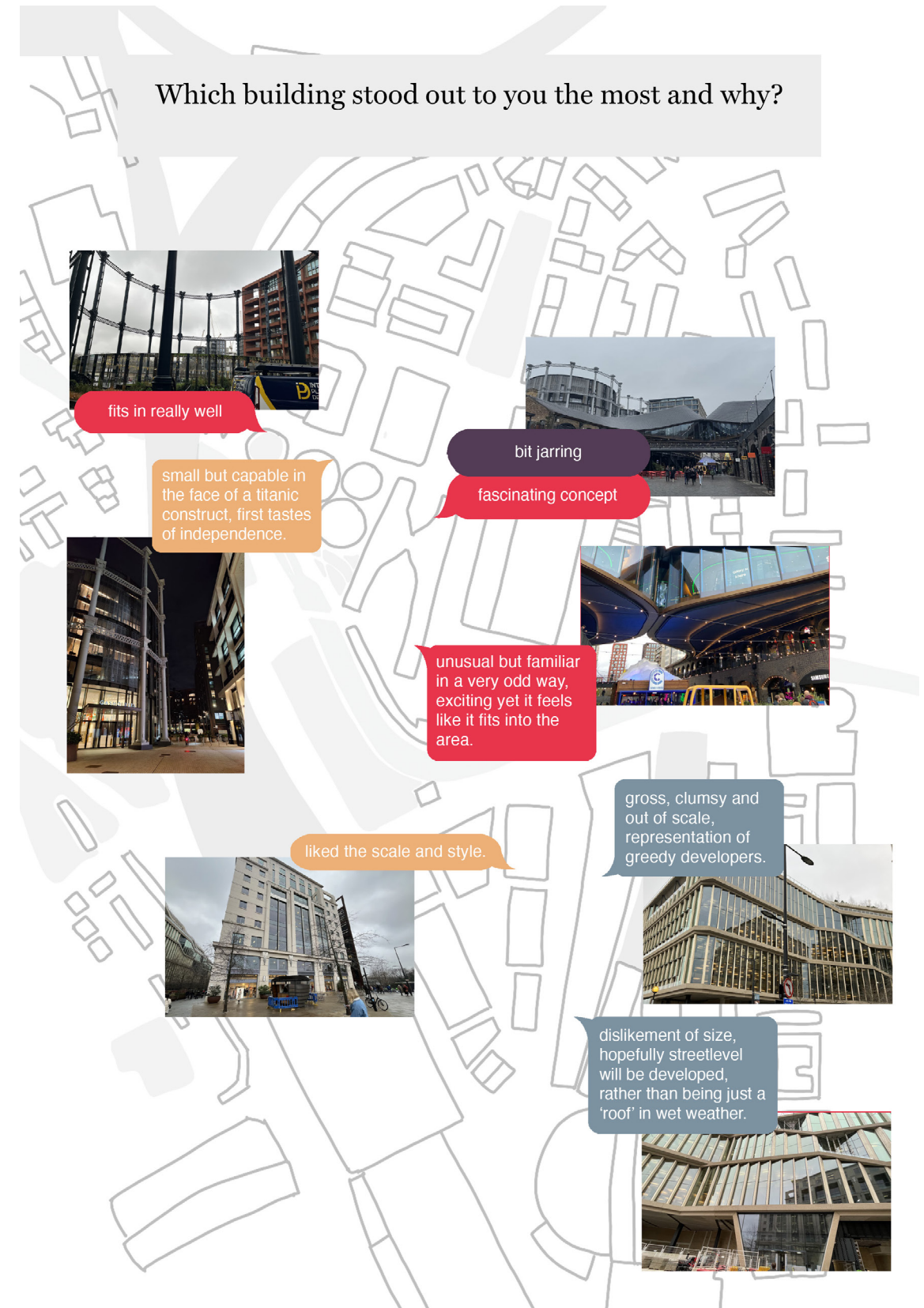


Fig. 12 Question 1 (Wheelwright-Hirth, 2024)

Question 2: Which building gave you the biggest emotional response - which emotion was it?

Again, for this question, the answers revolved around Coal Drops Yard, with the older demographic's answers raising emotions of 'nostalgia', and the rest raising emotions of 'awe', 'excitement', and even 'comfort'. These emotions, however, were related to the entire complex, not just the 'kissing' roofs section of the design, with the atmosphere and the historic refurbishment at the heart of their emotional responses.

‘Coal Drops always gives me a feeling of comfort; [...] It’s a haven in the newer builds surrounding it. I love how you can tell it once served other purposes in history before it’s used now. Also, shopping in London can already be so stressful, but I find it really relaxing at Coal Drops’ (Wheelwright-Hirth, 2024)!

The complexity and uniqueness, with the unique social interaction space of Coal Drops Yard in contrast to the new builds surrounding it, create emotional responses in the participants.



Fig. 13 Question 2 (Wheelwright-Hirth, 2024)

Question 3: Which building kept your attention the longest?

For this question, the participants were only asked to upload a picture they took on their walk. Again, Coal Drops Yard was the most uploaded picture, presumably because people had to walk through it and interact with it the most (Wheelwright-Hirth, 2024). One participant uploaded an image of the scooters outside the school, presumably taken on a school day, so the indirect social interaction with this building was through the exiting users (children) and therefore stood out through being a completely different environment compared to the offices or shops and residential buildings around it. The Cadence Court building (the red building with the arches) by Alison Brooks Architects (Moore, 2024) was another building that stood out, probably due to its colour and unusual curve-shaped window frames and unique material choice, therefore keeping the participant's attention. Correlating with the practical applications of emotion architecture.



Fig. 14 Question 3 (Wheelwright-Hirth, 2024)

Question 4: Which building did you feel was the most boring?

For this question, I asked for images to be submitted instead of a written answer, as I wanted to understand their response through a visual medium. The term 'boring' is a callback to the usage of the word by designer Thomas Heatherwick in his book *Humanise* (2023), detailed above. Using this term, I used an easily digestible term that helped respond to the question and building.

This resulted in a broader range of answers to question 4 that showed the unique responses to the term 'boring'. The buildings captured were 10 Handyside Street, Lightroom at 12 Lewis Cubitt Square, Song Music UK at 2 Canal Reach, and Meta at 11-21 Canal Reach. While the answers are broader, the buildings selected as 'boring' all use rectilinear aspects, with little green spaces and social interaction spaces around them. Further demonstrating the opposition to buildings lacking Emotional Architectural elements.



Fig. 15 Question 4 (Wheelwright-Hirth, 2024)

Question 5: Which design is the most successful and why?

I did not give any context for this question, so it was up to the participants to define 'successful'. Participants were also asked to answer this question using an image they had taken.

Through the image answers, participants found success in Coal Drops Yard with three responses, Kings Cross Academy at 4 Wollstonecraft St with two responses, The Gas Holders with one response and The Cadence Court with one response.

While there are considerable differences between Coal Drops Yard and Kings Cross Academy at 4 Wollstonecraft Street in both their function and aesthetic, what is common to their selection as 'successful' is their use of complexity, availability of green spaces, and spaces for social interaction. All of which help enhance the user's experience.



Fig. 16 Question 5 (Wheelwright-Hirth, 2024)

Question 6: Which design is the least successful and why?

Again, the definition of success was up to the participants to decide, and their results were interesting. Coal Drops Yard, which received glowing reactions in questions one and two, was selected by three participants as least successful. Two of the three participants found the 'kissing' roofs to hinder the rest of the retail complex. Their responses focused on how the kissing roof took away both social interaction spaces and the historical design of the complex.

Three participants selected Lewis Cubitt Square as the least successful, with common emotional responses being 'uninspiring', 'boring', 'generic', and 'just a boring apartment block' (Wheelwright-Hirth, 2024). These responses further emphasise the lack of emotional architectural elements defined above.

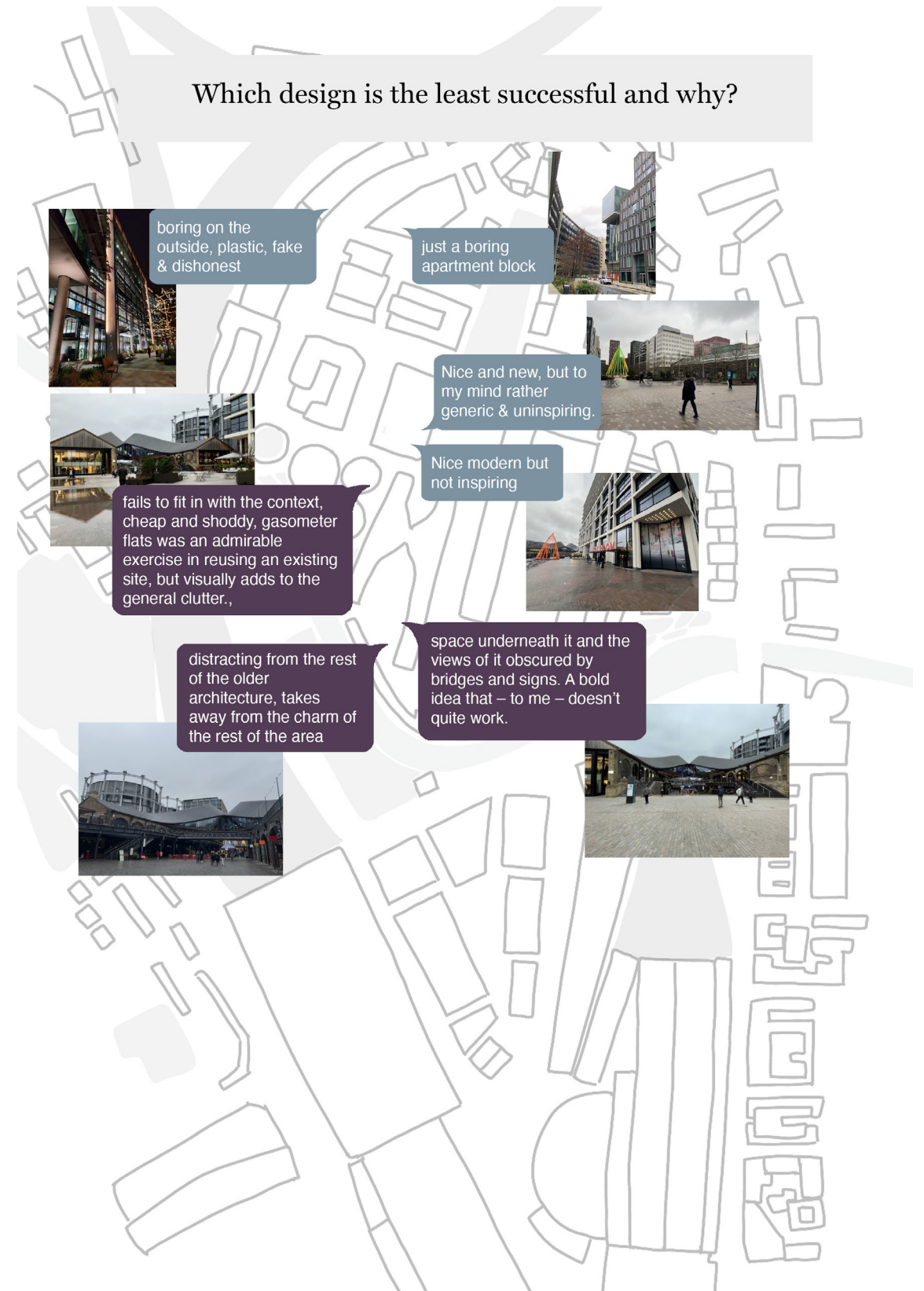


Fig. 17 Question 6 (Wheelwright-Hirth, 2024)

This experiment gave successful and contradicting insight into the understanding of the built environment to the general public. The earlier defined components of Emotional Architecture were visible in the participants' responses. The more complex detail a building had – curvaceous design elements and views of green spaces – the better it was received. Social interaction came up a few times, either the lack of it as a negative emotional response or the successful implementation as a positive one. The emotion 'nostalgia' was mentioned multiple times, especially by the older generations. The most mentioned comment was the lack of consideration of the surrounding environment of the individual buildings. This is evidenced by critic Moore, who references the lack of collective vision of the Kings Cross development, where architects were given individual plots of land, not considering the broader context of other buildings being developed (Moore, 2024).

Understanding how pre-existing, historical buildings shape the emotional response of older generations is another element worth considering when working on similar projects due to their level of complexity and craft. King's Cross is an area with much history; according to the participants, this should have been more considered, as well as how the buildings interact.

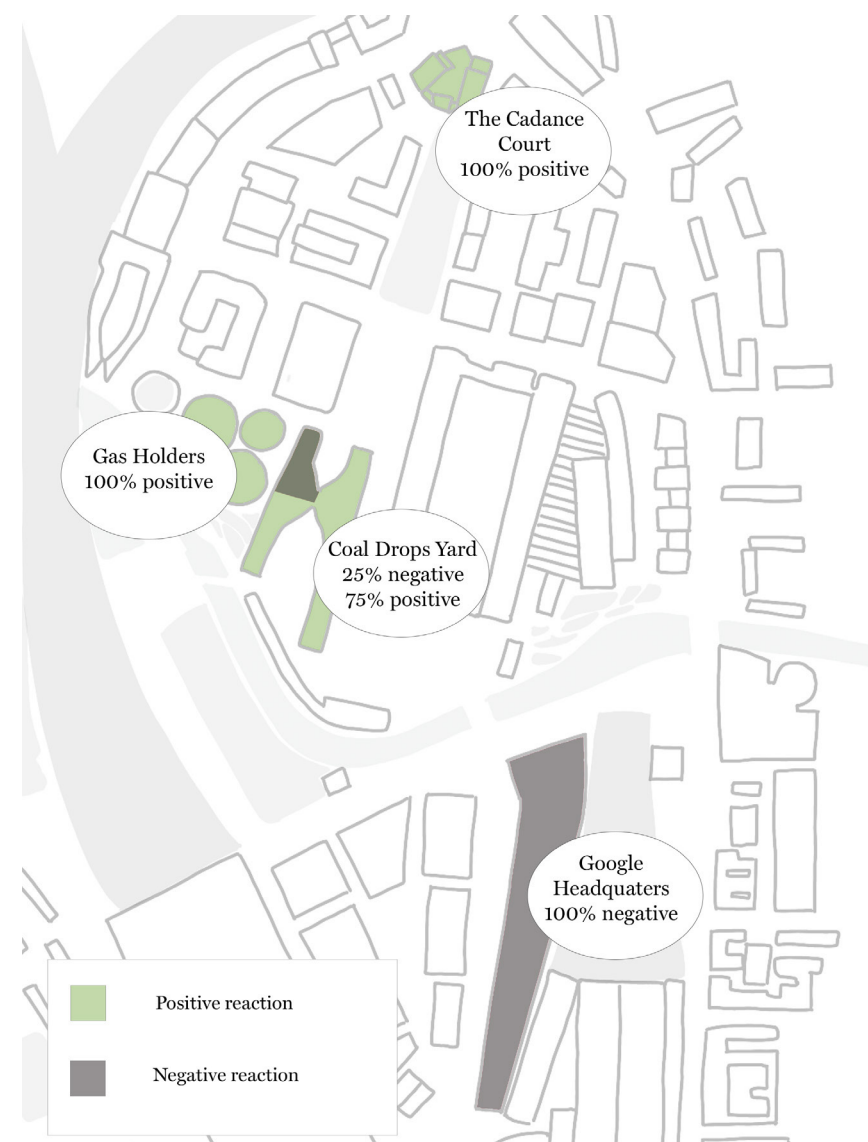


Fig. 18 Social Experiment Conclusion (Wheelwright-Hirth, 2024)

Conclusion

This dissertation sought to answer the question: *How can designers use Emotional Architecture to enhance user experience?* In the attempt to answer this question, this dissertation studied the terminology of Emotional Architecture. Effective Emotional Architecture is rooted in artistic, spiritual, and poetic elements integrated into the design of a building that extends the architect's role beyond traditional boundaries. These elements elicit deep and wholehearted emotional responses, highlighting how designers can significantly enhance the user's experience and, therefore, enhance their lives.

Additional research was carried out with contemporary practitioners - D.A. Norman, Thomas Heatherwick and Ruth Dalton - greatly emphasising the role of aesthetics, complexity and human-focused elements. Practical applications such as curvaceous design elements, views of greenery, and spaces for social interaction should be added to enhance the user experience of buildings. Since humans spend most of their lives in buildings, these elements not only improve the user's experience of a building but also contribute to the overall welfare of the users' lives, clearly demonstrating the critical role of Emotional Architecture.

The case studies documented successful implementation of Emotional Architecture and practical recommendations for designers to include in their design process. The social experiment provided evidence of the importance to consider the built environment enhancing the users' experience.

Ultimately, designing a building without taking human perspective, with all their emotions, desires, and needs, into the centre of the designing process is a colossal mistake and has dangerous consequences. This dissertation shows that successfully incorporating Emotional Architecture into the design process will radically enhance the users' experience and create a more joyful, healthy environment for the user and, therefore, their lives. So, designers must act and embrace Emotional Architecture, not just as a concept but as a key ingredient, considering the practical and theoretical applications suggested in this dissertation.

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gender	age	job	Which building stood out to you the most and why?	Which building gave you the biggest emotional response - which emotion was it?	Which design is the most successful and why?	Which design is the least successful and why?
female	20-30	Animator/ Designer	One of the buildings that probably "stood out" the most to me was the curvy Samsung office above Coal Drops Yard. It is such a stark contrast between the old, blocky look of Coal Drops with the modern, sleek design: it's almost a bit jarring. Also the Gasolders stood out to me. A blend of old and new, it was such a fascinating concept to take a build that had a certain use in the day transform it to be used in an entirely different way.	Coal Drops always gives me a feeling of comfort; it's an old build in such a metropolitan, modern place. It's a haven in how you can tell it once surrounded it. I love how you can tell it's served other purposes in history before it's use now. Also shopping in London can already be so stressful, but I find it really relaxing at Coal Drops!	I think how the designers have used the build and space of Coal Drops is brilliant; it's giving a new use to an old build, and recycles the structure rather than completely tearing it down to rebuild something new. It's a cool take on a shopping centre, and keeps the place rooted in the cities history.	I think maybe the Samsung building above Coal Drops. I find it distracting from the rest of the older architecture. It seems a bit out of place, and I think it takes away from the charm of the area.
male	20-30	Performer	Gasolders - it reminded me of the first tastes of independence, feeling small but capable in the face of a titanic construct. Like something out of a Zelda game.	The train tracks that often surrounded that area, slightly raised above the public spaces. I felt yearning. It makes me feel 'grandier purpose' like there's a reason for me going places. The preparation, the travel, the new & old being explored. It made me think of going home.	Coal Drops Yard had the best idea of using the old architecture & aesthetic. Personally I might have used it differently but that doesn't necessarily equate to a 'better' use of the space. I really like the potential of the place though.	The building that houses META. It's boring on the outside, plastic, fake & dishonest.
male	70+	Graphic designer (retired)	The biggest, partly because of its sheer size, but also because I disliked it. (Bb) unfair as it isn't finished... I hope the street-level spaces will be developed, rather than being just a roof in wet weather.	Victorian Waterpoint and the lock keeper's cottage in front of it. Emotion: Nostalgia	The one I call the Red One - even though it is unfinished, I like the colour, the contrasting shapes of the arches with the blocks above. But there were so many to choose from!	Samsung kissing roofs, because the space underneath it and the views of it obscured by bridges and signs. A bold idea that - to me - doesn't quite work.
male	50-70	Currently between jobs	3 Fanciers Square - I liked the scale and style of this building	Coal Drops Yard - Excitement - the way that the two sides meet together at height.	Coal Drops Yard - Exciting reimagining of redundant industrial buildings	Lewis Cubitt Square & Park - Nice and new, but to my mind rather generic & uninspiring
female	70+	art and design historian (retired)	Unfortunately the giant building running all the way along the right hand side and unavoidably dominating the route from King's Cross to Granary Square is shockingly gross, clumsy and out of scale. To me it represents the worst of greedy developers intent on maximising every permitted inch of space for profit at the expense of humanity and aesthetics. No photograph, from any angle, can capture the extent or ugliness of this carbuncle.	It was a good decision to save the old Coal Office from demolition and give it space to breathe. It was once probably hemmed in by other buildings and narrow streets. Now it literally stands out and can be viewed from all angles. It has a poetic beauty and is a nostalgic nod to its original industrial life.	I liked this building (see pic) because it succeeds as a modern design, clearly using contemporary materials - subtly varied bricks, panels in soft green and accents in cream concrete. It references the style of older warehouses in the overall grid and the streamlined versions of traditional pilasters. Sadly the cream-coloured concrete is not wearing as well as the rest, as it seems to have developed a kind of algae that muddies the overall impact.	Thomas Heatherwick's effort here is characteristically bold but disappointing, indeed my photo (Bb) shows how it fails to fit in with the context and certainly does nothing to enhance it. My heart sinks when I see new-builds in timber cladding which in a very short time goes black and mouldy, so apart from the overall ugliness, the choice of materials is poor. It looks cheap and shoddy though it probably wasn't!
female	50-70	Beauty Advisor	repurposed Gas holders -it fits in really well	coal drops yard - Nostalgia - the feeling of old y new	kings cross academy - so well integrated into its surroundings	12 Lewis Cubitt square - Nice modern but not inspiring
male	20-30	Designer	Coal Drops Yard Merging Roofs. Feels really unusual but familiar in a very odd way. It was exciting yet it feels like it fits into the area.	Awe	I think the gas holders building design is the most successful for its creative re use of an existing structure	I am not sure which one but it is just a boring apartment block

Wheelwright-Hirth, F. (2024) 'Not so boring - How do Architects shape our emotional experience of buildings - Social experiment'. Google Drive. Unpublished.

Appendix

Not so boring - How do Architects shape our emotional experience of buildings

Dear paticipant of my experiment!

Thank you so much, that you are willing to take some time and help me with my dissertation. I do not want to tell you too much about my dissertation, because I want your raw experience and emotions.

The task is quite simple, I am asking you to go on a walk through Kings Cross, I want you to follow the route on the map, the walk should roughly take you 20 to 25 minutes. On your journey, I want you to let the buildings around you to impact you, you are a passer by, but your emotions matter, think about how they make you feel, what elements are interesting and exiting but also which ones are boring, daunting or simply just not your taste. I would appriciate, if you could take pictures of these elements. Once you have finished the walk, I would like you to answer a few questions, that will help me understand your experience a little better, please do use your photos in that step as well.

Link to the questions and photo upload:
<https://forms.gle/NwXxPvxi4FAFjBVf6>

