Energies and Senses

Sean Lally
University of Illinois at Chicago

As we stand with our feet on earth's outermost surface, we build an architecture that is much like it was several thousand years earlier, all in an attempt to extend that outer surface with one of our own making. The masses and walls of our buildings push to extend beyond the natural geographical surface, creating an artificial layer made of stone, steel, concrete and glass. The 6th century BC philosopher Thales of Miletus, however, considered this from a different perspective: he insisted that we live, in reality, not on the summit of a solid earth but at the bottom of an ocean of air. And so, as architecture continues to build up the outer most layer of earth's surface through a mimicking, embellishing, and enhancing of the same materials from which it emerges, it raises the question as to why we haven't brought a similar relationship to that bottom "ocean" of air and energy systems that course around us that could be equally robust for building architecture.

Michelangelo's St. Peters in Rome, and le Corbusier's Ville Savoy are constructed with materialities harnessed from the resources available on the planet (iron ore for steel, water, lime and steel for reinforced concrete, glass and paint); but these materialities don't come together to mimic geologically produced cave voids in the earth. Accordingly, neither should we engage available energy systems to simply emulate existing weather or reproduce ideal climates to fill architectures cave like voids. Yet that is how we as architects currently treat them. Caves aren't architecture and neither are the interior climate controls we fill inside today's architectural shells.

As architects today, we refrain from designing with energy as a materiality like we would with geometrically-based and other solid-state constructions. We don't place these energies at the foreground of our design strategies. We don't 'sketch' ideas through them and we don't seek to ask more from them than we know they can already deliver. As architects today we fantasize about new fabrication technologies, grander structural spans with thinner material profiles all with the belief that these issues can be resolved in future time and that such visions might well

deliver something unique for architecture and the participants of the activities housed within. But we have refrained from exercising that same imagination and speculative spirit regarding a range of energy properties, including electromagnetics, thermodynamics, acoustic waves, and chemical interactions, that might deliver new pockets of environments and micro-climates; not to emulate existing exotic climates, but to produce a new architecture that can absorb the responsibilities and organizational strategies needed of the profession. How far can we push the energies we currently use to control comfort before they morph into the materials of spatial and organizational consequences for architects to embrace as a new architecture?

The intention isn't to simply trade in one form of boundary (surfaces) for another (gradients) assuming all else will remain the same. In looking to these material energies, the intention is to seek out the spatial, social and organizational implications they will have as we give architecture new shapes, aesthetics and typologies that come from such a fundamental shift in how we define the physical boundaries of our spaces. One that for so long has been based on mediating its environmental context by building with surfaces to one that amplifies the very energies around us to define and build our architectural shapes. This includes not only how we control these materials but how our body's sense and perceive these gradient boundaries. Our boundaries are defined by not only what materiality we can control but what our body's can sense so as to detect those edges. Advancements in pharmaceuticals, and bioengineering (including chemical performance enhancers, implants, and surgeries) have artificially altered the human body's physiology and sensory perception. These alterations permit us to perceive a range of material energies and potential systems of organization that were previously imperceptible. At the intersection of these two seemingly distinct areas of research—increased sensory sensitivity and the architect's control over a new range of material energies—lies the potential for a new architecture. Architecture would seem to be in a prime position to pilot such knowledge and bridge the gaps that currently keep these areas of discrete research. Architecture is in a unique position to bridge these two together. ◆