

How do designers bring the outside inside and restore our sense of wellbeing?

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Summary of Topic

The underlying theme of my topic is human wellbeing, as I aim to discuss how our mental health has declined due to the impact of the digital era and how designers can challenge digitalisation by applying biophilic design to interior spaces. Through the use of natural elements as a design focus, designers apply our primitive roots to installation work to enhance our wellbeing. I aim to discuss the benefits of nature and what form of biophilic design is the most successful.

Introduction

The aim of this independent inquiry is to address the issue of the declining wellness within the human race due to the rise of the digital era and how reverting to nature can help restore our wellbeing. Designers are responding to “the rapid digitalization and dematerialization occurring in our media - and technology - driven society” (Ullrich, 1999), as we discover new ways of developing a connection with our bodies and the natural world. As an aspiring designer, there is an importance for the design we input into the world to enhance wellbeing. As colour, light and nature affect us subconsciously, there is an increased importance for interior design to have a positive effect.

An interest in this topic formed after completing a project briefed with the concept of biophilic design - the theory of improving human and natural connection through design. This encouraged me to consider the design process in terms of emotional affect and sustainable longevity, further considering the definition of healthy design. My research will be placed within the context of interior design as I research how our senses interact with nature to encourage us to engage and immerse ourselves within the lived world rather than a digital vortex, as despite the increase of the digital age to connect us further, a complex paradox has been formed as we are less connected than ever before, resulting in a rise in anxiety and stress levels.

Chapter one will discuss the effect of the digital age and the importance of our senses in experiencing the real world through key theorists such as Juhani Pallasmaa as he discusses the relationship between architecture and the senses and Richard Watson who was aware of the adverse effect of the digital age a decade

ago. Yi Fu Tuan and Constance Classen are also key theorists within this text as they support the importance of our sensory experiences. This will be discussed alongside analysis of Olafur Eliasson's installations, leading chapter two to examine how designers and interior companies such as Boss Design are currently tackling the problem and are improving our wellbeing through the use of biophilic design in public spaces through implementing plant life and blurring the boundaries between the inside and the outside.

Chapter One: The Impact of the Digital Age

The digital age has given us numerous devices in order to remain connected to the outside world as we have grown dependent on having information at our fingertips, with access to 24-hour news. Our phones, laptops and iPads act as portals to others' lives, with access to information of both friends and strangers. This escalation of the digital era has provided a lack of connection to ourselves and others, rather than the connection it was initially designed for. This creates a paradox as we accumulate more devices in order to stay engaged, however this is disconnecting us further than realised.

The Computer Addiction Center at Harvard's McLean Hospital found that "5-10% of internet users were dependent on the internet" (Watson, 2010, p. 16) almost a decade ago, with estimates that the total quantity of the world's online data doubles every two years (Brock, 2016) - a rise to coincide with its number of users, which implies that internet dependency rates are at a much higher percentage as of 2019. As the consumption of technology evolves, it consumes our mental capacity and inserts products that we accept that we need into our lives - with the subsequent distance from all real-life aspects of life. These products are seen as connective objects through their allowance of providing information instantly. We have grown so used to this that we often forget life before them and find ourselves questioning how we would have communicated with each other before their creation.

As rates of virtual communication escalate, Blyth (2009) discusses the importance of verbal communication within the home. Verbal communication allows us to establish real-life relationships with each other and as studies state that the number of digital users that communicate with someone within the home through

technology is rising, resulting in a loss of the ability to converse face to face. This is fundamental to childrens' development and can affect their communication skills in the future, as Blyth states that "the level of parental conversation in a household deeply affects the accomplishment of children outside the home many years later" (Blyth, 2009). This coincides with Thompson's research that "engagement with wild nature secures positive adult outcomes and a visit to the woodland as a child increases the number of visits made as an adult" (Barton, 2016, p. 9). Through experiencing wild nature we are taught to interact with our senses and the various natural elements, being positive life skills for adults. We are influenced by the behaviour of our parents and are more likely to learn to interact digitally rather than verbally if our parents are doing the same. Anthony (2013) discusses how the television became the first confirmation of a communal experience of digital entertainment. This lack of communication within families has been evident since the invention of the television, with families opting to eat dinner in front of the television set rather than having a conversation around the dinner table, sucked into the vortex of digital entertainment. As time progresses, this level of communication has both remained and escalated - our main difference being our individual digital assets, giving us permission to separate ourselves physically and remain entertained.

Sennett (2012) talks of our desire to spend time with loved ones but are unable to do so due to our obsession with work and technology. We often refuse to admit that it is ourselves that are holding us back and these obstacles are easily transportable as the world evolves, our human capacity expands with it. Technology mentally entraps us as society has adapted to being connected to everyone virtually, but also physically entraps us - we are frequently turned off by the idea of visiting a

place with little to no signal which confirms a loss of digital connection - little do we realise, it enforces a connection to our natural world.

Through immersion in nature, we find that our thoughts are more connected and our distractions dissolve as we put our phones down, transporting our minds to a place of deeper thought. It heightens our ability to think more broadly and considerately, disallowing the thoughts of others to interrupt and influence our own. It is thought that “our thinking is dramatically changed by our physical environment” (Watson, 2010, p. 89), with a natural environment forming our connection to the earth and providing us with a greater sense of self and personal experience - something we lack without realisation in the digital age.

Personal experiences are numbed by our daily overload of information, as we become accustomed to others’ experiences. This enforces us to believe that they are our own or that we have experienced similar events through another person. Nature recalls our senses, as a “walk through a forest is invigorating and healing due to the constant interaction of all sense modalities” (Pallasmaa, 1996), forcing us to embody a calm personal experience despite the lack of physical activity as our senses are awakened. This further supports Thompsons earlier research of why wild nature provides positive outcomes for adults. A need for a sense of calm is influenced by the mass of data that we receive daily, calling for action rather than quieter moments as we are continuously confronted by others’ action-packed lives.

“In a meta-analysis of 30 studies looking at the relationship between wellbeing measures and connectedness to nature in isolation found that connectedness was significantly related to wellbeing,” (Wyles, 2019).

Within the digital age, personal engagement and response are considered a golden feeling due to the insensitivity we feel during everyday life through screens. Wyles speaks of psychological restoration as being “exposure to natural environments that put relatively few demands on cognitive and emotional systems, to help restore these depleted resources” (Wyles, 2019). This discusses both connection and disconnection in terms of detachment from digital media and societal standards in creating a deeper connection within our sense of self. It allows us to subconsciously improve our wellness through lack of thought aided by nature, disposing of instance that may lead one to overthink, a common phrase used in response to the theme of wellbeing.

A personal attachment is difficult to decipher digitally as Watson carried out an experiment to prove which modes of communication were the most successful. This included creating a survey and calculating the number of responses in order to analyse the most successful two-way communication methods. He used calling, sending e-mails and sending handwritten letters. The latter received the most responses, therefore proving the most successful (Watson, 2010, p. 90). This is due to our emotional and physical senses as we communicate - digital devices use mainly our visual abilities, whereas handwritten letters and real-life communication feels more personal due to their tactility and engrossment of our senses within that moment. It becomes impossible to feel like another robot at the end of a string of e-mails - a mentality in which the digital era can make us become.

This tactile approach to materiality is a dynamic difference to the smooth, familiar edge of a screen. Our connections with nature run deeper than taking a walk in the woodlands, as our sense of touch creates a physical and mental stimulation. Sensory pleasure can come from “sounds of songbirds and touching fine fabrics”

(Eisenberger, 2010) - one clearly devoted from nature and the other of manmade descent, however, tactility reinforces a sense of place within ourselves.

Yi-Fu Tuan declares touch to be a delicate instrument for exploring and appreciating the world, as it is our most trusted sense which allows us to easily distinguish textures and demonstrates the heat of an object - these communicative modes are difficult to interfere with. He talks of how “we are losing touch, in the literal sense, with nature” (Classen, 2005) as adults have learnt to appreciate nature visually whereas children use their environment as an interactive tool for play and exploration. As we grow older, we learn to appreciate nature for its beauty and as children, we are often told not to touch items that are delicate or precious - this tells us that if we are not making physical contact with nature then we are making a greater effort to protect it. Despite the complexity of nature’s texture, adults refrain from interaction through either subconscious protection or a loss of knowing how to interact using basic human senses. We often enjoy windows with placating scenic views of oceans to soothe us from the interaction of daily life, registering this as interaction with nature despite only visual senses being aroused. This is the same way in which our senses are dulled whilst using technology as the screen acts as a barrier between our physical body and the information or imagery we are consuming, muting our senses yet broadcasting to our minds that we have experienced such a thing, or produced a lacklustre desire to do so.

To combat this knowledge, landscape designers often utilise nature’s range of elements to construct sensual gardens. Asian gardens are often formed using hard and soft elements, for example the “softness of running water and the hardness of limestone rocks” (Classen, 2005, p. 77). This stimulates more than our visual sense alone as textural ground provokes our sense of touch to be realized and the fluidity

of running water creates a more evident stimulation of our sense of sound. This allows the average adult to interact with the outdoors in their societally taught methods through visuals alone, but nature enforces interaction through landscape design.

Our visual sense can inform us of nature through materiality as Pallasmaa states that “natural materials - stone, brick and wood - allow our vision to penetrate their surfaces and enable us to become convinced of the veracity of the matter as natural materials express their age and history” (Pallasmaa, 1996). Through using vision as an informative tool we discover the depth of materiality in the same way our eyes allow us to calculate distance, as our pupils pierce an object rather than scan its surface. The history and age of a material can further inform us of a link with our ancestors as a connection to ourselves and humankind is an indirect connection to nature. This opposes the digital age which has created a disconnection with the world and disassociation in ourselves. With deeper focus - which is often a result of being engaged with nature - we can discover more in terms of materiality, however, when combined with other senses we can allow our body to interact with nature physically rather than visually alone.

Our awareness of our bodies roots us in our environment through providing a sense of place, often contributing to a sense of self. Marren (2018) declares that “without nature, we lose our sense of rootedness” and that “wildflowers offer an antidote to computer age neurosis”. The term neurosis battles the construct of the digital age and strives to revert to nature, a declaration of what we have lost as a community and the effects that the use of technology has on our mental wellbeing. Likewise, Pallasmaa expresses concern for future generations as he questions “Has modernity divorced us from our sense of belonging to the cosmos?” (Pallasmaa,

2016). This speaks more scientifically as our partnership with our environment is considered a biological marriage that we are slowly departing from, resulting in a divorce from the entirety of the universe, not simply nature itself. Through this departure we lose much more than our immediate senses and interaction with nature but our awareness of the self due to our anatomical roots. The discussion of our rootedness explains a sense of being from Marren's perspective, however, is a structural term in Merleau-Ponty's view. He sees the body as a 'subject' within the world, stating that "the subject I am is inseparable from this body and this world" (Merleau-Ponty, 2002), displaying an understanding of being in the world rather than on it. This demonstrates the reciprocal relationship between the body as a subject and its connection with the world to show that they are not two separate systems, but interwoven as one natural structure, sharing the same essence of being.

Pallasmaa (2016) quotes Frank Lloyd Wright who emphasizes the importance of our atmospherical surroundings, who supports Pallasmaa's theory of a sixth sense being environmentally influenced - our atmosphere and mood. Wright states that "whether people are conscious of it or not, they actually derive countenance and sustenance from the 'atmosphere' of the things they live in or with" (Pallasmaa, 2016, p. 127). He compares our atmospherical importance to that of a flower, stating that humans "are rooted in them [atmosphere] just as a plant is in the soil in which its planted". This biological connection implants the importance of the relation between a sense of place and the self.

Despite a sense of self and place not being within Aristotle's five senses, they are of great human importance as several scientists believe that there are between 20 and 30 senses and not all are directly physical (Humphreys, 2017). The head of the centre for the study of the senses at the University of London, Barry Smith,

argues that there are a range of senses, one important one being perception and stability, as if we did not possess the sense of balance, our perceptual world would not function as it should (Humphreys, 2017). This would allow us to coalesce with our primitive source of nature on a much deeper level, exploring further than the confinements of simply five senses. Pallasmaa supports a wider variety of senses as he rejoices that the atmospheric sensation forms “a greater sense of belonging in nature protecting us emotionally, enhancing our wellbeing subconsciously” (Pallasmaa, 2016). Our perception of self and place results in a more refined deepened feeling: a sense of belonging.

Olafur Eliasson uses natural elements within his work to create a personal sense of belonging throughout a community within a public space, and is driven by the concept of the sense of self and perception and applies this interest to societal design (Eliasson, 2019). His latest exhibition held at the Tate Modern, ‘In Real Life’ (2019), contains a corridor of artificially made fog, a gallery of rain, a constructed waterfall and wall of moss to follow up his 2003 work titled ‘The Weather Project’, in which he encased the turbine hall with a large scale glowing sun - transporting the contents of the universe to human-viewing level.



Figure 1 | 'The Weather Project' by Olafur Eliasson, 2003

He uses the elements to replicate the ephemeral effects of nature to engage his audience with his work, despite them being unaware of becoming a part of the work themselves. I visited his 'In Real Life' exhibition and was particularly fond of 'Your Blind Passenger' which was a corridor full of coloured fog - you have to step into the corridor to experience it, forced to walk through the 295-foot long tunnel with only 1.5 metres of visibility ahead of you. As the journey continues, you are greeted with various hues of colours as you travel, your only confirmation of your movement. The exhibition blurs the boundaries of the gallery, subsequently dissolving the manmade barriers between indoors and outdoors by disorientating the participant within the artwork. It dims the participant's sight and heightens the rest of your senses in response to the natural elements.

His work is intentionally immersive and often leaves the participants mesmerised, despite using only what we already have outside - nature. Eliasson's installations are "intended to make us aware of our bodily presence" (Searle, 2019) as the intense immersion engulfs us. This relates to our sense of perception, as Ullrich states "it accepts the totality of human perception and sensation as a rich and embodied way of being in the world" (Ullrich, 1999). By bringing the outdoors indoors, he eliminates all negative aspects of nature - any danger we may feel, or temperatures we may dislike that could often discourage us from going outside. This is a strong example of how designers are trying to reconnect humanity with nature through a more innovative approach than re-creating nature through traditional drawing or painting, despite using technology to create their design. The positive response as displayed from the public (Cumming, 2019) to Eliasson's work contributes towards healthy wellbeing as we feel we have experienced a personal interaction within ourselves and our bodies. Ullrich (1999) claims that fundamentally, art is about our perception through interactive artwork as we gain an "affirmation of our physical senses" (Ullrich, 1999) and existence in this world. Our bodies are a reciprocal subject within 'The Weather Project' as Eliasson's work was the sun, however another element of the installation was the communal sense created by the artwork, completed by the audience's bodies.

In Swedish culture, they are prone to embracing outdoors and as a result are considered one of the happiest nations globally. They have designed a number of outdoor-related activities in order to ensure their nature-related needs are met all year round, believing in no such thing as 'bad weather', only the existence of 'bad clothing'. This is in response to their "constitutional right of public access to nature" (Dunne, 2017), legally having to be within a certain distance of accessible nature at

all times, and is supported by evidence that “individuals who engaged in more appreciative outdoor recreation had the highest connectivity with nature” (Wyles, 2019). They believe that nature is fundamental to our wellbeing.

Lagom is the act of consuming everything in moderation, asserting contentment to be the new meaning of happiness and to enhance wellbeing. This works within the confinements of the digital era versus natural world debate, as both are consumed within moderation in Sweden. They speak very little of bringing nature in as the rest of the world does, but more of taking ourselves outside to experience connectedness with nature.

This coincides with research found by the Global Wellness Summit in Italy, that learnt “the impact of walking in nature from Dan Buettner (2019), author of The Blue Zones, which examines the lifestyles of the world’s longest-lived people. Buettner found that these people - who live to be over 100 - have engineered movement into their daily lives” (Global Wellness Summit, 2019). Movement and daily exercise is often associated with the outdoors as a health benefit, relating to the term ‘Green Exercise’. Green exercise is a term used to describe the choice to exercise outdoors rather than at a gym (Barton, 2016) to benefit health further than physically, as fresh air and a continuous change in scenery stimulates us mentally as well as physically. Exercise provides us with a disconnect as we are focused on our movements and unable to partake in the consumption of technology, allowing time for mindfulness. Mindfulness contributes to our wellbeing through “emphasising attentiveness to reality” and “paying attention in a particular way, in the present moment and non-judgementally” (Barton, 2016, p. 7). Our attention is often spread thinly as we live with a number of growing distractions in everyday life as urban

areas are expanding at an increasing rate, rejecting any time previously used for mindfulness.

Chapter Two: Biophilic Design

Our population has grown used to living in urbanised areas with little to no nature as we create anthropogenic environments that threaten natural life, effecting our wellbeing in turn. We have neglected nature in order to create more space for us to reside in the modern home, discarding the use of smaller spaces we have deemed almost useless as a society, such as the porch. Porches are often considered places for contemplation and meaningful conversations, as writer Phillip Gulley discusses that there was a “a lustre to those talks, a certain glow... perhaps it was the parenthesis of silence, the bracketing of conversation with reflection” (Gulley, 2007). The ambience of the porch has a similar purpose as courtyards, as they “made the human-environment bonding possible in traditional housing” (Sheybani, 2018). Interstitial spaces such as the porch and courtyards had minimal technology and interaction with nature with the act of being outdoors, although condensed by buildings. Our spacial relationships have changed as courtyards form personal outdoor spaces, a luxury those living in urbanised areas do not have as garden sizes decrease to accommodate more housing developments in built-up areas. Personal outdoor spaces create a sense of belonging and subconscious intercommunication with nature.

Personalisation has grown as a trend amongst employers as they began to encourage their employees to personalise desk spaces in a bid to increase productivity and happiness within the workplace. Furniture company ‘Orangebox’ inserted a great deal of biophilic design into their offices for designers and desk workers alike, using a decoration of plants across workspaces and a projection of trees in the wind to move across their library area wall, carrying the interactive elements of nature indoors (Orangebox, 2019). The use of this immateriality within

biophilic design enhances the importance of movement for wellbeing, not only in terms of exercise but for a dynamic workplace, encouraging change and detachment from routine and static work life.

Eisenberger found that “there is a general disposition to find pleasure in pleasant nature related experiences and displeasure in unpleasant nature experiences” (Eisenberger, 2010) which allows every individual to react to nature on a personal basis, forged by particular experiences and memories, despite the societal representations of nature we have formed such as dense forests being deemed as uninviting and flowing water being perceived as soothing. General personalisation within biophilic design can be distasteful for an individual due to the various natural elements, however the same concept applied within the home can be much more successful.

Swedish design giant IKEA design for wellness to follow the concept of Lagom and consider sustainability within a design. Swedish interior decoration is often open-plan with limited colour palettes and wooden details to enhance transparency and declutter any unnecessary objects, creating a minimalistic space. Julia Branting, a home stylist specializing in Swedish interiors believes that “decluttering is key to minimizing stress” (Dunne, 2017, p.91). Primary materials used within biophilic design are natural such as wood and glass rather than a wealth of plastic items to enhance our connection to the outdoors. Pallasmaa (1996) supports the use of natural materials as he discusses how they encapsulate “subtle changes in movement and light”, therefore contributing to a buildings history to provide a multisensory connection as the materials connect us to the earth itself and those who have used the architectural space before us. The use of organic materials enhances longevity in contrast to disposable materials, allowing the historical

connection to be made as the story of the building is held within the substance. This further improves our wellbeing as we become more eco-conscious in regards to our materialistic consumption and can save ourselves from 'eco-anxiety' - a phenomenon amongst mainly millennials that addresses the "feeling of guilt and anxiety that we feel in regards to the environment" (Pleasants, 2009, p. 11). By combating our sense of eco-anxiety we develop a greater sense of place and being, allowing ourselves to become one with our roots and better our wellbeing.

Biophilic Design is a solution to our increasing population and lack of space per person. Biophilic design is described as "a concept used within the building industry to increase occupant connectivity to the natural environment through the use of direct nature, indirect nature, and space and place conditions" (Dictionary, Oxford English, n.d.). As the trend of implementing biophilic design grew in 2019, it became misinterpreted as the act of bringing plants indoors - however, there are an abundance of natural elements to consider when aiming to be successful with biophilic design such as form, materiality, imagery, colour and light. Biophilic design should be emotionally affective in order to improve wellbeing, often to replicate realistic natural elements and reflect more than plants itself - for example, the weather can be used to enhance biophilic design, encouraging a response similar to that of pathetic fallacy – "the attribution of human feelings or responses to inanimate things or animals" (Dictionary, Oxford English, n.d.). Through the use of natural elements in interior design, we create a sense of place and reconnection with ourselves and nature.

The majority of interior designs with natural components have been accomplished within very recent years, however it has been relevant for nearly a century as displayed by Aalto's fascination by natural materiality within his furniture design in 1932.



Figure 2 | Paimio Armchair by Alvar Aalto

Singular objects are often used to allow us to feel as though we are contributing to a natural environment, such as Aalto's wooden chair. Alvar Aalto's furniture design focused on organic architecture, using wood as a primary material and nature's form as inspiration. As he was "brought up amongst a stark Finnish forest landscape, he grew to consider nature unforgiving as well as nurturing" (V&A, 2019) and used this inspiration to create curvaceous forms within his works, whilst also remaining structurally modern and functional for everyday life. The sensory contact with the body through this work reconnects the user with nature, implementing biophilic elements within the home.



Figure 3 | 'The Calm Corner' by Boss Design at Crewe Train Station

Although singular design items can be seen as biophilic, they are inefficient alone. This encourages companies and designers to recreate whole rooms or homes, rather than individual sections or objects, such as Boss Design's refurbishment of Crewe's train station. Boss Design have used biophilic design in creating a 'calm corner' in the station, engrossing a room with a plethora of plant life to bring nature to life (Boss Design, 2019). They have used a grey and green colour scheme to produce a calming effect and to resemble nature, as green is often considered calming but boring - it is highly unlikely anyone will be overwhelmed or anxious by its colour properties (Curtis, 2019). This room is an embodiment of what the average person imagines whilst considering biophilic design and although this room is successful, it was specifically designed to cater to those who suffer from anxiety and other hidden disabilities. Its success is not based on the plants alone, yet is the component that draws the users in as the trend of owning plants or greenery within the modern home catapults upwards. The walls of plants used in this

renovation (figure 3) are on a large scale and greatly detailed, naturally captivating a user to look closer. It is a sensory design in that it is tactile and contains a variety of visible textures and the same smell that encapsulates the outdoors, continuously growing to conduct change and movement within an architectural space, a reminder to the viewer that the plant life is alive, as humans are alive - serving a reminder to ourselves of our own mortality. This is further supported by the theory of biophilia being the innate connection humans have with nature - a natural attraction.

Due to the emphasis of biophilic design being its benefit to our wellbeing, its often used heavily within the healthcare industry. Despite the physical benefits plants provide such as air purification and lower carbon dioxide levels, they also increase work productivity and reduce stress levels - an important factor within a stressful environment, such as a hospital.

An installation in Great Ormond Street Hospital by Jason Bruges Studio have explored further than the basic sensory aspects of visual design and the tactility of smooth materials and implemented interactive design to soothe its patients, allowing them to distract their mind and engage whilst waiting for appointments.

As a child reaches out to interact with the embedded LED lights, a silhouette of an animal glows, depicting an image of a woodland, appearing despite its invisibility before the interaction (Montgomery, 2012). Although designed specifically for children, it provides adults with a sense of calm as their child is distracted and allows them to experience positivity on their way to the operating theatre. There is evidence that within the healthcare field, “exposure to nature can result in stress relief, muscle relaxation, lower blood pressure and illness recovery” (Barton, 2016). The relay between the installation and user of the artwork highlights the importance of the use

of the body as a perceptual tool (Ullrich, 1999). The body allows us to use our senses to experience the world and is enhanced by designers creating art to enhance our awareness of our own being, an affirmation of our physical presence and visceral senses. This also relaxes us mentally as the imagery of nature allows the brain to relax and participate with organic structures through interactivity, releasing the beneficial effects of exposure to nature through design - despite being created using digital technology.



Figure 3| Interactive Wallpaper Design by Jason Bruges Studio

Similar to the Jason Bruges Studio design for Great Ormond Street Hospital, Willis Newson are a company that specialise in design for healthcare. Upon attending a lecture from Jane Willis, public art director of Willis Newson design, I found that she spoke of every aspect of biophilic design and applied it to the building in question (Willis, 2019). Her lecture focused on a palliative care unit in South Wales and the number of artists that were hired for different design components and the importance of where they are placed to indicate how a person using the space

will feel. There was great emphasis that collaboration is key amongst artists as each working context affects design differently, allowing the design to be successful as a whole, rather than as a single artwork. She reinforced the importance of sensory stimulation and connecting the patients to nature as many of them were unable to go outside, requiring the artists to blur the boundaries of the walls of the building. Primarily this was through dappled light and shadow, as Nicky Hirst was hired to create exterior glasswork that would encapsulate sunlight and pattern, encouraging it to reflect indoors and form a connection with the outside world.



Figure 4 | Nicky Hirst's work for 'Y Bwthyn'.

This both allowed the user to absorb natural sunlight and interact with the patterns inspired by wild dandelions, reminding us of the wild veracity of nature and a dynamic form of biophilic design that does not need colour and real plant life.

Although this work is primarily biophilic design, it is also experiential design as it lacks materiality and is formed through carving one of our natural assets provided by the universe - light. Despite it not being a solid object, we are aware of perceiving it and its shift in light, tone and movement. In similarity to Little Wonder's 'Liquid Sky', what is "most enjoyable about it is not the textile artefact itself, but the experience offered by the particular way in which it captures light" (Chyon, 2014). Liquid Sky is a textile piece that captures the movements and lights reflected by the ocean back into interior design, dissolving the concept of inside and outside. It's material form was not created to be complete, building an everchanging canvas by "relying on a continuous flow of dynamic energy" (Chyon, 2014) to complete its imagery. This is another example of movement for wellbeing, as new surroundings can evoke our interests despite the immateriality of the object and inability to physically grasp it.

'Liquid Sky' acts as a sheer wall to capture the Australian landscape and transfer it to cloth, despite the cloth itself being devoid of imagery if removed from the space.



Figure 6 | 'Liquid Sky' by Little Wonder, 2008

However, Paterson (2017) discusses the “concentration of the interplay of light from surfaces, interpreted by Le Corbusier as producing unambiguous, distinct, optically delineated forms, would only seem to further the ocularcentric approach to the design of buildings”.

The use of the term ocularcentric describes the reliance on our visual senses alone, portraying vision as a primary sense in comparison to the other senses. Installations

previously discussed such as the interactive wall at Great Ormond Street Hospital which uses touch as a fundamental sense to heighten the bodily experience contrasts against Le Corbusier's theory of ocularcentrism as it uses the visual sense as a secondary receptor, as the wall is felt to bring the installation to life and the optical sense used as a confirmation of the interactivity within the design.

Willis also discussed the benefits of bringing art into an emotional environment, as it is a form of identity and humanising cold bare walls. The artwork allows us to connect with an inanimate object and reconnect with our senses and growing awareness of an embodied, subjective experience in contrast to the clinical white walls it would have been without considered decoration. It also creates a focal point and viable distraction for those visiting patients, in the in-between moments that are catering for their emotions whilst visiting a loved one. Highly detailed wall coverings and artworks allow us to study work intensely, finding mind-numbing pleasure in distracting us away from anxieties and worries. Artwork can also provide a conversation opener for encounters in waiting areas, where more often than not families are encompassed with a low feeling of hopelessness in thought of their loved one. Newson (2019) spoke highly of the importance of designing not only for the patients, but those visiting them and hospital staff and that throughout each commission her business takes on, nature is always the imagery requested due to the research behind its calming effects for all.

Conclusion

In conclusion, the case studies discussed demonstrate that biophilic design is more than a means of incorporating plant life into architectural spaces as designers strive to discover new ways to engage the mind and body of a person into the work, both consciously and subconsciously. The audience is encouraged to become aware of their bodily presence and wellbeing within a space, focusing on the benefits our planet carries as Boss Design's 'Calm Corner' creates an alternative space for pause - a retreat to return to our senses, a need caused by the detrimental affect of the digital age, as declared by Watson (2010). Humans are reciprocal subjects within a planet designed for consumption, yet our need for nature is fundamental to our wellbeing.

Digital technologies can be used positively as a tool for designers to blur the boundaries between the inside and outside within installations as Little Wonder and Olafur Eliasson have done. The digital age can be used to amplify our multi-sensory and bodily experiences of the world around us, rather than decrease our involvement with the environment. Eliasson's installation of 'The Weather Project' displays a positive relationship between digitalisation and nature as he discovered a way to harmonise and intertwine the benefits of both realities, rather than separate them. A more dynamic approach to the relationship between the outside and the digital age where the audience is more active within the world, rather than passive, would be beneficial to enhance engagement as shown by the interactive wallcovering in Great Ormond Street Hospital as it relieves patients.

The most immersive form of biophilic design creates the largest sensory impact and is proven to be the most successful as it stimulates our bodies further than visually alone. The importance of the sense of touch is discussed despite that the “ocular bias has never been more apparent in the art of architecture” (Pallasmaa, 1996) as Classen (2005) also agrees that in regards to the hierarchy of the senses, touch is the most powerful due to its tactility and experiential connection with the body.

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