User Health from Wellbeing to Wonder

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What is the point of architecture if it does not meet the needs of the users? This has been my main question throughout my studies of architecture and interior design. As designers, it is our job to protect the users' health, safety, and welfare (CIDQ, 2019). However, welfare has many meanings, most commonly wellbeing. Wellbeing of building occupants is everything from physical health, mental health, and emotional health to engagement, interest, and awe.

The WELL Building Standard addresses all areas of health in an outstanding way. Their mission was to create a standard for building that is evidence-based, verifiable by other organizations, implementable, and are always looking for outside input (WELL, 2021). They live by the principles of equity, globally achievable, evidence-based, technically robust, customer-focused, and resilience (WELL, 2021). Buildings can achieve this in the areas of air, water, nourishment, light, movement, thermal comfort, sound, materials, mind, and community. Many of these areas have to do with what is built, but the areas, or concepts as WELL calls them, of nourishment, movement, mind, and community are solely focused on creating environments for the users to promote the users in their work, play, or visit to the space.

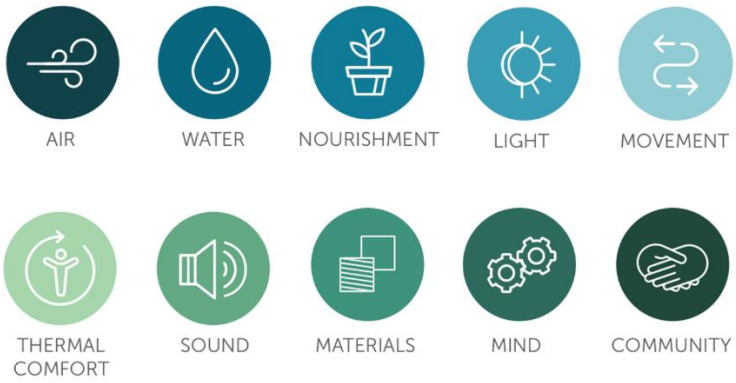

Figure 1: The 10 Concepts from WELL v2 - Picture; sourced from WELL

The WELL Building Standard aligns beautifully with William McDonough's theory of sustainability and presentation of the Hannover Principles in "Design, Ecology, Ethics, and the Making of Things" (Nesbitt, 2008). While traditionally McDonough has been more aligned with LEED, another green building standard, his ideals align with WELL especially in the principles of recognizing interdependence, accepting design responsibility, understanding limitations of design, and seeking improvement by sharing knowledge.

William McDonough is a pioneer of sustainable design and revolutionized the way designers think about sustainability in his essay "Design, Ecology, Ethics, and the Making of Things" and his Hannover Principles presented at the Earth Summit in 1992 (Nesbitt, 2008). The theory set up in these writings is giving back to nature what we take from it and focusing on nature as a mentor or model rather than something to be controlled. Ultimately, this theory creates purpose in design to sustain the future and give back not only to the community, but to the environment.

McDonough discovered buildings are toxic to humans, other species, and the environment when told by one client the firm would be sued if any employees got sick from indoor air quality (Nesbitt, 2008).

McDonough faced the challenge and worked with manufacturers to create more sustainable practices. From this challenge, McDonough developed three characteristics we can learn from natural design- everything we need to work with is already here, energy should be continuous and function on “current income”, and biodiversity sustains the system (Nesbitt, 2008).

McDonough became well-known from his sustainable design practices and was asked to create a set of principles to design by. These became known as the Hannover Principles: insist on rights to coexist with nature, recognize interdependence, respect spirit and matter relations, accept design responsibility, create safe long-term objects, eliminate the concept of waste, rely on natural energy, understand limitations of design, and seek improvement by sharing knowledge (Nesbitt, 2008).

Figure 2: Sustainable Development Matrix and Hanover Principles - Diagram; sourced from ioannouolga

The Ford River Rouge plant is a fantastic example of McDonough practicing what he preaches. McDonough and his firm redesigned the landscape architecture of the plant as well as the Ford Truck Plant. There was a focus on rainwater and green roofs. The rainwater is collected on the green roofs and then channeled into the nearby Rouge River. The collected rainwater is also used to help with the green area irrigation. The system was created to rely on the landscape existing infrastructure to use minimum piping resulting in a cost of less than one-third of conventional practices (McDonough and Partners, 2020). The green roof was revolutionary for the time at 10.5 acres. In 2010, a study was done to measure how sustainable the green roof system truly was. It was found that the mats used were healthy and thriving. Thirteen of the fifteen original species were thriving and had 93-98% coverage on the green roof system (Greenroofs, 2020).

The sustainable theory developed by McDonough is evident in the Ford River Rouge plant. Biodiversity was the main focus of the green roof system to bring back wildlife into the area and give back landscape they had taken away when first creating the plant. The design coexists with nature and is all about promoting interdependence with the wildlife as well as the environmental rainfall. The analysis a decade later demonstrates long-term object safety and has nearly eliminated the concept of waste. While many still believe sustainable buildings are not worth the effort, money, or time, McDonough proves this is truly the best practice and is a responsibility for all designers.

Figure 3: Ford Power Plant Sustainability - Diagram; sourced from McDonough and Partners

While holistic health is incredibly important, the second half of wellbeing, which is engagement, interest, and awe is as equally important. These three areas can be promoted through experiential design. Currently, experiential architecture (XA) and user experience (UX) research exists, but it is minimal, which leads one to believe it is a relatively new area of study. Experiential design in the digital world has exploded recently, but there is relatively nothing about experiential design in physical spaces.

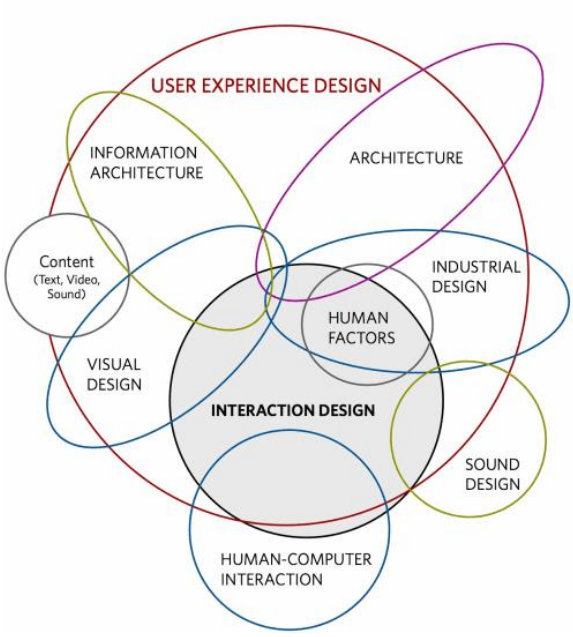

Figure 4: User Experience - Diagram; sourced from Babich

However, Michael Graves seemed to be onto something when writing “A Case for Figurative Architecture”. His theory shows people the beauty and proportion that can be created using architecture and also allows users to connect what they see to things they have interacted with in the past (Nesbitt, 2008). Graves argues for the importance of humanistic architecture to create a poetic language that is relatable to a culture. His theory is taking standard, internal components of architecture and combining it with poetic, external components that allow identity for human beings and their personal cultures.

Graves recognizes the importance of balance within the technical necessity of architecture and the poetic external connection architecture can provide. The external provides resonance of man and nature that then allows associations between natural phenomenon and anthropomorphic allusions. In his essay, he compares a column to a man and a soffit to the celestial realm (Nesbitt, 2008). He argues that without these connections, users will develop a feeling of alienation. There is a figural necessity in each element of design which will lead to architecture as a whole.

Figure 5: Anthropomorphic allusions example from St. Coletta of Greater Washington - Picture; sourced from St. Coletta of Greater Washington

St. Coletta of Greater Washington is a special needs charter school designed for the specific culture it facilitates. Anthropomorphic images are clearly seen in the five main architectural “houses” through imagery of faces, eyes, mouths, and in one case, ears. These houses also display diversity among the students attending the schools. The building was clearly designed for the human scale, and combined with the bright colors, achieves the welcoming vibe that was sought after. Another figurative symbol found in the architecture is that of entrance. The cream and red façade of the entrance building reminds the students and teachers alike of building blocks that are also a metaphor for the school curriculum, further tying the bond between culture and architecture (Michael Graves, 2019). Skylights and bright colors further add to the playfulness of the culture the building was designed for and allows the users to create a connection with the architecture.

Figure 6: Building blocks allusion at St. Coletta of Greater Washington - Picture; sourced from Sveiven

Coincidentally enough, Graves was working on this building when he became ill and was left partially paralyzed and confined to a wheelchair. John Diebboll, a partner on the project, said this gave Graves greater insight and connection to the needs of the users (Sveiven, 2010). This building is a clear example of the figurative theory developed by Graves and how architecture can create a connection to the people occupying it. Drawing from past experiences connected people to this new space and encouraged them to return. Experiential design takes this a few steps further by prioritizing interactions, creating emotional connections (like Graves did), and demanding engagement with the space itself.

My view of design has come from my understanding of what it means to value life and inspire others to be creative and be in wonder of the world around them. Prioritizing users is the only way to create effective architecture and can be done in ways that promote health while also emphasizing design, creativity, and engagement.

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