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ARCHITECTURAL DESIGN: POSITIVE INTENTIONS WITH QUESTIONABLE RESULTS

Abstract: The atmosphere of a space is connected to the experience. Experiencing architecture is after all a rather subjective and personal matter. According to P. Zumthor, experiencing a place and trying to decide on its "success or failure" depends on a huge variety of factors. The purpose of this paper is twofold. First, to analyse and understand the concept and the design intentions of famous architects on some of their well-known projects, and second, to specify and highlight important design factors and study the gap between theory and practice based on the subjective parameter of experiencing a space. The applied methodology is a comparison study between relevant literature review and observations made during on-site visits to contemporary architectural masterpieces as case studies.

Keywords: atmosphere, experiencing architecture, architectural experience, success and failure in architecture

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Introduction

According to Albert Einstein, "failure is success in progress"; and additionally to that previous quote: "[…] anyone who has never made a mistake has never tried anything new". When these words apply to architectural design it is obvious that progress shall come only through innovative ideas and trials. The purpose of this paper is twofold: first, to analyse and understand the concept and the design intentions of famous architects on some of their well-known projects, and second, to specify and highlight important design factors and study the gap between theory and practice based on the subjective parameter of experiencing the space. The applied methodology is a comparison study between relevant literature review and observations made during on-site visits to contemporary architectural masterpieces.

The significant importance of experiencing a space

Architecture is the art of space and it is the art of time as well – between order and freedom, between following a path and discovering a path of our own, wandering, strolling being seduced (Zumthor, 2010). People experience the built environment in different ways depending on "their social, cultural and economic background but also on their psychology and disposition" (Vavili, 2009a, p. 17). An architectural experience cannot be perceived only through the visual sense. On the contrary, it has been emphasized by many theorists and architects (e.g. Juhani Pallasmaa, Peter Zumthor, Kengo Kuma, Yi-Fu Tuan) that it is understood through the eyes and experienced through the entire range of bodily senses and the physical movements of the body, "as one moves through it [space] and actively interacts with it" (Basyazici-Kulac and Ito-Alpturer, 2013, p. 168).

According to Peter Zumthor, the emotional connection between the space and the body is like an impulse or like a natural reaction. He implies that atmosphere is an aesthetic element or a quality a building can achieve. He states that good architecture should "move" him and the impression of a building can offer a basic insight into its atmosphere. In his words: "in the fraction of a second – have this feeling about it. We perceive atmosphere through our emotional sensibility – a form of perception that works incredibly quickly" (Zumthor, 2006, p. 13). It is also worth mentioning that, in his book *Atmospheres*, he stresses how people are capable of an immediate emotional response of appreciation or spontaneous rejection based on their understanding and experience of atmospheres.

The exact meaning of the term "atmosphere" is rather hard to be defined both verbally and in the design process. This happens because atmosphere is linked to time, it has a temporary effect and a subjective unique meaning for each and every one. In order to clarify its meaning in terms of architectural design, some of the elements that are related in the creation of atmosphere are the following (Stidsen et. al, 2010):

_Spatial relationships (size, distances, proportions, positions of objects);

_Functional relationships;

_Aesthetics;

_Sensory aspects (subjective – personal experiences).

Based on relevant literature, it is also stressed that an atmosphere of a place is connected to the parameter of "light", both natural and artificial (Stidsen et. al, 2010). Therefore, experiencing a place and trying to decide on its "success or failure" depends on a huge variety of factors. Zumthor's comment on the justification of the success of a building or a project is in its use. Architecture, after all, is made for use. The idea of things coming into their own and becoming coherent is what makes a successful atmosphere and therefore a successful experience.

Vitruvius had long ago (in the 9th century) defined the three necessary attributes of a successful architectural project. Useful, durable and beautiful (*utilitas*, *firmitas* and *venustas*), all of them co-existing simultaneously. Can actually these qualities be measured and evaluated under real circumstances on existing architectural projects and will the results mean the same for all users? Nowadays, there are numerous researches, evaluation toolkits, handbooks, design guidelines etc. that aim to ensure a better quality in architecture. Architecture, though, is a much more complex and interdisciplinary field and this is what makes it more challenging, demanding and beautiful at the same time.

Human scale and relationship with the environment

The perception of space (visually) is mainly based on our relationship with scale. The sense of scale is enhanced by bodily sense, primarily through haptic feedback. According to the theories of Alois Riegl (1858–1905) and his Aesthetic Model, there are three main scales at which space is experienced: near, middle and far range (Allais and Pop, 2020). Experiencing an architectural

project under the scope of its human scale suggests a secure and friendly environment. According to Gatermann (2009), "architects today, try to make the building look less severe, to construct low buildings with few floors and to ensure a human scale. The idea is an appealing structure of masses as well as an attractive façade" (pp. 38-40). The front view of a building or complex should create a unique visual impact to the viewer.

The scale of an architectural project is closely linked with its relationship with the environment, especially, if it is located in a natural setting and it is about its relationship with the natural environment. An efficient architectural project should offer the harmonic balance between built and natural environment. In terms of modern architecture, nature can be read through fractal geometry; it can be identified and visualized by dynamic hybrid forms (Gregory, 2003). These hybrid forms are very close to nature's forms. The traditional meaning of ground (as fixed, horizontal, homogeneous, etc. meant as a platform) can be also used nowadays to describe the topomorphic manifestos of an artificial/man-made topography of architecture.

In some cases, the architectural result is close to the natural meaning of ground. The material and physical act of shaping the earth through technology and innovation has opened up a realm of ideals (caves and caverns) burrowing into the land to discover new spatial experiences, unfolding the land through buildings that transform the earth into a tectonic landscape merged with architecture, the natural with the human; "new nature" landscapes can inform buildings to become architecture that wears its nature on the outside (Betsky, 2002). A representative example of a l*andscape building* (Jauslin, 2019) is the "City of Culture of Galicia" by P. Eisenman (1999-2011).

The famous architectural project is located it Santiago de Compostela in Spain. It is a cultural centre that consists of six buildings (organized in pairs of two based on their functional programs). Eisenman's unique concept is expressed through his pioneering architectural design process for this project. It is based on the unification of historical and cultural elements as part of memory of the context in combination with elements of the existing site. The final design of the project derives from the superposition of three sets of information (the street plan of the medieval centre of Santiago, a Cartesian grid laid over these medieval routes and the topography of the site) through computer 3D modelling software as a generated topological surface that repositions old and new data in a matrix, so that local culture and history would play an essential role as basic design parameters and therefore become a vital part of the ending result (Curtis, 2010). His focus was on the design process and he aimed to create a national symbol of Galicia history

and culture (Gomez-Moriana, 2010). His design intention was to create an amorphous structure that would blend in with the landscape by rising like a wave and disappear.

Fig. 1. (left) The relationship of the City of Culture of Galicia with the natural surrounding environment. (right) The absence of human scale in the circulation paths of the project. © A. Gkoutzouri (2018).

_On-site visit comments: The relationship of the project with the surrounding natural environment could be characterized as invasive. Although it has curvy slopes that imitate earth-like hilltops, its massive volume and the applied stone cladding on it give an intrusive and hostile - to the surrounding environment - first impression, rather than homogeneously blending in with it (Fig. 1). At a closer look, the complex of the buildings as a whole is striking; this is mainly because of its vast analogies and enormous size; but the human scale of the project was absent. The high rise of the buildings (e.g. the Performing Arts building is 42.5 meters high) in combination with the narrow width of the paths (in between voids) give a feeling of intimidation when walking through them.

Adjusting to local climate and orientation

Since the beginning of time and the primitive man-made constructions, climate conditions have been a significant factor for adapting architecture to it. Local climate, orientation and wind direction are determinant parameters for the architectural synthesis (Vavili & Dova, 2009). Especially now,

attention to local climate condition is more relevant and needed than ever before because the consequences of climate change are starting to be more obvious.

The recent term "climate responsive architecture" describes an architectural approach that focuses on designing energy-efficient buildings uniquely suited to the climate in which they are constructed (Biro, 2023). Climate responsive designs are based on local weather conditions by taking into account seasonality, natural shading, humidity, and annual rainfall. This approach recognizes that the local climatic and geographic characteristics of a region must be considered when designing efficient and resilient structures (Biro, 2023). Climate responsive architectural projects work with the local climate to provide comfort to users with the least possible amount of energy expenses. This design approach is also crucial in urban planning because of the increasing frequency of severe weather events linked to climate change.

Given the long lifetime and high cost of the built environment, it is imperative to plan for and create communities and public spaces that are robust in the face of climate change. New developments must be designed to cope with future rather than historical climates (Shaw et al., 2007). Also, small scale interventions in existing public spaces (e.g. urban squares) that are strategically located within the urban fabric can drive change on the large scale by transforming the urban context and strengthening the city's resilience to climate change impacts (Sitzoglou, 2022). In total, urban public spaces are of great importance to the city and can play an essential role in challenging demands for climate change adaption.

A relatively recent project of great meaning and deep symbolism is the re-design of "Eleftheria square" in Nicosia (Cyprus) by Zaha Hadid (2005-2021). The project's main objective was the transformation of an unused public area in the centre of Nicosia city, which had been negatively marked by the painful and cruel history of the island (the city is still split in half since the Turkish invasion of 1974). Hadid's architectural concept in this project centres on the meaning of "unification" on multiple levels both metaphorically and literally. The main objectives of the redesign were to weave together Nicosia's rich history with an unwavering optimism for the future, transform the urban square into an important gateway to the old city, to bridge the Venetian Wall and the dried moat of the area, and to enable city streets for further pedestrianization in order to enhance the urban realm of this historic district (Fig. 2). New public gardens and plazas were introduced to be enjoyed by residents and visitors, connecting the upper level of the city and the lower level of the moat, etc.

Fig. 2. Elefhteria Square in Nicosia: the local climate conditions (humidity, sun and 42°C, at 12:30 p.m. in July 2023), in combination with the choices of the materials and the total absence of shade made it impossible and unbearable to walk through the urban plaza. The absence of human presence in the photos is a confirmation of the questionable results of the project. © A. Kyrkou (2023).

_On-site visit comments: The fluidity of the design and the aesthetics of Zaha's characteristic design vocabulary have created an urban public space of exceptional beauty. Unfortunately, though the local climate conditions (humidity, sun, high temperature and lack of wind) in combination with the material choices that absorbed and emitted all the heat, made the visit of the square and walking through it almost impossible. The absence of human presence (Fig. 2) until the sunset, especially during summer time, stresses the need for small scale interventions in order to adapt to the local climate.

The Holistic approaches of "health" and the design of healing environment

"Health" is defined by WHO as the state of complete physical, mental and social well-being, not merely the absence of disease or infirmity. Under this more positive and broader definition of health, in the last decades, a more holistic approach of health and well-being gained ground. As it is obvious, even from its definition, the emphasis is on the presence of well-being rather than the absence of illness (Steemers, 2021). The relationship between architecture and health has historically received little attention, beyond the design requirements of healthy buildings. Recent work changed this and established a more holistic awareness of the role of architecture in health (Steemers, 2021). From the same perspective, the term "hospital" gained a more positive connotation in recent decades; according to relevant

literature, “a hospital it is not a place for sickness and sick people but rather a place for health and recreation” (Vavili, 2019, p. 27). Architecture and the built environment are now closely linked to these perspectives and ideas. Terms such as: healthy buildings, healthy cities, healthy public spaces, etc. are design goals for a healthier and more sustainable future.

It was in the 1980s when the environmental psychologist R. Ulrich developed the theory of psychologically supportive design and studied the link between the built environment and the psychology of the users (especially in hospital settings). The term “healing environment” was defined by Ulrich (1984) at one of his comparative studies in which he highlighted the importance of the natural views from a patient’s bed and the value of the hospital environment with the presence of natural elements (in particular it was about window with a view of a tree). Specifically, for children, the inclusion of natural elements is very crucial as they positively affect their psychology during the hospitalization and offer a feeling of security (Ulrich, 1984). This serves as a bond to the external world for a child’s psychology, reminding them of life before their hospital admission.

It is not only the inclusion of natural elements in the design of healthcare facilities that can introduce a healing environment; their design is actually more complicated compared to adult hospitals, due to the children’s unique needs and their fragile psychological balance. Ideally, a children’s hospital should “[…] give a sense of discovery and detail, it should stimulate the senses, it should encourage movement, it should have the elements of whimsy, humor and variety” (Cleper-Borkovi, 2009, p. 54). In architectural terms, modern healthcare facilities for children use the basic elements of design (such as exterior design, façades, natural environment, scale, colors, materials, light and shadows, movement and orientation) in an innovative and creative way along with the newest technological findings (Vavili, 2009b). Regarding the healthcare environment architecture, design, art, technology and ecology combined all together can create the exceptional circumstances for a child’s healing process and promote his well-being (Paraskeva, 2009).

Briefly, some basic characteristics of the healing environment are described by a design that:

_Offers contact/unification with the exterior environment (large openings for views or gardens, small parks, healing gardens, etc.);

_Inspires security and tranquility;

_Stimulates children’s interests;

_Includes elements that are used as positive distractions (e.g. nature, technology, art, etc.);

_Offers pleasant/interesting views (e.g. especially views of nature).

Many modern examples of healthcare facilities follow successfully some of these design guidelines. According to relevant literature, the front view of a building or complex should create a unique visual impact to the viewer; after all it is the first impression. The exterior (façade and volume) of a children's healthcare facility is of great importance as what children experience at the front door of a hospital will color the impression of their entire stay (Mead, 2005). An example that is worth mentioning at this point is the Basel University Children's hospital in Switzerland, by Stump and Schibli ArhciteKten (2013). The innovative façade of the children's hospital aims to function as a positive distraction for children who approach or pass by the hospital building. Due to the multiple layers of a special film, the façade of the children's hospital changes colours depending on the natural light angle and the point of view (Fig. 3). This subjective interaction creates a unique experience and it is considered to be a positive distraction for children.

Fig. 3. The changing colour façade at University Children's Hospital in Basel works as a positive distraction for children, turning the hospital building into a familiar city landmark building, but at the same time it works as a negative distraction for the drivers. © A. Kyrkou (2014).

_On-site visit comments: Indeed this unique facade works as an interactive element for anyone who approaches the hospital building. Depending on the amount, the angle of the natural light and the point of

> view the changing colors turn the building into an interactive landmark for the city. Unfortunately, this interaction is also valid for the drivers who pass by. From the on-site visit and interviews it was noted that this interactive façade works as a distraction for the drivers in a negative way as their attention is also captured by the façade.

There are many examples of healthcare facilities that use art in all of its forms (fine arts, music, theatre, etc.), in order to encourage the psychology of patients and positively affect the healing process. Many studies and opinion surveys have proved that visual and performing arts contribute to changes of mood and easing of stress levels (Vavili, 2009a). The choice of the artworks, their adequacy and their installation should be a part of the designing process. The appropriate configuration of spaces with artworks would give a better result. Another exceptional example of modern children hospital where there is much attention given in the creation of healing environment is the Great Ormond Street Hospital (GOSH), in London. In this case study, the inclusion of arts within the hospital environment plays a vital role. All the artwork is very carefully chosen, as there is an arts program in the hospital (since 2006), in order to create a welcoming environment and offer opportunities to commit for communities in and around the hospital.

A very special artwork at GOSH is an interactive wall art installation by Jeff Bruges' studio entitled "Nature Trail" (2013). According to the artist, the main aim of this artwork is

> [...] to improve the quality of the experience for patients on their way to the operating theatre, by creating a calming yet engaging route on the way to the anaesthetic room. Along the journey to theatre we have installed a nature trail with forest-like wallpaper, which houses a range of woodland creatures. Motion sensors and digital panels located behind the wallpaper will reveal creatures including deer, hedgehogs and birds who accompany them on their journey along the theatres corridor and into the anaesthetic room. This installation provides a calming distraction along the route to theatre. (Nature Trail, n.d.)

The concept of the work was based on viewing the hospital walls as a natural canvas for a digital forest, with scenes depicting various "forest creatures" (Fig. 4). It has essentially two main elements: integrated LED panels and graphic wallpaper. The LED panels (72000 LEDs) are embedded into the wall surface at various heights in order to be accessible to the eye levels and positions of patients moving along the corridors.

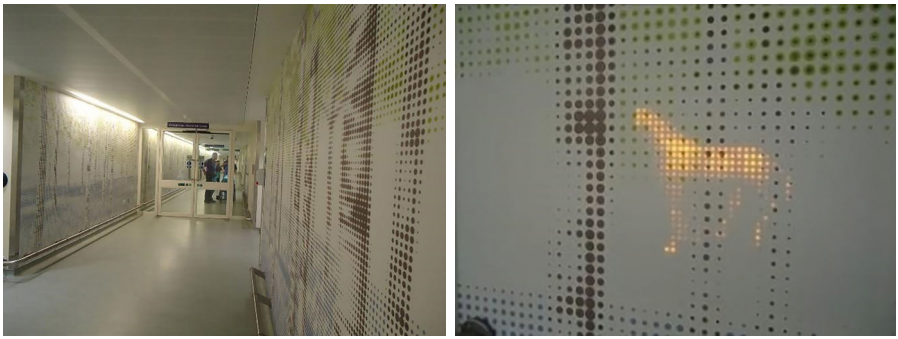

Fig. 4. Interactive Wall, Art installation at Great Ormond Street Hospital, by Jason Bruges studio (2013). Choice of the wrong location for the art installation cancels all the positive intentions of the artist. © A. Kyrkou (2015).

_On-site visit comments: It was noted that the relatively narrow width of corridor is not enough for the viewer to follow the movement of the light shaped animals. Doctors and nurses through their interviews highlighted that there is no actual interaction between the young patients and the walls as they were always on carriers or in wheelchairs and at most times all the patients were almost sedated. Apart from that, the maintenance of the installation is too expensive and needed too often mainly because of its lack of durability facing the use of the space (patient carriers often hit the walls). Although the artist's intention is excellent in many ways, the choice of the location for the installation is definitely wrong.

Beauty in architecture

P. Zumthor (2010), in his book *Thinking Architecture*, states that beauty is at its most intense when it is born out of absence. After experiencing beauty in architecture, it is then possible to long for it and miss it. There are many examples in the built environment that can trigger these feelings when experienced. Regardless of their main purpose and the architect's original design intention, beauty within a space is the proof that architecture can become pure poetry (Fig. 5). Martin Walser stresses about beauty that the more we miss something, the more beautiful that which we have to mobilize in order to endure absence may become (as cited in Zumthor, 2010). Sometimes, a single ray of natural light in to a dark space, a clear shape or a harmonious form in all of its simplicity can become the centre of attention.

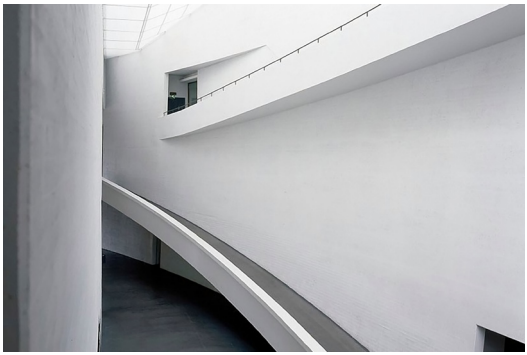

Fig. 5. Is there such a thing as “too much” beauty within a space? The Guggenheim (left) and the Kiasma museum (right). © A. Kyrkou (2008, 2019).

_On-site visit comments: Both Solomon R. Guggenheim museum by Frank Lloyd Wright in New York and Kiasma museum by Steven Holl in Helsinki are two incomparable examples in which the beauty of a space - and therefore the beauty of architecture - becomes superior to their original purpose. Experiencing the harmonious forms, the coherence of the space, the continuity of the layout, and the walkthrough visit procedure - in a way - diminished the importance of the exhibits, in total, though it is the uniqueness and the value of this exact experience.

Conclusions

As theory differs from practice, original design intentions to ending results sometimes have gaps between them. Architecture is a combination of numerous factors and its beauty and success are justified through time. A single idea, an innovative concept or a design gesture can define and change so much in the built environment and therefore in people’s behaviour. Architecture has proven that it shapes the future and that is, after all, its greatest power.

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