SIBYL PROJECTS 2010-2012

This book is published to accompany the Hylozoic Series: Sibyl installation at the 18th Biennale of Sydney, Cockatoo Island, Sydney, Australia, 2012.

The series of projects shown within this book explore a new generation of responsive spaces. The immersive environments of the Hylozoic Series invite viewers to raise fundamental questions about how architecture might behave in the future. Might future buildings begin to know and care about us? Might they start, in primitive ways, to become alive?

Responding to the movement of visitors, ripples of vibration, glowing light, and whispering sound move throughout the immersive layers of these spaces. Floating overhead, many hundreds of thousands of custom-made components spread out into diffuse, translucent clouds.The Hylozoic environments can sense and interact with viewers, and they contain chemical systems that act like a primitive metabolism, processing and exchanging material with the environment.

Projects illustrated within this book have developed by Canadian artist and architect Philip Beesley and collaborators between 2010 and 2012, following the Hylozoic Ground installation at the 2010 Venice Biennale for Architecture. These installations are located in Enghien-les-Bains, Madrid, Salt Lake City, Toronto, Rotterdam, Sydney, and Wellington.

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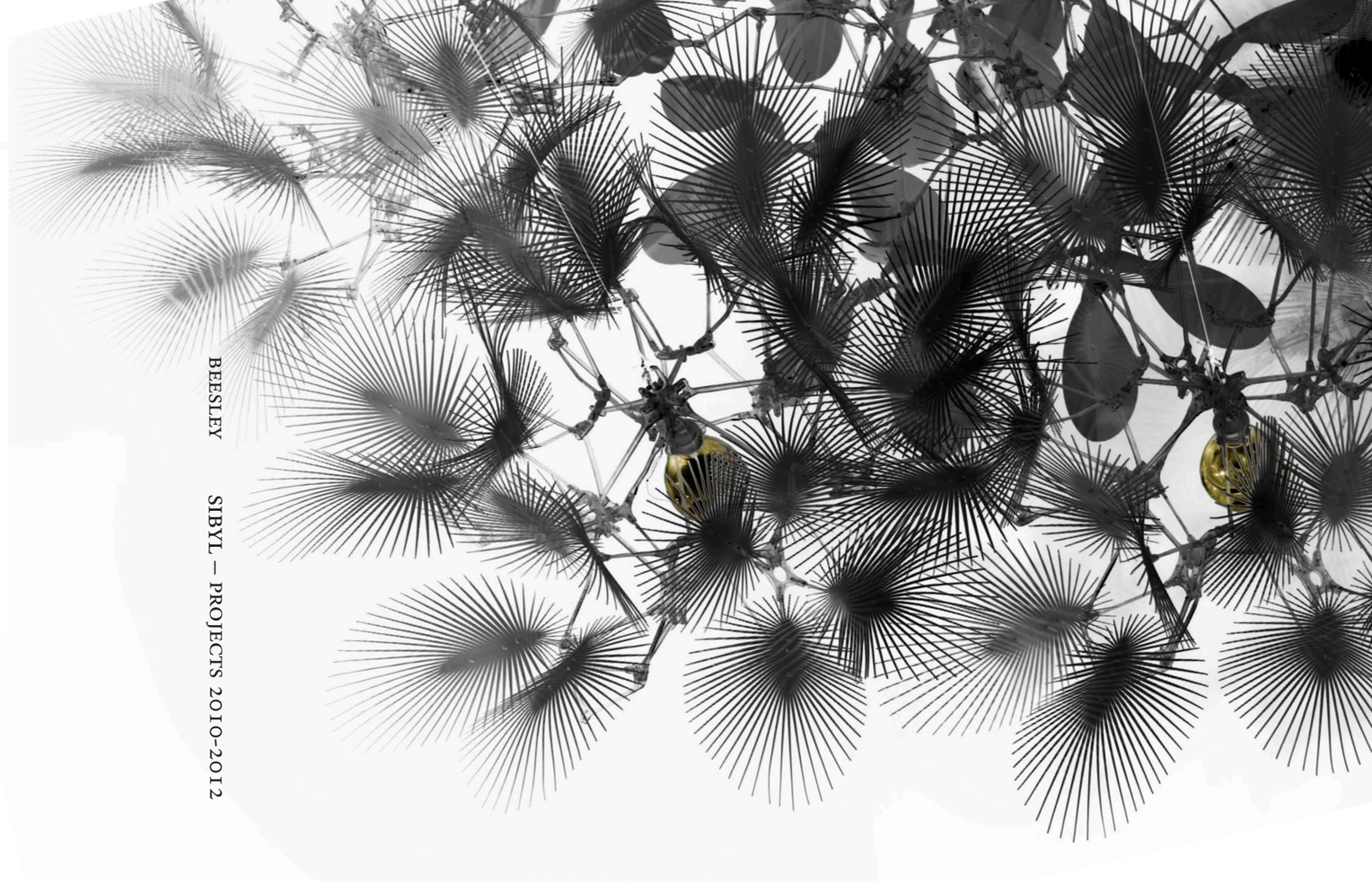
BEESLEY SIBYL – PROJECTS 2010-2012



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At Toronto's 2010 Nuit Blanche, I watched as tens of thousands of visitors came in contact with Philip Beesley's *Aurora*. Approaching the piece with a mixture of awe and tentativeness, visitors could not contain themselves. The lines were long, the night was chilly, and the slow movement of an anxious crowd was like a steady pulse of the heart – bringing people in and pushing them towards the egress. Visitors responded to Beesley's built environment as if it was alive, but was the work responding to human presence? Perhaps there was also a certain fear factor: how would something so transparent react if one ventured too near? Once visitors understood that *Aurora* could no more harm them than it could amuse them, they moved on – yet it left a lasting impression.

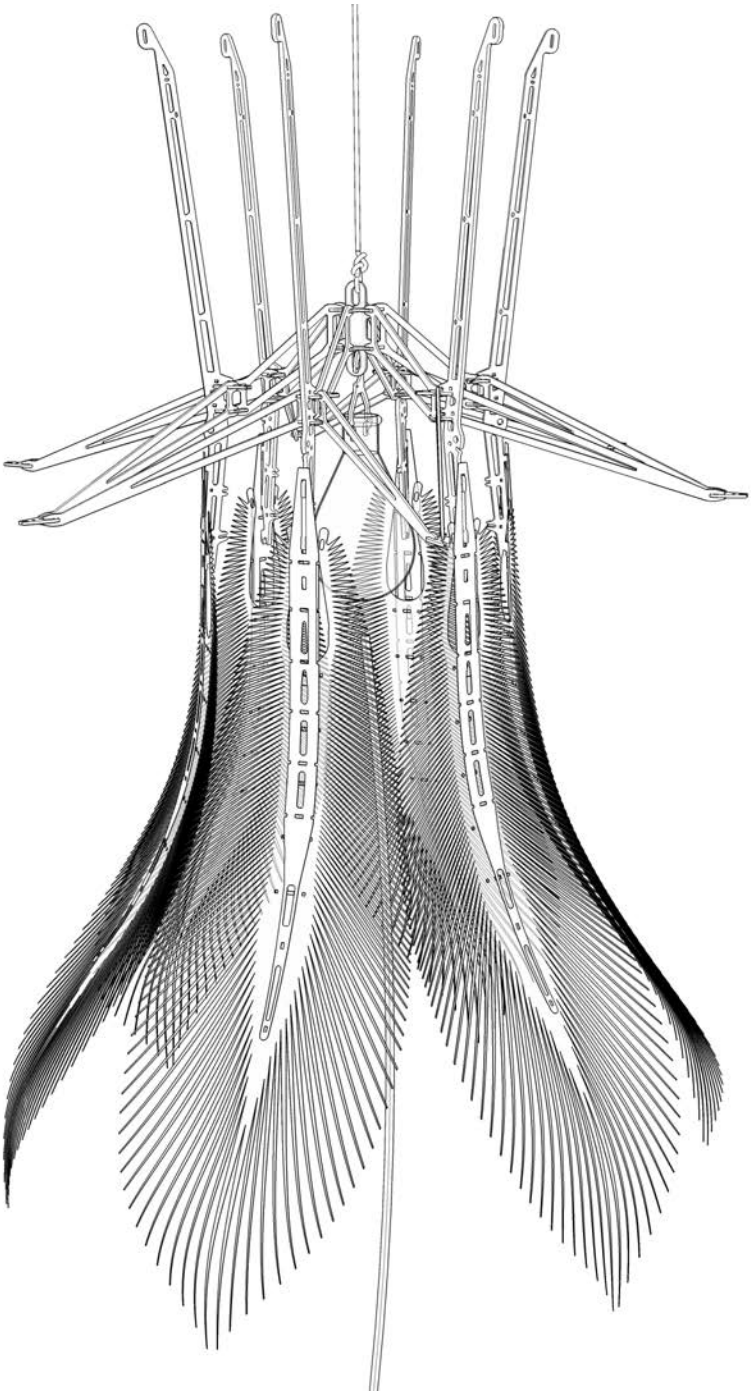
The 18th Biennale of Sydney's title, *all our relations*, corresponds to Beesley's concept of the 'hylozoic': that all matter, both animate and inanimate, has life.[1] To this idea, we can now add artificial or technology-based worlds. Beesley's built environments begin to address the subject/object relationship in such a confounding way because the so-called objects are now responding to human presence, thus giving the work almost subject status. When we come into contact with his work – with all its highly integrated systems of interactive fronds, filters and whiskers, built around an intricate lattice of transparent acrylic links – it appears to come to life. The visible membrane is so highly interconnected, with an infrastructure almost too complex to imagine, that it's beautiful to see. He calls this 'benign geotextile', an idea he's worked on since the mid-1990s, in which organic installations are eventually absorbed by the surrounding natural forces.[2] This relationship between a visual signifier as geo-textile and the environment is one that closely considers the importance of integration and composition – ideas that stand in stark contrast to earlier modernist paradigms – and that *all our relations* attempts to articulate. The new dimensions that shape our current reality do not constitute 'a spectrum – along which binaries compete – but multiple, mutually inclusive dimensions'.[3]

1 Neil Spiller, 'Liberating the Infinite Architectural Substance', in Philip Beesley (ed.), Hylozoic Ground: Liminal Responsive Architecture, Riverside Architectural Press, Toronto, 2010, p. 51

2 Geoff Manaugh, 'Synthetic Geology: Landscape Remediation in an Age of Benign Geotextiles', in Philip Beesley (ed.), Hylozoic Ground: Liminal Responsive Architecture, Riverside Architectural Press, Toronto, 2010, p. 44

3 Charles Stankievech, 'Sewing/Sowing: Cultivating Responsive Geotextiles', in Philip Beesley (ed.), Kinetic Architetures & Geotextile Installations, Riverside Architectural Press, Toronto, 2007, p. 43

Gerald McMaster
Co-Artistic Director, Biennale of Sydney



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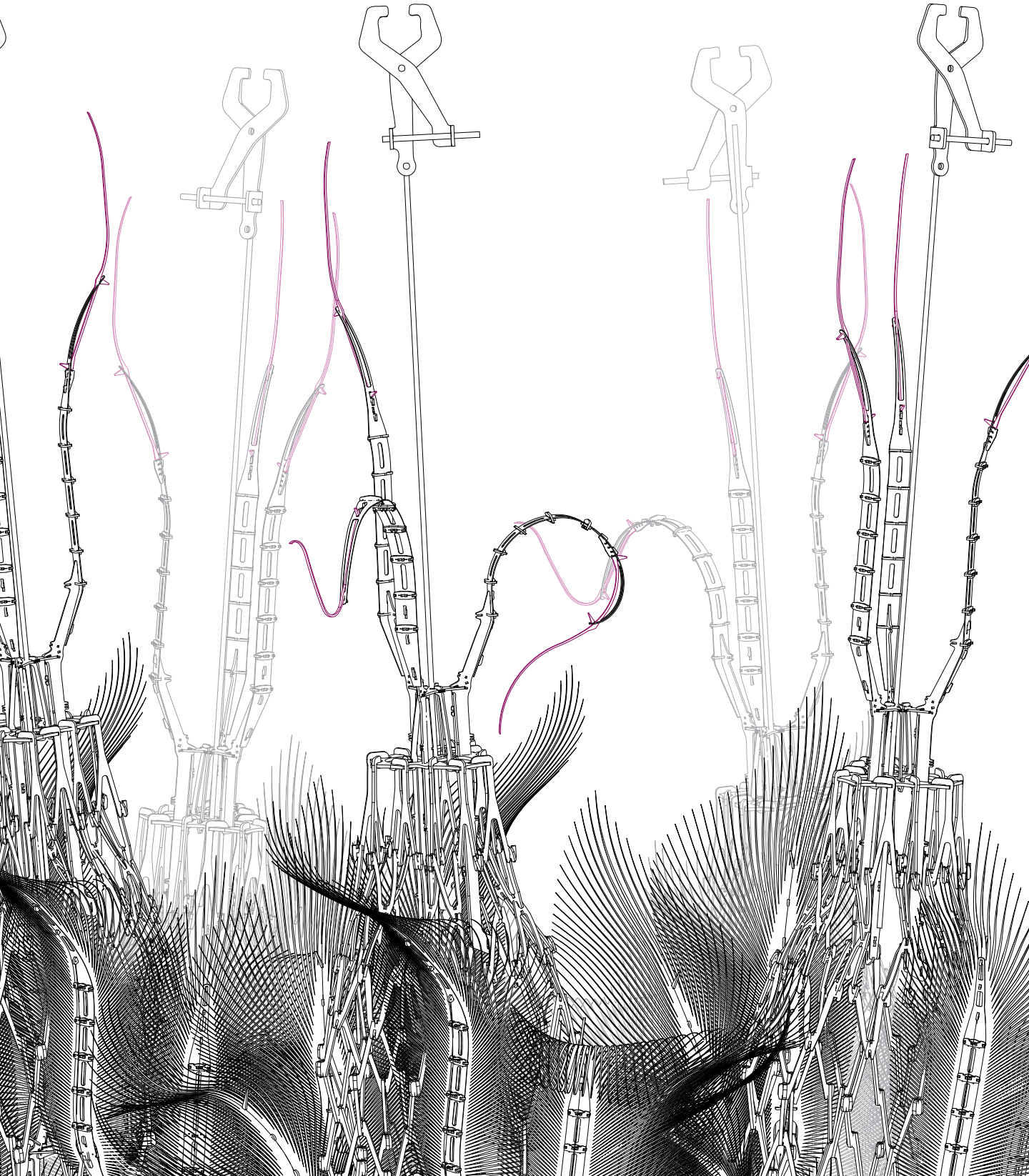


The *Hylozoic* Series

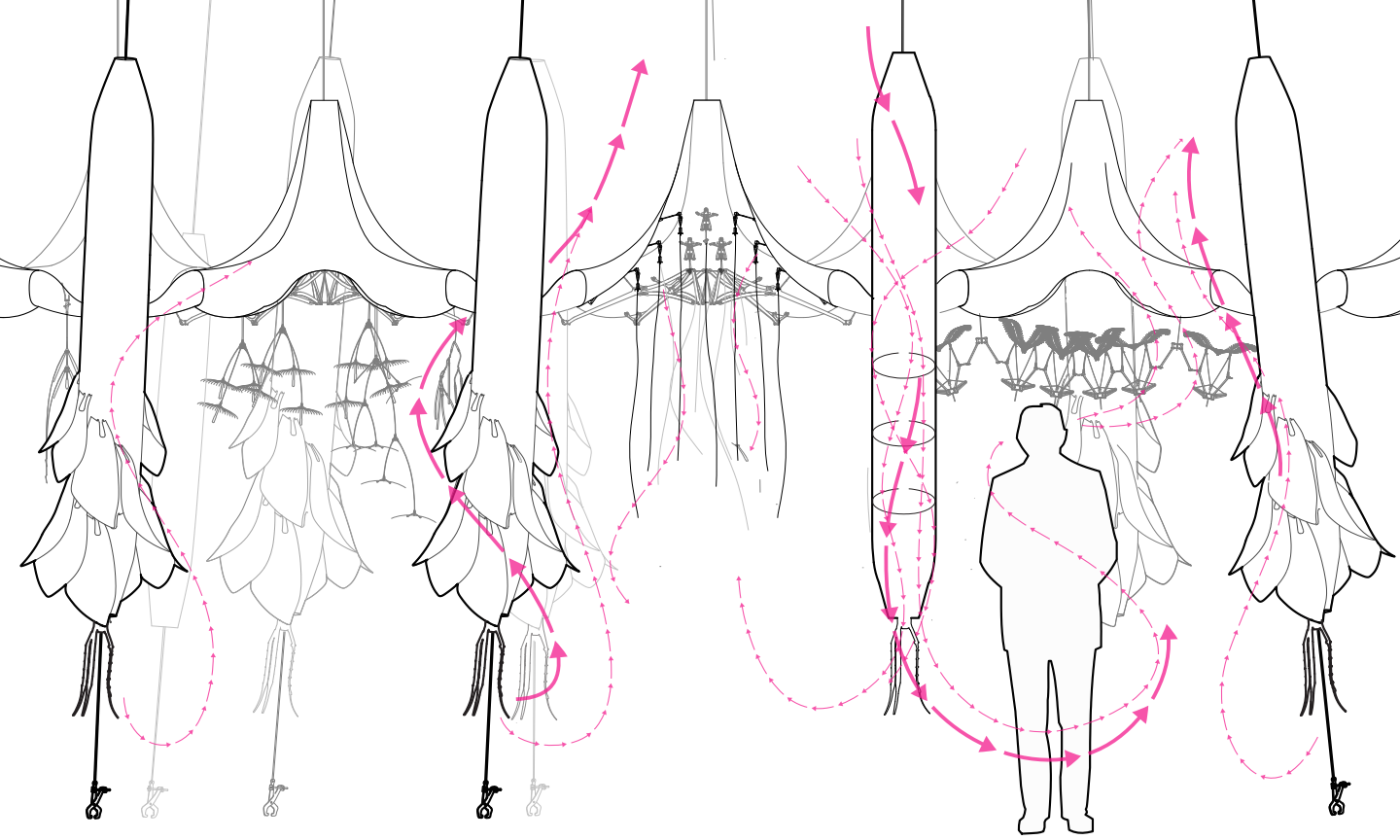
facing page

1 Sensor lashes produce direct reflex motion in response to viewers.

The series of projects shown within this book explore a new generation of responsive spaces. The immersive environments of the *Hylozoic Series* invite viewers to raise fundamental questions about how architecture might behave in the future. Might future buildings begin to 'know' and 'care' about us? Might they start, in very primitive ways, to become alive?

Responding to the movement of visitors, ripples of vibration, glowing light, and whispering sound move throughout the immersive layers of these spaces. Floating overhead, hundreds of thousands of custom-made components spread out into diffuse, translucent clouds. *Hylozoic* environments can sense and interact with viewers and contain chemical systems that act like a primitive metabolism, processing and exchanging material with the environment. Floating overhead, many hundreds of thousands of custom-made components spread out into diffuse, translucent clouds. The structural cores are delicate transparent meshworks of acrylic and silicone, that form vaulted canopies and groves of basket-like columns. These are clothed with dense clusters of feathered filter clusters and interconnected chains of glass vesicles. A primitive chemical metabolism is housed within the massed vessels. 'Protocells' within this system show the early stages of self-generating growth, exchanging chemicals that can help to renew surrounding spaces.

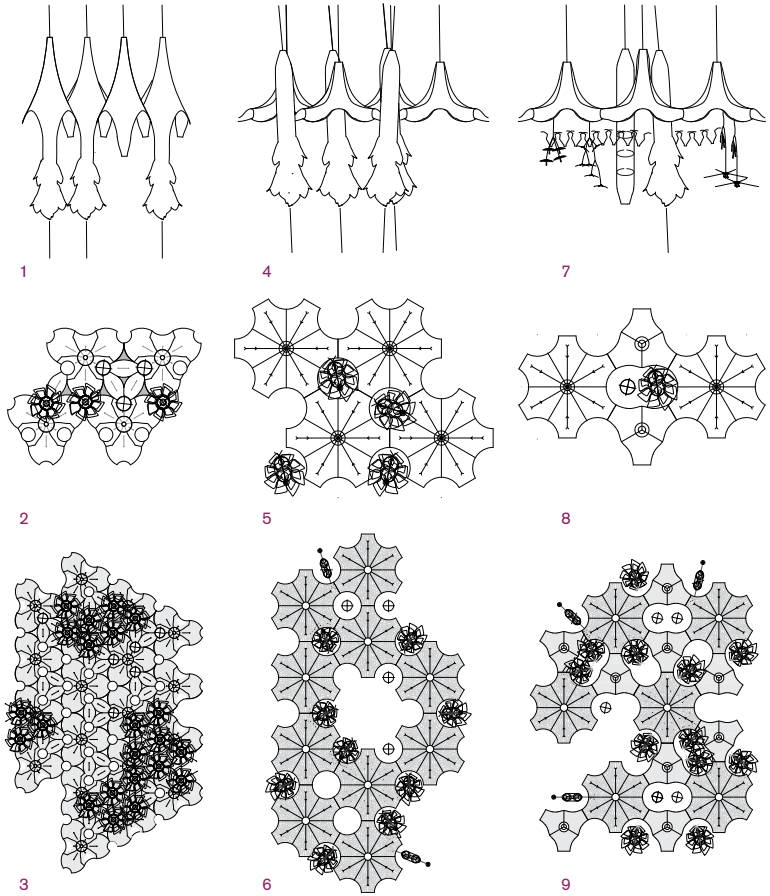
These environments use a steadily evolving family of custom-made lightweight components made by digital fabrication. Custom-made interlinking components make up the mechanisms and structural layers. Fine-grained interactive control systems use nested arrays of microprocessors that are integrated within the meshwork.



2 Visualization of programmed series of motions initiated by occupants within the Hylozoic environment

These projects are guided by the work's ancient Greek namesake 'hylozoism', or the belief that all matter has life. The work builds upon preceding installations including the *Hylozoic Ground* installation, mounted within the Canadian Pavilion at the 2010 Venice Biennale for Architecture. Textile-like structural cores, distributed interactive control systems and chemical metabolisms have each moved through multiple stages of development during the two years since that event. New functions are progressively integrated within each location, sharing and revising families of custom component designs. The physical component systems have evolved into robust, highly resilient structures capable of use within permanent installations. Much like the layered organization of human neural systems, microprocessor control systems are now using nested 'subsumption' organization that allows tribe-like groups of mechanisms to communicate and gather into larger patterns of massed behaviour. Active carbon-capture systems are now appearing within delicate glasswork circulation systems. Softly glowing patterns of light stimulate growth and provide signaling that encourages viewers to interact with the environment.

This work is developed through collaborations in art, architecture, engineering, and synthetic biology. A main studio of sculptors, industrial designers and engineers is located in Toronto and Cambridge, Ontario, working closely



3 Evolution of Hylozoic Series forms and configurations

1-3 First generation. Hylozoic Soil, Montreal Museum of Fine Arts, Montreal, 2007

4-6 Second generation. Hylozoic Grove, Museum of the Future, Ars Electronica, Linz, 2008

7-9 Fourth generation, Hylozoic Soil, Biologic Art, SIGGRAPH, New Orleans, Louisiana, 2009

with computational engineering in Waterloo and chemical research in London and Odense. While technical research underlies this work, the work is rooted within imaginary projections that lie beyond the literal functions that have been achieved in the work. The hybrid spaces of the *Hylozoic Series* offer collective negotiation about what life is, how we relate to the environments around us, and how these new relationships might carry us into the future.

Curious emotional experiences can result from interacting with these environments, often intermixing intimacy and alienation. Perhaps these mixed emotions are inevitable when work moves from purely artificial design towards the realm of living systems. Rather unapologetically, the collaborative voices from this studio speak with optimism about forming relationships with the world. Speaking of this work, the critic Detlef Mertins said "[these] interactive installations—part creatures, part environments; part mechanical, part biological—remind us that the cosmological point of reference for architecture has shifted from the human to the non-human: from the Vitruvian man inscribed in a circle and a square as the guarantor of universal validity, to the tangled web of creatures and environments within which humanity lives a promiscuous life." [4]

4 Detlef Mertins in Philip Beesley, Hylozoic Ground: Liminal responsive architecture, Riverside Architectural Press, 2010, p. 7.

following pages

5 diagrams of Filter and Breathing Pores as installed at the Venice Biennale

6 Panoramic view of Hylozoic Ground as installed at the Venice Biennale