

Marcos Novak, 'Liquid Architectures in Cyberspace', *Cyberspace: First Steps*, 1991 Cyberspace Architecture

Architecture has been earthbound, even though its aspirations have not. Buckminster Fuller remarked that he was surprised that, in spite of all the advances made in the technology of building, architecture remained rooted to the ground by the most mundane of its functions, plumbing. Rooted by waste matter, architecture has nevertheless attempted to fly in dreams and projects, follies and cathedrals.

Architecture has never suffered a lack of fertile dreams. Once, however, in times far less advanced technologically, the distance between vision and embodiment was smaller, even though the effort required for that embodiment was often crushing. Most 'grand traditions' began with an experimental stage of danger and discovery and did not become fossilized until much later. Hard as it may be for us to fathom, a Gothic cathedral was an extended experiment often lasting over a century, at the end of which there was the literal risk of collapse. The dream and the making were one. Curiously, the practice of architecture has become increasingly disengaged from those dreams. Cyberspace permits the schism that has emerged to be bridged once again.

Cyberspace alters the ways in which architecture is conceived and perceived. Beyond computer-aided design (CAD), design computing (DC), or the development of new formal means of describing, generating, and transforming architectural form, encodes architectural knowledge in a way that indicates that our conception of architecture is becoming increasingly musical, that architecture is spatialized music. Computational composition, in turn, combines these new methods with higher-level compositional concepts of overall form subject to local and global constraints to transform an input pattern into a finished work. In principle, and with the proper architectural knowledge, any pattern can be made into a work of architecture, just as any pattern can be made into music. In order for the data pattern to qualify as music or architecture it is passed through compositional 'filters', processes that select and massage the data according to the intentions of the architect and the perceptual capacity of the viewer. This 'adaptive filtering', to use a neural net term, provides the beginning of the intelligence that constitutes a cyberspace and not a hypergraph. This, of course, means that any information, any data, can become architectonic and habitable, and that cyberspace and cyberspace architecture are one and the same.

A radical transformation of our conception of architecture and the public domain that is implied by cyberspace. The notions of city, square, temple, institution, home, infrastructure are permanently extended. The city, traditionally the continuous city of physical proximity becomes the discontinuous city of cultural and intellectual community. Architecture, normally understood in the context of the first, conventional city, shifts to the structure of relationships, connections and associations that are webbed over and around the simple world of appearances and accommodations of commonplace functions.

*I look to my left, and I am in one city; I look to my right, and I am in another.
My friends in one can wave to my friends in the other through my having brought them together.*

It is possible to envision architecture nested within architecture. Cyberspace itself is architecture, but it also contains architecture, but now without constraint as to phenomenal size. Cities can exist within chambers as chambers may exist within cities. Since cyberspace signifies the classical object yielding to space and relation, all 'landscape' is architecture, and the objects scattered upon the landscape are also architecture. Everything that was once closed now unfolds into a place, and everything invites one to enter the worlds within worlds it contains.

I am in an empty park. I walk around a tree, and I find myself in a crowded chamber. The tree is gone. I call forth a window, and in the distance see the park, leaving.

Liquid Architecture

That is why we can equally well reject the dualism of appearance and essence. The appearance does not hide the essence, it reveals it; it is the essence. The essence of an existent is no longer a property sunk in the cavity of this existent; it is the manifest law which presides over the succession of its appearances, it is the principle of the series.

*... But essence, as the principle of the series is definitely only the concatenation of appearances; that is, itself an appearance.
... The reality of a cup is that it is there and that it is not me.
We shall interpret this by saying that the series of its appearances is bound by a principle which does not depend on my whim.
— Jean-Paul Sartre, *Being and Nothingness**

The relationship established between architecture and cyberspace so far is not yet complete. It is not enough to say that there is architecture in cyberspace, nor that *that* architecture is animistic or animated. Cyberspace calls us to consider the difference between animism and animation, and animation and metamorphosis. Animism suggests that entities have a 'spirit' that guides their behaviour. Animation adds the capability of change in *location*, through time. Metamorphosis is change in *form*, through time *or space*. More broadly, metamorphosis implies changes in one aspect of an entity as a function of other aspects, continuously or discontinuously I use the term liquid to mean animistic, animated, metamorphic, as well as crossing categorical boundaries, applying the cognitively supercharged operations of poetic thinking.

Cyberspace is liquid. Liquid cyberspace, liquid architecture, liquid cities. Liquid architecture is more than kinetic architecture, robotic architecture, an architecture of fixed parts and variable links. Liquid architecture is an architecture that breathes, pulses, leaps as one form and lands as another. Liquid architecture is an architecture whose form is contingent on the interests of the beholder; it is an architecture that opens to welcome me and closes to defend me; it is an architecture without doors and hallways, where the next room is always where I need it to be and what I need it to be. Liquid architecture makes liquid cities, cities that change at the shift of a value, where visitors with different backgrounds see different landmarks, where neighbourhoods vary with ideas held in common, and evolve as the ideas mature or dissolve.

The locus of the concept 'architecture' in an architecture that fluctuates is drastically shifted: any particular appearance of the architecture is devalued, and what gains importance is, in Sartre's terms, 'the principle of the series'. For architecture this is an immense transformation: for the first time in history the architect is called upon to design not the object but the principles by which the object is generated *and varied* in time. For a liquid architecture requires more than just 'variations on a theme', it requires the invention of something equivalent to a 'grand tradition' of architecture at each step. A work of liquid architecture is no longer a single edifice, but a continuum of edifices, smoothly or rhythmically evolving in both space and time. Judgements of a building's *performance* become akin to the evaluation of dance and theatre.

If we described liquid architecture as a symphony in space, this description would still fall short of the promise. A symphony, though it varies within its duration, is still a fixed object and can be repeated. At its fullest expression a liquid architecture is more than that. It is a symphony in space, but a symphony that never repeats and continues to develop. If architecture is an extension of our bodies, shelter and actor for the fragile self, a liquid architecture is that self in the act of becoming its own changing shelter. Like us, it has an identity; but this identity is only revealed fully during the course of its lifetime.

Conclusion

A liquid architecture in cyberspace is clearly a dematerialized architecture. It is an architecture that is no longer satisfied with only space and form and light and all the aspects of the real world. It is an architecture of fluctuating relations between abstract elements. It is an architecture that tends to music.

Music and architecture have followed opposite paths. Music was once be most ephemeral of the arts, surviving only in the memory of the audience and the performers. Architecture was once the most lasting of the arts, reaching as it did into the caverns of the earth, changing only as slowly as the planet itself changes. Symbolic notation, analog recording, and, currently, digital sampling and quantization, and computational composition, have enabled music to become, arguably, the most permanent of the arts. By contrast, the life span of architecture is decreasing rapidly. In many ways architecture has become the least durable of the arts. The dematerialized, dancing, difficult architecture of cyberspace, fluctuating, ethereal, temperamental, transmissible to all parts of the world simultaneously but only indirectly tangible, may also come the most enduring architecture ever conceived.

I am in a familiar place. Have I been here before? I feel I know this place, yet even as I turn something appears to have changed. It is still the same place, but not quite identical to what it was just a moment ago. Like new performance of an old symphony, its intonation is different, and in the difference between its present and past incarnations something new has been said in a language too subtle for words. Objects and situations that were once thought to have a fixed identity, a generic 'self', now possess personality, flaw and flavour. All permanent categories are defeated as the richness of the particular impresses upon me that in this landscape, if I am to benefit fully, attention is both required and rewarding. Those of us who have felt the difference nod to each other in silent acknowledgment, knowing that at the end of specificity lies silence, and what is made speaks for itself not in words, but in presences, ever changing, liquid.