Human Experience

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What is the relationship between the built environment and its living occupants? How do the surfaces, the geometry, the movement, and the site of a structure affect the mood, thought processes, and underlying physiology of the human creature enmeshed in such settings?

Sentient Chamber offers a potent environment to explore these questions and assess the impact on human experience. Here the interaction of occupants within a near-living architectural test-bed is observed as a set of relationships that influence our cognitive, psychological and physiological conditions. Sentient Chamber presents a built environment that is moving closer to how humans experience the natural world. In this sense it provides an important context for investigating the triggers that evoke similar reaction to that of experiencing nature.

This interest is grounded in the belief that boundaries between subject and object are permeable and the entirety of human experience relies on grasping the complexities of context. In other words, in order to see inside the mind and understand mental processes, it is necessary to include conditions that matters to a normal functioning brain.

There is a seamless system of interaction between the individual’s inner physiology and mental state and their surroundings. Thus the outside is of critical importance to what manifests inside as our human experience. Individuals react to the perceptual qualities of a setting and their reactions influence the organization and meaning of the setting. People respond to architectural elements by the patterns of their gaze, the sounds of their voices, and the movements of their feet. This swirl of biological activity can transform the site itself while simultaneously being transformed by the site.

Studies conducted in both real world settings and simulations in virtual reality, offer some simple predictions about how the formal appearances of complex spaces influence visitor reactions. Using careful spatial analyses based on measurements of complex space, it becomes possible to illustrate the fit between the raw design of a space and the activities, feelings and impressions of those within it. An impressive finding was the degree to which meaning of a space is conditioned less by the location of the walls, ceilings, and windows and more by human activity and interaction. The data stream that is collected from individuals within such settings reflects the operation of complex synergistic relationships between person and place.
Experiments within environments such as Sentient Chamber often include equipping the participants with some simple technology that is designed to probe the state of their minds and bodies while they experience the space. Wanderers carry smart phones that are programmed both to ask them simple questions about their surroundings but also to administer some rapid on-the-spot cognitive tests that tap their cognitive resources—their ability to pay attention and to use their short-term memory. In addition to this, participants wear devices that measure skin conductance (a simple value that gives some insight into the state of their autonomic nervous system). Consumer-grade devices are also used to measure some simple EEG values and the occurrence of eye blinks. This latter measure can be used as a proxy measure of cognitive effort—when we are turning our attention inward to process a scene, our rate of blinking increases.

Experiments conducted thus far reveal some important commonalities in how people respond to variability in the environment. It has been illustrated that complex built spaces produce higher levels of arousal, higher rates of blinking (suggesting increased cognitive processing) and positive affect. In contrast spaces of nature reduce levels of physiological arousal (as measured using skin conductance) but in this case also elicit a strong positive affective response. This interaction between bodily responses and self-reported affective responses suggests that it is important to employ a wide range of different kinds of measures in order to completely fractionate the human response to a setting.

Sentient Chamber offers compelling experiences in forming the relationship between site, structure and human psychological responses. The interactive structures designed as a part of the installation offer a potent context for further exploration of the relationships between the human body and mind and its setting.

On one level, understanding the aesthetic response to the mere appearance of the structures is itself fertile territory. In some ways, the raw appearance of the structures share many properties with the features of natural environments that have been shown by many to be deeply restorative. This effect, though widely documented, is poorly understood. What are the key ingredients of natural settings that produce healthful responses from visitors so dramatic that they can change patterns of brain activity, hormonal states, and even vulnerability to disease? And how much of this effect can be produced by something other than a natural setting?
At a deeper level, it is about understanding the relationship between the response of a visitor to such a structure and the concordant response of the structure itself. There is much to be learned here about the manner in which the dynamic response of a setting to the movements and feelings of an observer feeds back to the feeling state of the observer. In a way, this is not novel. Conventional built settings show the accreted marks of human interaction through their patterns of wear and modification over time, and these marks in turn influence how we respond to an environment. But such marks represent the massed influence of many users over a long period of time and so can rarely reflect individual responses. In a way, such modifications represent a long-term average response rather than an instantaneous one. The opportunity to understand such relationships using a setting that listens and then immediately speaks a reply to an individual observer provides a novel opportunity to dig more deeply into the interactive relationship between a setting and a visitor. It resonates with the conviction that the subject-object divide of most conventional experimental psychology is artificial, oversimplified and deceptive, and it provides us with an opportunity to explore what this means in a tractable, scaled physical system.

More subtly, the interest is in how the interacting system of human and sculpture might be used to explore the way that their linkages emerge over time to reflect memories of the history of their interactions. Is there a shared memory? If so, such memories far transcend the mute, passive relationships between occupant and conventional architecture. For one thing, these relationships might reflect both the mass of experiences accumulated by the sculpture but also the individuated experiences of single identified occupants.

Finally, possibilities for generating therapeutic relationships between occupant and structure can be found within Sentient Chamber as a fundamental opportunity. If a structure can learn the habits, moods, and “pathologies” of a visitor who makes repeated visits, can such visits be considered as a form of therapy? Can a structure heal a person? Or slightly more perversely and with a nod to some more dystopian visions of such relationships in narratives in literature and the other arts, will the structure itself develop pathological systems of responses that mirror those of its occupants?
The vital conditions offered by Sentient Chamber recognizes the profound impact of the environment on human experience. The process of speaking of these conditions calls for the development of proper language to characterize the synergistic relationship between person and the other elements of an interacting system. Avoiding the subject-object divide seems imperative, yet what terminology will capture the life that exists between the two when even the word between itself belies what seems to be wrongful thinking about the problem. New methods of both description and analysis will constitute an important part of the ongoing investigation into vivid spatial environments such as Sentient Chamber. Working towards better understanding human experience within living architecture systems will provide the vocabulary and tools both to look backwards with deeper understanding at the perennial relationship between human and built structure but also to look forward into a future where evolved biological structure, physical invention, and a lived universe teeming with data streams will coalesce into a healthful, sustainable and beautiful new way of thinking about all life—both natural and synthetic.
COLIN ELLARD is interested in how the organization and appearance of natural and built spaces affects movement, wayfinding, emotion and physiology. His approach to these questions is strongly multidisciplinary and is informed by collaborations with architects, artists, planners, and health professionals. His current studies include investigations of the psychology of residential design, wayfinding at the urban scale, restorative effects of exposure to natural settings, and comparative studies of defensive responses. His research methods include both field investigations and studies of human behaviour in immersive virtual environments.