

## Surrounding architecture

Architecture, as a discipline, resists being defined. It is a discipline that has always drawn on developments from “outside” itself: from art, culture and technology. Yet, it is also possible to define such territories as existing “inside” the definition of architecture. Perhaps the only definition that is always true is that it is a discipline that constantly asks itself what it is. To borrow from Cortázar, “the hardest thing is to surround it ...” With the pace of change currently seen in cultural and technological territories, however, it is likely that architecture will be unable to keep up with such changes. A possible solution to this is seen in what might be called “new media architecture” practices that draw on experiences in science, art and technology to research phenomena that are fundamental to architecture.

*The hardest thing is to surround it, to fix its limit where it fades into the penumbra along its edge. To choose it from among the others, to separate it from the light that all shadows secretly, dangerously, breathe. To begin to dress it casually, not moving too much, not frightening or dissolving it: this is the initial operation where nothingness lies in every move ... To all these it will consent in momentary ignorance ... but suddenly it will become troubled ... It will repulse the gesture that seeks to crown it with a long blonde wig (that trembling halo around a nonexistent face!) ...*

*Julio Cortázar, To Dress a Shadow<sup>1</sup>*

Every generation seeks to redefine the boundaries of “architecture”. This is not surprising, for it is a discipline which constantly borrows territory, physical and philosophical, from so many other disciplines. As such, its boundaries and limits will always be blurred, fluctuating and subjective, drawing on developments in culture, the arts and sciences. However, architecture has always asked itself what it is and it is in a particularly interesting predicament at the moment because it is generally failing to keep up with the pace of technological and societal change. It has largely become a design phenomenon that responds solely to existing conditions, as opposed to a practice that imagines possible futures.

This is partly because most advanced architectural work (in the sense of “the design of space”) is these days produced by non-architects. On one hand, technologists at places like MIT Media Lab are developing responsive systems that allow people to interface with their spaces, for example through projection walls, remote devices and ‘intelligent’ sensors. On the other hand, it is often property developers who instigate technological development for economic reasons, by increasing efficiency or decreasing cost in construction techniques.<sup>2</sup>

Even in architect-designed environments, technological developments throw into question the very role of the architect, because user- and environmentally-responsive mechanisms allow people themselves to take prime position in configuring (that is, designing) their own spaces. At the simplest end of the spectrum, a thermostat regulates temperature according to inhabitants’ requirements; at the other, systems that allow for changing colour, texture, layout and transparency of walls suggest a circular process of “conversation” with one’s environment, a conversation in which architects no longer have priority in defining the boundaries of people’s movements and desires. Developments such as wearable computing, mobile connectivity, contextual awareness and RFID systems have transformed both the use and the design of space. These systems are explicitly spatial: they arise out of concerns for the movements and actions of people in space and they suggest a model of spatial design (and by extension architecture) that employs interaction systems to create frameworks of spatial experience.

The territory of such architecture is ambiguous because people themselves interpret, appropriate, design and reuse spaces within their own frames of logic. Such an architecture

does not exist without people to inhabit, occupy, perceive, interact or converse with it. These inhabitants “design” their own environments. The resulting spaces don’t merely enable people to develop their own ways of responding, they are actually enriched by them doing so. As people become architects of their own spaces (through use of the spaces) the word “architecture” ceases to be a noun: instead it becomes a verb. Such an architecture is explicitly dynamic, a shift that opens up a wealth of poetic possibilities for designers of space.

Meanwhile, it has been people operating within the constantly fluctuating territories of new media art who have had a particular opportunity to challenge the boundaries of space design and, by extension, architectural design. They have explored the changing nature of the relationship of people to their environments, manifested in tangible, feasible, built projects.

Such explorations have taken two distinct approaches. The first has been to look at what might be called “softspace” technologies: systems that incorporate the ephemeral qualities of architecture including smell, sound, light, heat and electromagnetic fields. This approach has concentrated on the interactions that make up our experience of space and has proposed systems to affect these interactions. It has also explored the psychology of spatial perception, helping to expand the boundaries of those perceptions.<sup>3</sup>

The second approach has been to investigate how people operate within such environments. Movements in art that challenge accepted dichotomies between performers and audience have parallels in spatial investigations that challenge the distinctions between architects and occupants. These investigations propose new models for environmental design based on systems that welcome the active participation of people operating within those systems, informed by the ways that culture provides frameworks for social interaction. They have considered the notion of “user as designer” and have suggested architectural choreographies and control structures that are improved by participants’ contributions. They have also adopted familiar psychogeographical techniques in new propositional ways.<sup>4</sup>

Together, these two approaches confront our relationship to designed space because they encourage us to think not of static silent structures that surround us but rather of fluid, transient, dynamic systems within which we are all consumers and all contributors. So how, then, do we determine the difference between “architecture” and “non-architecture” and reconcile the design of space with the contemporary condition? How do we “dress” its “shadows” without “repulsing the gesture”? A clue is, of course, that architecture resists all attempts to give it a rigid definition—it thrives on its penumbral condition and it should recognise its ongoing ephemerality. Yet, architects often have a desire for permanence and have tended to remain confined either to the requirements of economically-motivated clients or to the boundaries of paper and perspex. In an age where we are approaching the design of what industrial design theorist Anthony Dunne has called “post-optimal objects” (i.e. objects one designs once practicality and functionality can be taken for granted) “the most difficult challenges for designers of electronic objects now lie not in technical and semiotic functionality, where optimal levels of performance are already attainable, but in the realms of metaphysics, poetry and aesthetics where little research has been carried out.”<sup>5</sup>

If we assume that technology systems in architecture could deal with the practical and functional requirements of constructed spaces, then the beauty in design comes from the poetries of those who use/implement/remake it. It is this territory that technologists have failed to deal with. In striving for efficiency, convenience, bandwidth and predictability, most computer-engineer-focused architectural technology research has avoided the “delight” of architecture. Projects like Bill Gates’ mansion (where occupant-tracking mechanisms allow for programming rooms according to who is in them), time-management systems that ensure we catch the bus on time, or sun-tracking louvres that control temperature levels inside a

building are fine engineering solutions, but they miss out on the real joys of architecture that arise from the poetics of interaction. Firmness, commodity and delight ...<sup>6</sup>

Taking Gordon Pask's words out of context, one can imagine an architecture that "interprets, intends and anticipates"<sup>7</sup> and one can accept that such an approach might be more productive than current attempts to create architectural systems that simply respond to stimuli. However, concepts behind designing "intelligent" spaces are accompanied by further ramifications. Just as conversation with other intelligent human beings can be either enjoyable or not, so too would conversations with intelligent spaces: there is no guarantee that we will appreciate what we discuss! It remains to be seen whether we prefer the captivating moments created by spaces that have moods and aspirations or whether we prefer the predictable "conversations" we have with ordinary light switches, which can be considered intelligent but very amenable devices.

This is where architects can best participate in spatial design research because their expertise lies in designing spatial "situations". If architecture is a combination of hardware (solid, static walls, roofs and floors) and software (ephemeral sounds, smells, temperatures and electromagnetic waves) then perhaps the most productive conception of an architect is as an "operating system" designer. Just as the designers of operating systems such as Unix, Mac OS X or Windows provide varying levels of openness within which people expand their own creativity (using programs like word processors, drawing software or movie editing suites), so too can architects provide meta-systems that encourage multitudes of architectural programs. The challenge is to develop architectural systems that nourish imagination without adding further layers of prescriptive control. One model of operating system that is particularly relevant to architecture (since the design of space is always a collaborative process) is an open source system.<sup>8</sup>

The ephemera of architecture and the constant reinterpretations of the people who thrive in it suggest that one can consider architecture as something impermanent and ineluctable. However, architects have a reputation for seeking stability, for being authoritarian, controlling everything from the lifestyles of a building's inhabitants to the sound of a key turning in a lock. Within a new architectural conception, it is important to ensure that architecture does not become yet another meta-system that "objectively" controls the process from above. Again, artists who work with technology demonstrate a possible approach. These days they are pioneering new creative research roles. Their strategies allow them to push both the boundaries of technology and the boundaries of art. Architects can learn from these strategies at a practical level, by employing artists' techniques of production (rapid prototyping and low-tech 1:1 implementation), funding (through art and technology grants rather than clients) and self-criticism (where project timing is quick enough that feedback from the built project is not so distant that it no longer has an effect on the original proposal). They can also benefit from artists' conceptual approaches by creating works that are socially inquisitive, that critique their own modes of production and that aspire to conversations with other similar projects; by creating works that are, in Matthew Fuller's words "not-just-art."<sup>9</sup> Primarily, though, they can learn from artists who actually make their projects (as opposed to simply proposing them), which allows others to enter into them in order to critique them.

Such a role for architects is similar to that proposed by Steven Groak in *The Idea of Building*, where he develops the concept of “practitioner-researchers”:

“What is needed now is a research paradigm, a framework of meaning and practice which derives from technology, from the process of making things, from the concept of “know-how”. It will use design and production methods as the cutting edge. It will accept the idea of deterministic processes which are unpredictable.”<sup>10</sup>

In the eighties and nineties advanced theoretical work in architecture was carried out on paper, in model, in galleries, in books. Now, it is being carried out in interactive installations, in augmented reality, in networked performances.

This is the approach adopted by my own architectural design and research practice, Haque Design + Research and others, such as Aether Architecture, Servo and LAB[au]. By working concurrently in digital media and interactive installations such practices can explore much wider architectural issues.<sup>11</sup> I have constantly had to straddle the worlds of art and architecture in order to build and test the theses behind my projects.<sup>12</sup> Past work has included the *Moody Mushroom Floor* (1996), a floor system of sound, smell and light outputs that develops responses according to how people react to its outputs; *Scents of Space* (2002), a smell system that allows for three-dimensional placement of fragrances in space developed with Josephine Pletts and Dr Luca Turin; *Sky Ear* (2004), a “cloud” of a thousand glowing helium balloons, embedded with mobile phones and sensors that respond to electromagnetic fields (EMF); *Haunt* (2004), a space that creates “haunted” sensations through a combination of EMF, infrasound and light and temperature levels; and *1000 (little tips of communication)* (2005), a collaboration with wearable computing designer Despina Papadopoulos (5050ltd), to develop a device and a system that account for technologically-aware bodies in technologically-animated spaces.

1 Cortázar, Julio: “To Dress a Shadow”, in *Around the Day in Eighty Worlds*, North Point Press, San Francisco 1986

2 For another form of “architecture by non-architects”, see also the work of Eyal Weizman on the ways in which military organisation appropriates architectural strategies and re-reads the urban context according to its particular requirements. *The Politics of Verticality*, <http://www.opendemocracy.net/debates/article-2-45-801.jsp>

3 See, for example, the work of Juhani Pallasmaa.

4 See Glowlab, [www.glowlab.com](http://www.glowlab.com)

5 Dunne, Anthony: *Hertzian Tales*, Royal College of Art, London 1999

6 Often quoted guiding principles of architecture according to Vitruvius in *The Ten Books of Architecture*

7 Pask, Gordon: “The meaning of cybernetics in the behavioural sciences (The cybernetics of behaviour and cognition; extending the meaning of ‘goal’)”, in: Heinz von Foerster (ed.) *Cybernetics of Cybernetics*, 2nd ed. Future Systems, Inc., Minneapolis 1995

8 Haque, Usman: “Hardspace, softspace and the possibilities of open source architecture”, [www.haque.co.uk](http://www.haque.co.uk), 2002

9 Fuller, Matthew: “A Means of Mutation”, <http://www.backspace.org/iod/mutation.html>, 1998

10 Groak, Steven: “The Idea of Technology, And its Critics”, *The Idea of Building*, London 1992

11 Aether Architecture, [www.aether.hu](http://www.aether.hu); Servo, [www.s-e-r-v-o.com](http://www.s-e-r-v-o.com); Lab[au], [www.lab-au.com](http://www.lab-au.com)

12 Haque Design and Research, [www.haque.co.uk](http://www.haque.co.uk)