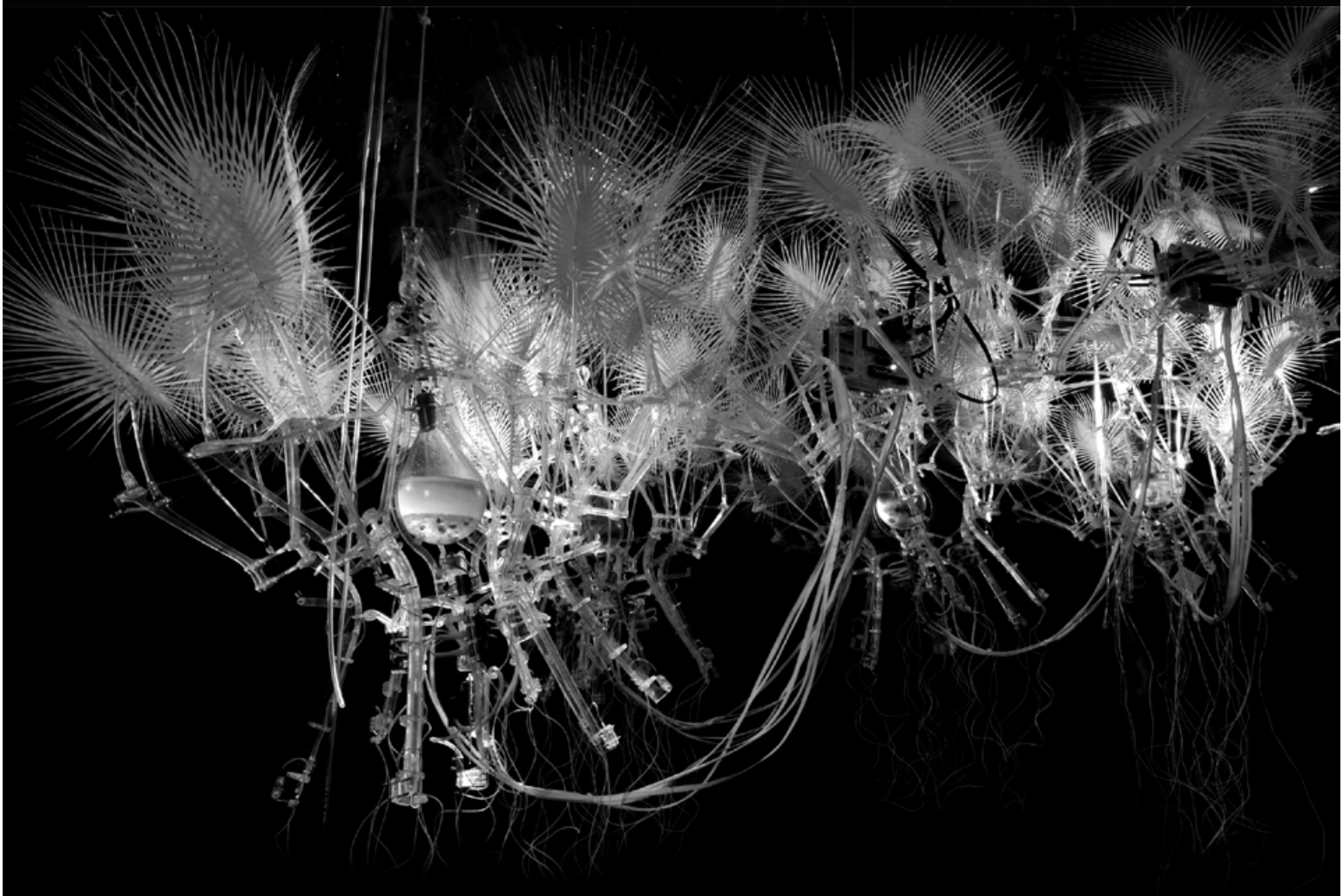

Venice Architecture Biennale

HYLOZOIC GROUND

PHILIP BEESLEY

Press & Reviews

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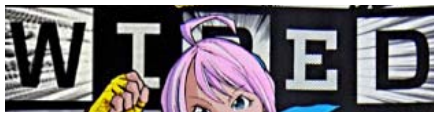

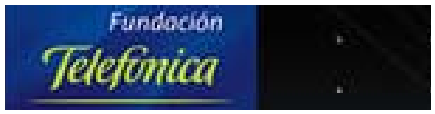

Please vist *www.hylozoicground.com/press* to download a digital version of this brochure, as well as selections of previous press clippings.

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Canadian Pavilion – Venice Biennale Architecture 2010

Hylozoic Ground

Philip Beesley

Hylozoic Ground, an immersive interactive environment that is part of the Hylozoic Soil Series of works, presented by PBAI - Philip Beesley Architect Inc., a Toronto-based interdisciplinary design collective associated with the University of Waterloo School of Architecture, was selected through a national juried competition to represent Canada at the 2010 Venice Biennale in Architecture.

Hylozoic Ground is a uniquely Canadian experimental architecture that explores qualities of contemporary wilderness. The project will transform the Canada Pavilion into an artificial forest made of an intricate lattice of small transparent acrylic meshwork links, covered with a network of interactive mechanical fronds, filters, and whiskers.

Tens of thousands of lightweight digitally-fabricated components are fitted with microprocessors and proximity sensors that react to human presence. This responsive environment functions like a giant lung that breathes in and out around its occupants. Arrays of touch sensors and shape-memory alloy actuators (a type of non-motorized kinetic mechanism) create waves of empathic motion, luring visitors into the eerie shimmering depths of a mythical landscape, a fragile forest of light.

'What could architecture be? How could an environment move around us, maybe know us, maybe even care about us?'
— *Architect Philip Beesley*

Hylozoic Ground

Beesley's team is also working with environmental filters that save energy and generate electricity. Most remarkable about Hylozoic Ground are the structures that are creating what Beesley calls "carbon-capture protocells" and which hold out potential for "self-renewing architecture."

Through a chemical reaction with water, these cells create new material and could, theoretically, be the technology needed to repair the foundations of the buildings of Venice, for example, which are slowly sinking into the seabed.

In aggregate, the exhibits seem to be a fantastic living forest — like something out of Avatar.

Canadian participation at the Venice Biennale Architecture is coordinated and supported by the Canada Council for the Arts and the Royal Architectural Institute of Canada.

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Waterloo University's "Hylozoic Ground" project selected to represent Canada at Venice Biennale in Architecture

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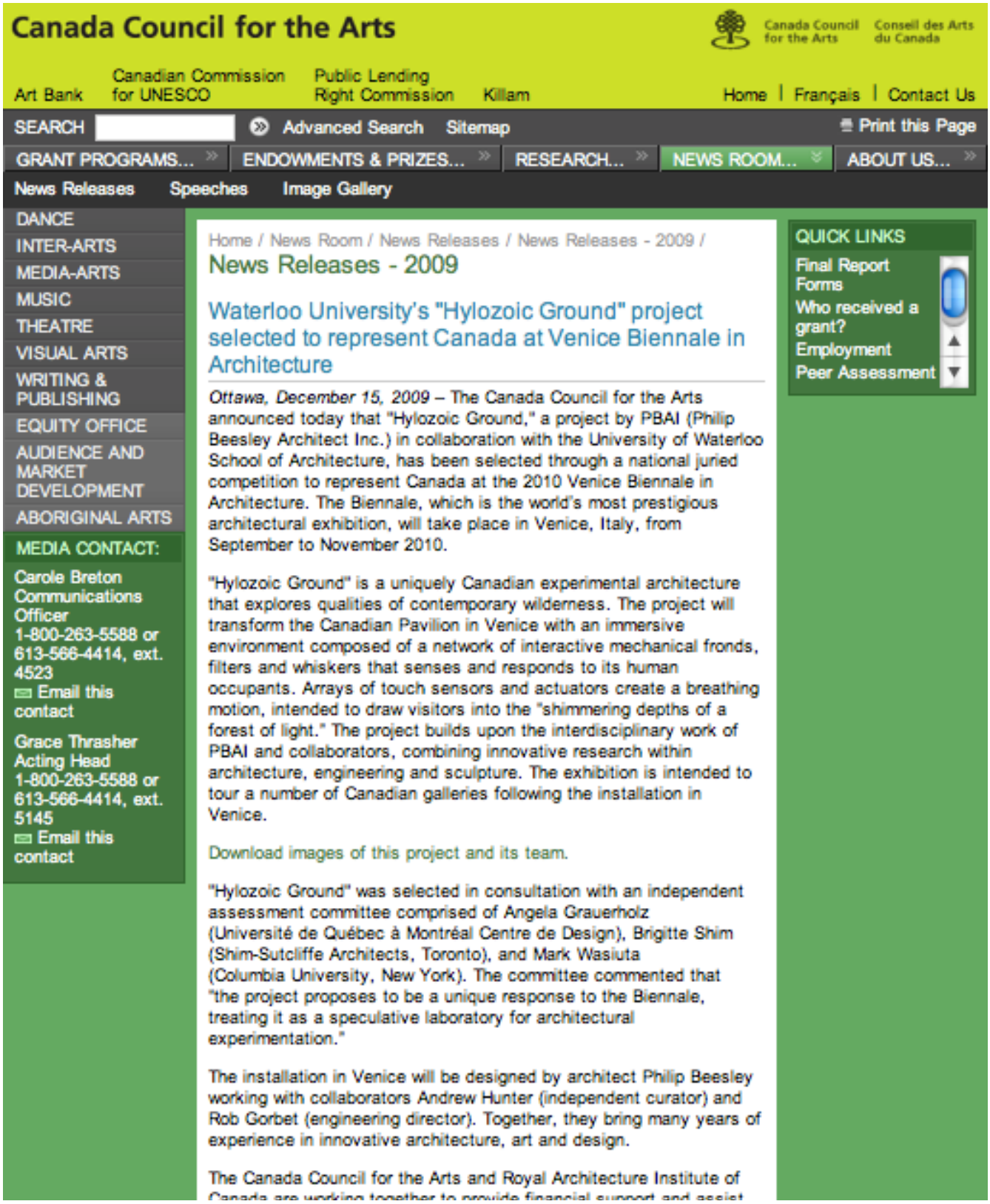

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News Releases - 2009

Waterloo University's "Hylozoic Ground" project selected to represent Canada at Venice Biennale in Architecture

Ottawa, December 15, 2009 – The Canada Council for the Arts announced today that "Hylozoic Ground," a project by PBAI (Philip Beesley Architect Inc.) in collaboration with the University of Waterloo School of Architecture, has been selected through a national juried competition to represent Canada at the 2010 Venice Biennale in Architecture. The Biennale, which is the world's most prestigious architectural exhibition, will take place in Venice, Italy, from September to November 2010.

"Hylozoic Ground" is a uniquely Canadian experimental architecture that explores qualities of contemporary wilderness. The project will transform the Canadian Pavilion in Venice with an immersive environment composed of a network of interactive mechanical fronds, filters and whiskers that senses and responds to its human occupants. Arrays of touch sensors and actuators create a breathing motion, intended to draw visitors into the "shimmering depths of a forest of light." The project builds upon the interdisciplinary work of PBAI and collaborators, combining innovative research within architecture, engineering and sculpture. The exhibition is intended to tour a number of Canadian galleries following the installation in Venice.

Download images of this project and its team.

"Hylozoic Ground" was selected in consultation with an independent assessment committee comprised of Angela Grauerholz (Université de Québec à Montréal Centre de Design), Brigitte Shim (Shim-Sutcliffe Architects, Toronto), and Mark Wasiuta (Columbia University, New York). The committee commented that "the project proposes to be a unique response to the Biennale, treating it as a speculative laboratory for architectural experimentation."

The installation in Venice will be designed by architect Philip Beesley working with collaborators Andrew Hunter (independent curator) and Rob Gorbet (engineering director). Together, they bring many years of experience in innovative architecture, art and design.

The Canada Council for the Arts and Royal Architecture Institute of

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Venice Biennale Fund

The Venice Biennale in Architecture is the single most important and prestigious international event in contemporary architecture. Cultural leaders, architects, artists and nearly 150,000 visitors attend the Biennale to discover the leading edge of architecture.

The Canadian pavilion is one of only 30 national pavilions. This offers a unique opportunity to showcase Canadian excellence in architecture and to share ideas with peers from around the world.

The Canada Council and the Royal Architecture Institute of Canada are working together to support Canada's architectural representation in Venice. This collaboration is part of a larger project to investigate developing support for the advancement of the presentation and appreciation of contemporary Canadian architectural excellence in Canada and abroad.

To make a donation mail your cheque payable to the *RAIC Foundation,* indicating *Venice Biennale Fund* in the subject line to:

The Royal Architectural Institute of Canada Foundation
55 Murray Street, Suite 330
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For more information please contact Helena Grdadolnik, the RAIC Venice Biennale project manager at 647-992-2622 or helena@publicworkshop.ca

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Support *Hylozoic Ground* at the 2010 Venice Biennale

'Hylozoic Ground' is an immersive, interactive environment that will transform the Canada Pavilion in Venice into a shimmering, quivering forest of light that moves and breathes around its viewers. This groundbreaking project by Philip Beesley (PBAI/University of Waterloo) was selected by a national juried competition to represent Canada at the 2010 Venice Biennale in Architecture.

The Venice Biennale in Architecture, the most important and prestigious architectural exhibition in the world, takes place in Venice, Italy, from August 29 through November 21, 2010.

The RAIC and the Canada Council for the Arts are working together to support Canada's architectural representation in Venice. This collaboration is part of a larger project to investigate developing support for the advancement of the presentation and appreciation of contemporary Canadian architectural excellence in Canada and abroad.

You can make a donation to 'Hylozoic Ground' by Paypal below or for more info, please visit www.hylozoicground.com or contact Poet Farrell at 416-821-2707 or poet@hylozoicground.com.

All donations are tax deductible. An official receipt will be issued.

The Record.com

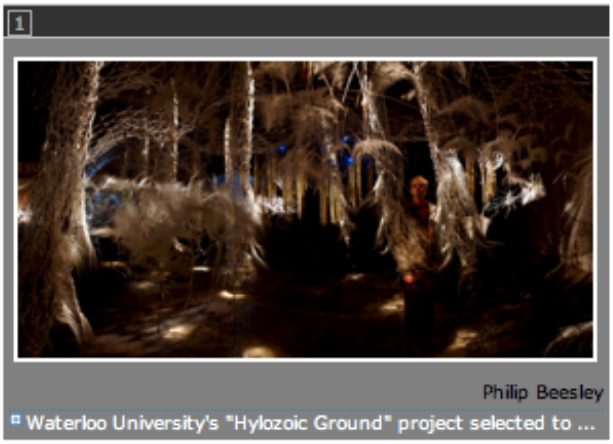
Date . 20.09.2010

Architecture prof's cutting edge work headed for Venice
by Terry Pender

Architecture prof's cutting edge work headed for Venice

December 22, 2009

BY TERRY PENDER, RECORD STAFF



Philip Beesley

Waterloo University's "Hylozoic Ground" project selected to ...

For the second time in a row the University of Waterloo is representing Canada at one of the world's largest and most prestigious showcases for architecture and design.

"It seems like a huge honour and a huge comment on the quality of the work that is going on here," Rick Haldenby, director of the University of Waterloo school of architecture, said.

The Canadian Pavilion at the Venice Biennale in Architecture next September will feature an installation by Philip Beesley, who teaches at the UW school of architecture.

"It's very much at the edge," Haldenby said.

Beesley's installation is called *Hylozoic Ground* — a reference to the philosophy that all matter has life.

Hylozoic Ground looks like bunches of fish net and tangles of fibre-optic cable, thick spider webs and big snowflakes hanging from the ceiling. But it's really a network of mechanical fronds, filters and whiskers that sense and respond to the human body.

"It's really quite stunning. The thing behaves like a kind of organism. Movement in one part induces movement in other parts," Haldenby said.

When you walk among the material thousands of sensors pick up your movements, changes in air pressure, body heat and sounds. The information is quickly used by computers to create a breathing motion that draws visitors into "the shimmering depths of a forest of light."

In addition to teaching at the school of architecture Beesley also works in digital media art though his Toronto-based practice called Philip Beesley Architect Inc. For *Hylozoic Ground* he worked with Andrew Hunter, an artist, writer and curator, and Rob Gorbet, a technology artist who teaches in the University of Waterloo's department of electrical and computer engineering.

Their installation was selected by the Canada Council for the Arts to represent this country at the famous show in Venice next fall.

44° to 66°: Regional Responses to Sustainable Architecture in Canada was at the Biennale two years ago. It was curated by John McMinn of the UW school of architecture and Marco Polo of Ryerson University. Cambridge Galleries managed it.

"From being involved in the last Canadian Pavilion at the Venice Biennale, now to be directly involved in this one, seems unprecedented to me," Haldenby said.

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Waterloo University's Hylozoic Ground project selected

DAILY NEWS Jun 20, 2010 12:05 AM - 0 comments

Waterloo University's Hylozoic Ground project selected to represent Canada at Venice Biennale in Architecture

The Canada Council for the Arts announced that *Hylozoic Ground*, a project by PBAI (Philip Beesley Architect Inc.) in collaboration with the University of Waterloo School of Architecture, has been selected through a national juried competition to represent Canada at the 2010 Venice Biennale in Architecture. The Biennale, which is the world's most prestigious architectural exhibition, will take place in Venice, Italy, from September to November 2010.

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Hylozoic Ground was selected in consultation with an independent assessment committee comprised of Angela Grauerholz (Université de Québec à Montréal Centre de Design), Brigitte Shim (Shim-Sutcliffe Architects, Toronto), and Mark Wasiuta (Columbia University, New York). The committee commented that "the project proposes to be a unique response to the Biennale, treating it as a speculative laboratory for architectural experimentation."

The installation in Venice will be designed by architect Philip Beesley working with collaborators Andrew Hunter (independent curator), Rob Gorbet (engineering director) and Dr. Rachel Armstrong. Together, they bring many years of experience in innovative architecture, art and design.

The Canada Council for the Arts and Royal Architecture Institute of Canada are working together to provide financial support and assist with project oversight for Canada's architectural representation in Venice. This collaboration is part of a larger project to investigate developing support for the advancement of the presentation and appreciation of contemporary Canadian architectural excellence in Canada and abroad.

Photos

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Interview with Rachel Armstong

Architecture

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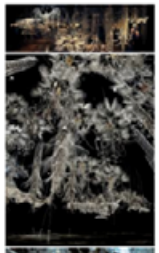
Interview with Rachel Armstong

Photos

Rachel Armstrong is developing some extraordinary and pioneering work in the field of biological architectural design and her chemical experiments with polycells and metabolic materials will be on display in Venice this summer



As part of our preview of Hylozoic Ground, the Canadian Pavilion in Venice, we interview the London-based scientist and TED fellow, Rachel Armstrong. Edited by Beatrice Galilee

You've been called a creative scientist, a polymath, an architect. How would you describe your work and what you do?
I call myself a living architectural designer but I'm also a synthetic biologist. I believe in the fundamental creativity of science as a way of developing new ways of being and living now and in the future.
I'm working in a field of design research that is beyond bio-mimicry. It's not copying biology or doing the Buckminster Fuller thing – this is using physics and chemistry in a very material way.

What was your first interaction with architecture, or at least architectural process within biology?
It was important to me to work not with single bodies – as most scientists do - but with the whole environment. That's why my attention was drawn to architecture as the place where careful design and creativity could have the biggest impact.
I spent 18 months looking for the right project and the right opportunity. I researched intensively and came across a new technology called a protocell.
It was at the end of 2008 and what I saw was a little fatty droplet whizzing around in a dish. The cell sheds its cell – making a basic building block and I realised it was a combination between a design tool and a biological agent. Because it combined these two aspects I was passionate about I wanted to explore its potential in architectural design. I hunted down the scientist that was developing the technology in a completely different direction, and I insisted that I worked with him.

What is a protocell, exactly?
The protocell itself is really liking an operating system. It's like a delivery platform, a container in which you can put chemical information and you can distribute those chemicals in space and time and get a completely different output. If they behave differently it was because of subtle changes in the environment. So I see that they start to be sculpted, as a result of the complex environmental changes happening around them. I've got a tool that can model something and I can influence it by changing the environmental conditions. What we need to do next is change the scale. If I used an automated distribution system such as a 3D printer or even a sprinkler I can release little chemical agents on the scale of metres into an environment and they'd all behave differently. We haven't scaled up the experiments to that stage yet, but that's the plan.

How did you come across the architect Philip Beesley and what was your role in the development of Hyzoid - the Canadian Pavilion?
We came across each other though the Bartlett School of Architecture. Philip was one of the first architects to work with artificial lifeforms. The forms that he was using were cybernetic systems so he wanted to work with another kind of artificial life which was these chemical systems. We discussed the potential of the system and how to position my protocells within in Philip's framework. We did it in Denmark and New Mexico. There were all very successful so we scaled up again to work with the material at the Venice Biennale.

What are the biological-architectural systems that you will be using in Venice?
There are three drivers we use that are all based on the chemistry and interfaces between oil and water and that's such a powerful chemical interaction that you can drive a lot of reactions.
One is based on an incubator which is like an embryonic protocell which is changing over time for three months. I did that by slowing down the protocell process and give it a simple metabolism using inorganic salts. The result is a bit like growing a shell around an oil droplet. The second one is about 'eating' carbon dioxide and turning it into a carbonate. These are little glass oysters with pearls growing within them. The third is the chemical cells that are extending using another organic matrix, a gel-like structure to support the weight of the stretched organic membrane. These systems will grow to about a metre long.

What are the real-world possibilities of these? For example, the carbon dioxide or the deposits of material?
Well, I've been looking at the potential for enabling surfaces to have a dynamic relationship with the environment. We know that these materials have living properties and we can give them a metabolism that allows them to suck carbon dioxide out of the atmosphere. So at the moment we're developing a paint that can absorb certainly at least 1/5 of its own weight in carbon dioxide when it is applied to the surface. People have asked if it's possible to remove carbon dioxide from the coal industry. The answer is, potentially yes. We need to develop and explore the technology. It's a very early stage.

How confident can you be about what will happen to the materials?
Some people think if you have the basic materials they can do anything. Well, they can't. They're constrained within the chemistry and the physics of the molecule that you use. So even though they're complex, they have a relatively limited range of outcomes - it's a bit like cooking. You can't control every bubble in your cake, but you know if you put certain ingredients together you'll get a cake. You don't have a push-button control, you do know to some degree what the outcome is going to be. Sometimes you get it completely wrong and you get a biscuit.

Are there any ethical questions related to this work? What does design mean if you have an agent that has authorship?
The material isn't actually alive. It gives us an exploratory terrain to start to understand what it actually means to work socially, ethically from a design perspective, culturally with living systems. I think we actually need this intermediary step before we do what J Craig Ventor is attempting to do and create an artificial life. I think we will at some point create an artificial life and I think that the stable ones will be built will be self-assembling systems that grow from the bottom up.
One of the things I'd say about using architectural agents is that have a certain degree of autonomy. It makes the architect important. The architect has to have a vision about why they're using that agent –you have to have an understanding so within the degree of experience you know qualitatively the kinds of outcomes that are possible using this agent.

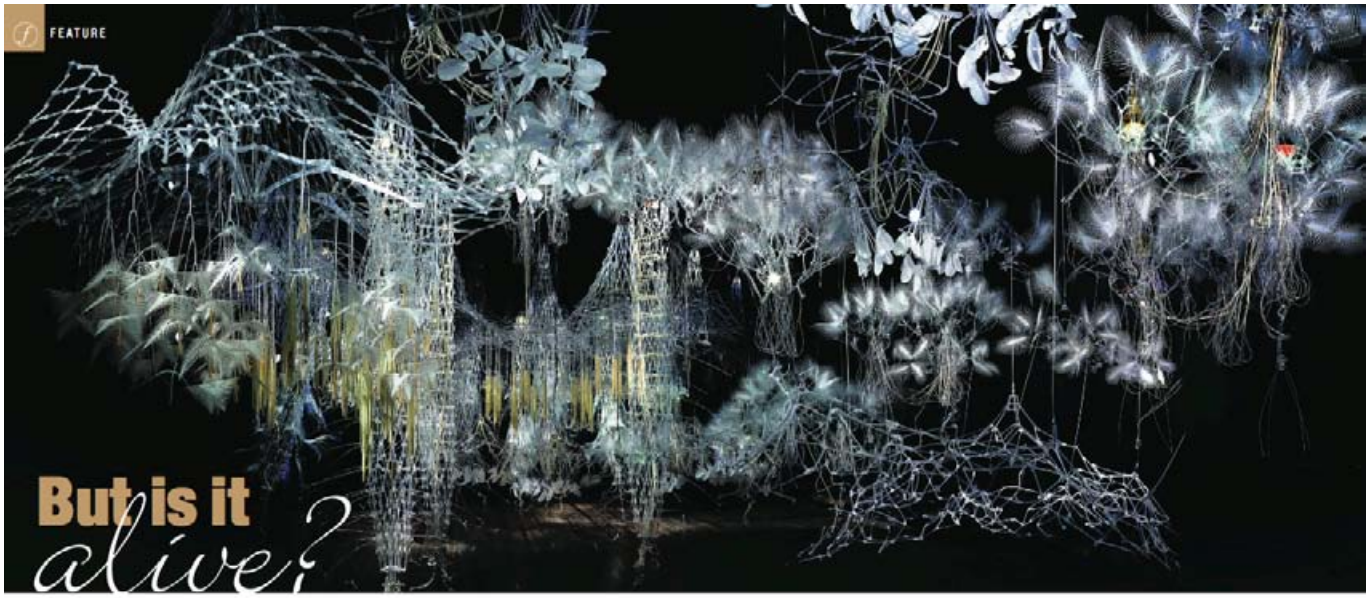
Is there a relationship between the developments in parametric architectural design, which uses environmental factors to create forms and designs which respond to the environment, and the potential for your own work?
I think that's a good question. There is a trend where we're looking at how information is embodied and what kinds of technology enable us to start exchanging information between different media. The relationship between parametric and any kind of digital data and the agent is a very intriguing one.
We need a manufacturing platform for the protocells. Essentially digital data will drive the 'birthing' of these protocells because they can't burst on their own. Whatever programme goes into making that digital data will influence the birth of the protocell. The cells can be engineered to be responsive to light. So any digital programme that can create a light-effect matrix will have an impact on the chemistry. We can put design-handles on these little agents so they can be sensitive to magnetic fields or colour change. There are lots of different triggers that we can put into these basic sets of chemistry. That can respond to other information sets other than chemistry. They respond to physical phenomena.

The possibilities of cells that generate materials have excited a lot of people in the field. I read some proposals to build on Mars or the Moon. What have been the most interesting or compelling ideas you've received?
They do tend to inspire people to think outside of the usual set of technologies that they would apply to problems. The idea of using protocells on reduce-gravity flights is a good one. Could they build on the moon? We don't know. It's a really interesting proposition because we do need to observe the dynamics of protocells in reduce gravity. So if anyone's got a space mission that they want to pop 10,000 protocells on then we'd be happy to lend them a hand!
What's amazing about it is because it's a different kind of technology it's opened up people's imaginations. I'm excited about that, I want everybody to own protocell. It's not like an Apple, it doesn't have a brand platform. If you can think of a solution within your sphere of practice that protocells appear to have a contribution then go for it. We'd be happy to hear from you.

Grand Magazine

Date . **September - October 2010**
Page . **38-43**

But is it alive?
by Barbara Aggerholm



EXHIBITION TAKES ARCHITECTURE TO MYSTERIOUS NEW DEPTHS

By Barbara Aggerholm

A SHIMMERING FOREST-LIKE environment that senses and touches its human visitors is turning heads and causing shivers at the world's most prestigious architectural exhibition in Venice, Italy.

Hylozoic Ground is the mind bending work of Philip Beesley, a full-time associate professor at the University of Waterloo's School of Architecture, and principal of Philip Beesley Architect Inc. in Toronto.

His primary collaborators are engineering director Robert Gerber, an associate professor at UW's Centre for Knowledge Integration who also does public interactive artwork, and Rachel Armstrong of University College London in the United Kingdom.

The exhibit — resembling an otherworldly field of sensitive plants, or the living forest at the 3-D movie Avatar — was chosen to represent Canada at the 2010 Venice Biennale.

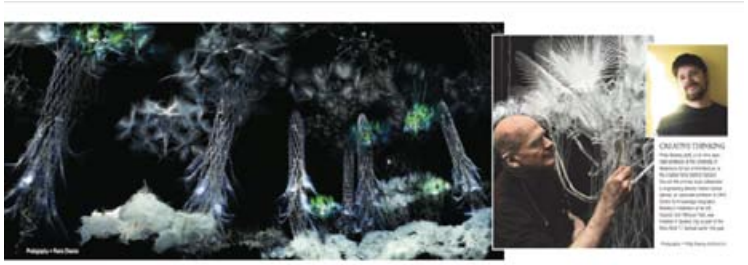
The Venice Biennale is the largest, most important exhibit of new architectural ideas in the world. More than 80 countries participate in the event, now underway until Nov. 21.

And Hylozoic Ground promises to be the talk of the town.

MAKING MAGIC

Members of the Philip Beesley Architect Inc. team — (left to right) Jonathan Tyrrell, Hayley Isaacs, Adam Schwartzentruber and Eric Bury — work on design prototypes in the Toronto studio. Beesley's mysterious Hylozoic Ground is now being exhibited at the 2010 Venice Biennale.

Photography • Philip Beesley Architect Inc.



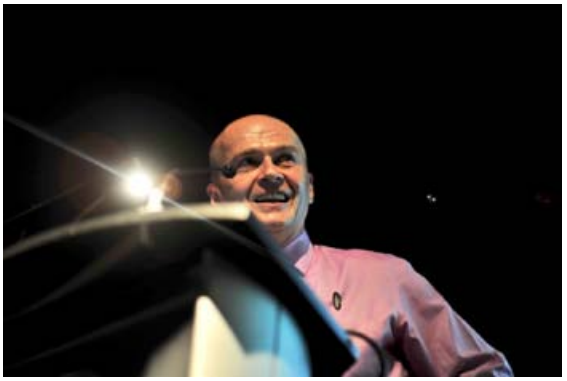
Philip Beesley Architect Inc., the Design Exchange and the Italian Cultural Institute request the pleasure of your company at a VIP reception and private preview of

HYLOZOIC GROUND

Canada's official entry to the 12th International Architecture Exhibition Venice Biennale.

COCKTAILS & CANAPÉS

Wednesday, June 23 2010. 5:30 p.m. – 8:00 p.m.
Design Exchange, 234 Bay Street, Toronto, 3rd Floor
Remarks & presentation at 6:15 p.m.
R.S.V.P. 416.216.2114 or laura@dx.org



CANADIAN PAVILION
VENICE BIENNALE 2010

HYLOZOIC GROUND

PHILIP BEESLEY

Hylozoic Ground is Canada's official entry to the Venice Biennale for Architecture Aug. 29 – Nov. 21, 2010.

Hylozoic Ground is an astounding marriage of architecture, art, science and technology.

An empathic living organism that interacts with individuals entering its space.

Join us as Canada goes for the gold at this year's 'Architecture Olympics'.

Buy a frond, one of the delicate leaf-like building blocks of the installation, for a $100 donation.

Help build Hylozoic Ground one frond at a time. Your name will be featured in our publicity, on our website and on our sponsor wall in Venice. You will also receive a charitable tax receipt.

For more information including major sponsorship opportunities, or to buy a frond, go to **www.hylozoicground.com**

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CBC Radio: Spark

Date . 04.06.2010

Hylozoic Ground and Responsive Architecture

by Nora Young

Spark Spark is a blog, radio show, podcast and an ongoing conversation about technology and culture. Spark is an online collaboration. Leave your thoughts, stories, and ideas here, and together we'll make a radio show.

Hylozoic Ground and responsive architecture

Nora visits the studio of Canadian experimental architect Philip Beesley to talk about Hylozoic Ground — an enormous, computerized, crystalline forest that moves in response to visitors walking through it. Philip will represent Canada at this year's Venice Biennale of Architecture. He talked to Nora about the trend of responsive architecture. (Runs 12:04)

- Hylozoic Ground
- Philip Beesley
- Venice Biennale of Architecture

Host Nora Young

Yes, That's Right, It's a New Post

JULY 20, 2010 (NO COMMENTS)

A while back, I visited experimental architect, Philip Beesley, in his studio in Toronto's west end. I went to talk to him about the enormous, beautiful, installation piece he's taking to the Venice Biennale of Architecture, representing Canada. It's a remarkable work, called Hylozoic Ground. You can see some images here. Hylozoism was the concept that everything contained some sort of life force, and this is reflected in Philip's work metaphorically. He's working in the area of 'responsive architecture,' where structures can change or move in response to external, environmental conditions, or in response to the way the people within the space are using it.

What I love about Philip's work is the way he's breaking down the hard line between the built and the natural environment, creating spaces that are permeable, changeable, and, well, responsive. As we humans start to generate more data about where we are, and how we are using the space around us (for example, with our GPS-enabled phones, we 'check in' at locations) will we be able to provide buildings with more information about us, and how we want to use the space? You can imagine a future in which architecture, the environment, and us, are all in a loop of information and response to that information.

Anyhoo, if you're curious about Beesley's thoughts, my interview with him on Spark is here

TAGS: ARCHITECTURE, PHILIP BEESLEY

The Globe and Mail

THE GLOBE AND MAIL

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A Canadian brings the light to Venice

by Lisa Rochon

LISA ROCHON: CITYSPACE

A Canadian brings the light to Venice

LISA ROCHON : Columnist profile : E-mail
From Saturday's Globe and Mail

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In his 1972 novel *Invisible Cities*, Italo Calvino described Zora as a city of unforgettable qualities. "The city which cannot be expunged from the mind is like an armature, a honeycomb in whose cells each of us can place the things he wants to remember."

This depiction of the city as a vessel for powerful collective memories is one of the images that has made Calvino's book a cult classic. You can read Calvino's linked poems in it as meditative journeys into mystic fiction or as a straight-up tribute to Venice (the book's narrator is the adventurer Marco Polo, who was Venetian). But, this time around, I'm most intrigued by the Italian writer's reference to the lightness of a city's design, like a honeycomb of cells.

A honeycomb of cells, both artificial and organic, dry and wet, is what Canadian architect Philip Beesley will unveil for Canada's official entry for this year's Venice Architecture Biennale, the most prestigious international event for contemporary architecture. His *Hylozoic Ground* is a reef of white fronds that will infiltrate the Canadian pavilion within the historic exhibition grounds (Venice's *Giardini Pubblici*). It's a highly speculative piece of artful architecture sweetened by its lightness. In a world made increasingly heavy by urban concrete, Beesley is floating some ideas of next-generation architecture with his diaphanous design, pointing ever so gently toward materials that are light, healing and can potentially renew themselves.

All is not lightness in Venice. A furor has erupted among German architects over whether or not to demolish the country's Nazi-style pavilion in the *Giardini*. If the monstrous building is allowed to stand, decades after it was horribly Nazified in 1938, German artists and architects will be permanently punished for the heaviness of their country's past sins.

This weekend, members of Beesley's team leave Toronto for Venice to begin construction in the Canadian pavilion. Beesley joins them next week, along with some 30 architecture- and art-student volunteers from across Europe. They're gathering, says Beesley, to participate in a labour-intensive "quilting bee" that will produce an inhabitable kinetic sculpture. *Hylozoic Ground* is electronically wired to recoil from or reach out to a visitor. Architecture that feels? Not yet. But design might some day show its feelings toward human beings and respond emotionally. Given that we're drowning in lifeless, aesthetically bankrupt architecture, that's an ambition worth exploring.

For now, as experienced recently during a sneak preview at the Design Exchange in downtown Toronto, the beautiful mutant designs by Beesley move unpredictably and without warning. The lightweight components are made of acrylic – true, that's an eco-pity – and the myriad pieces are fitted with microprocessors and proximity sensors. Imagine tens of thousands of white fronds and whiskers responding shyly in an exhibition hall packed with people.

Throughout the ages, architecture has almost always been heavy – firmly rooted in principles of solidity and durability. But *Hylozoic Ground* has its creative roots in the study of geotextiles begun some 15 years ago when Beesley, then a young Prix de Rome scholar, was assisting with excavations on the Palatine, the spread of hilltops that overlooks the ancient Roman Forum. Since then, he's created lightweight geodesic systems that seem to float above or grow out of the ground. For *Haystack Veil* (1998), Beesley cut and bundled 30,000 sapling twigs, applying his obsessive passion for finding new forms of architecture to construct a rustic perforated blanket, measuring one-quarter of an acre, on the edge of the Atlantic Ocean in Maine.

For Beesley, the ultimate challenge is how to seamlessly marry artificial structure with organic growth. It takes a leap of the imagination, but he wants us to give it a try. Within the embrace of the honeycomb structure being installed in Venice, barely detectable by the eye, a wet chemistry is at work. Designed with collaborators Rachel Armstrong of University College London and Martin Hanczyc of Syddansk Universitet in southern Denmark to mimic a human lymph system, small glass flasks are connected to a water-treatment system that trickles throughout the installation.

Water taken from the Venice lagoon drips through the flasks. The carbon contained within the lagoon water is captured to produce tiny limestone accretions. The limestone could help to reinforce the foundations of Venice, shoring up the sinking of what is effectively a city on stilts. A note to skeptics: This is an admittedly gestural, speculative kind of intervention. But the reality is that sirens warning of serious flooding have become the norm during the winter months in Venice. A war against water is raging, with dire predictions that Venice could be submerged by the end of the century. About 80 mobile floodgates, each weighing 300 tonnes, are being constructed by the Consorzio Venezia Nuova (CNV) for an estimated $3-billion – that's an example of heavy infrastructure.

At 2,000 square feet, the Canadian pavilion is one of the most diminutive of the permanent pavilions dotted throughout the lush exhibition gardens. The individual national pavilions are, for the most part, lyrical expressions by great masters of architecture. The Dutch pavilion was designed in 1954 by Gerrit T. Rietveld, the Finnish pavilion by the great modernist Alvar Aalto in 1956 and the Austrian pavilion by Josef Hoffmann in 1934.

The Canadian pavilion, however, was designed in 1958 not by one of our own but by Milanese architecture firm BBPR as part of Italy's Second World War reparations to Canada. This curious gift is a tectonic interpretation of a wigwam, splayed around a large oak tree, as tired and clichéd as the old *Bonanza* television series of the same era. The Canadian pavilion lacks the sublime modern presence of, say, the Danish and the Nordic pavilions, where last year's sweeping, highly ironic installation called *The Collectors* demonstrated a healthy vision and budget.

Though long under-funded, the Canadian pavilion's problems are relatively minor, especially when compared with Germany's beast of a pavilion, which began as a white classical temple in 1909 and was hastily reconstructed in 1938 by Ernst Haiger to suit a Nazi style of architecture. Delicate Ionic pillars were replaced by formidable Teutonic-style columns, and a peaked, pedimented roof was bluntly squared off. It's easy to imagine Mussolini and Hitler saluting each other – which they did – inside the front entrance. It's time to demolish that heavy stone structure and get on with life, a sentiment publicly declared by Arno Sighard Schmid, the president of the Federal Chamber of German Architects. Members of the pro-pavilion camp argue keeping the building allows history to be etched in stone rather than rewritten. But it also restricts future architects and artists to a constant rehashing of the past.

Architecture morphs and changes all the time. Buildings go up, they come down. It's a sign of a healthy economy and vibrant society. Of all the calamities a city can endure, however, the greatest disaster is its disappearance. As Calvino wrote, "Zora has languished, disintegrated, disappeared. The Earth has forgotten her." This summer, I'm thinking about Venice, where creativity, intelligence and lightness should be brought to bear.

The 2010 Venice Architecture Biennale runs from Aug. 29 to Nov. 21 (www.labiennale.org/en/architecture).

CBC News

Date . 15.07.2010
Page . Arts and Entertainment

Hylozoic Ground: Philip Beesley's experiment with architecture that lives
by Ramya Jegatheesan and Susan Noakes

Bound for the Venice biennale

Hylozoic Ground: Philip Beesley's experiment with architecture that lives

Last Updated: Thursday, July 15, 2010 | 3:29 PM ET
By Ramya Jegatheesan and Susan Noakes, CBC News

Toronto architect Philip Beesley's visionary exhibit Hylozoic Ground is a startling blend of art, fancy and high-tech engineering.

The project heads to Venice this summer as Canada's entry at the 12th International Architecture Biennale, an annual forum for new ideas in architecture and design that runs Aug. 29 to Nov. 21, and is expected to attract more than 130,000 visitors. Beesley plans to fill the 2,000-square-foot Canada Pavilion in Venice with otherworldly columns, spirals and organisms that interact with the people who pass through.

Hylozoic Ground is made up of plant-like objects with delicate white fronds; a filigree-like space-age mesh that creates beautiful expandable structures; and huge, tree-like columns that expand in and out in response to the environment around them. These lightweight components

'What could architecture be? How could an environment move around us, maybe know us, maybe even care about us?'

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The Design Exchange

Date . 12.07.2009

Like Something out of a Movie
by Ivan Stefanac

Like Something Out of A Movie

Jul 12, 2010 2:02 PM
Ivan Stefanac

Canada's entry to the 12th annual Venice Biennale falls somewhere between an art installation, high-tech display and commentary on architecture & design.

Entitled **Hylozoic Ground**, the project is made up of smaller objects with plant-like qualities that are intertwined together to form larger expandable structures. These tree like structures made with unique white mesh and fronds have built in microprocessors and proximity sensors that allow for them to respond to the environment around them.

If a human approaches the structures quickly, they will response in a equally abrasive manner. Approach it slowly and the individual objects will move to welcome you. Architect Philip Beesley calls it 'responsive architecture' and explains that Hylozoic Ground ultimately demonstrates "architecture as a sheltering quality".

Through the use of environmental filters that could not only save energy but generate it, the project has also been inching its way forward to potentially 'self-renewing architecture'.

Already exhibited to great acclaim in London, Madrid, Sao Paolo, Mexico, New York and Copenhagen, Beesley dreams of greater accessibility. Displayed in a public preview at the Design Exchange last month, the team is now preparing for the long haul to Venice.

With over 2,000 square feet to fill in the Canadian Pavilion, it will surely leave the 130,000 expected visitors in awe. To keep up with the team and the project, you can visit their website.

(Photo Credit Ramya Jegatheesan/CBC)

CBC Television: The National

Date . 16.07.2010

Future of Architecture
with Jelena Adzic

Azure Magazine

Date . Sept. 2010
Circulation . 55,000
Page . 86-91

Life in Venice
by Terri Peters

AZURE

4 INSIDE THE DESIGN MIND

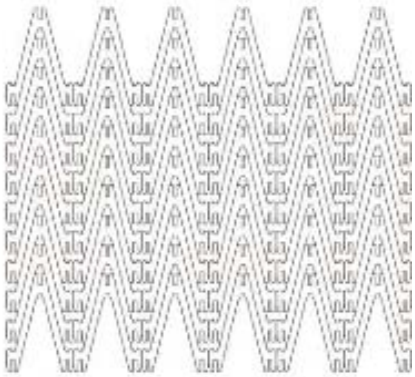
LIFE IN VENICE

Beckoning and recoiling, breathing and swallowing, Philip Beesley's Hylozoic Ground, installed at the Venice Architecture Biennale, reveals a future when building envelopes will push the limits of artificial life

BY TERRI PETERS PORTRAIT BY LORNE BRIDGMAN

ABOVE
Philip Beesley's immersive, room-scaled environments have won him awards around the world. Shown is a detail of Hylozoic Soil, installed for the Festival de México, Mexico City, 2010.

OPPOSITE
Beesley in his Toronto studio, June 2010.

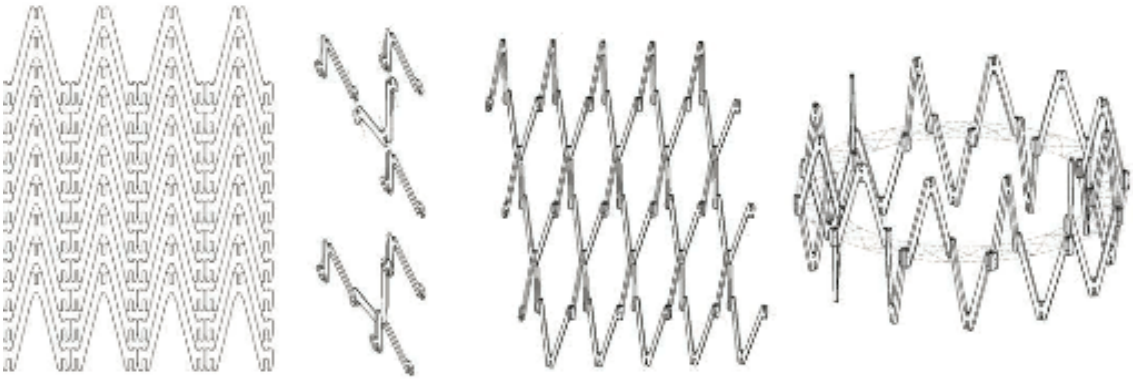


It's late June, the week before architect Philip Beesley has to pack up and ship the thousands of pieces that make up Hylozoic Ground for the laborious process of assembly. His project, now installed in the Canadian pavilion at the 2010 Venice Architecture Biennale, has both poetic and practical intentions. On the poetic side, it aims for a state of intense sensitivity; as a practical venture, it pioneers futuristic concepts for responsive, self-renewing and self-maintaining building envelopes. Beesley has been experimenting with these ideas since 2007, installing iterations of his Hylozoic series in galleries around the world. Earlier this year, versions were mounted in Quebec City and Mexico City, and last December aspects were featured as an artwork at COP15 in Copenhagen. He has already garnered many prestigious awards for his responsive, tactile installations, and now more than 130,000 expected visitors to the biennale are set to experience his strange, intriguing world first-hand.

The main floor of his office, shoehorned into an Arts and Crafts–era house in a leafy Toronto neighbourhood, has become what he calls "a grotto of stuff." Brushing aside several acrylic forms that dangle from the ceiling, he steps over piles of pear-shaped glass flasks that will be filled with an oil mixture and illuminated with LEDs. He has spent the morning at the centre of this hive, stress-testing with student volunteers – trying to snap and break various acrylic connectors and seals, the installation's critical joining components. "We have to know how the different elements will break, how they will fail," he explains. "I have fields of damaged things around me. It is kind of sad," he says in a slightly bemused

GROUPWORK
Student volunteers in Beesley's Toronto office pre-assembling components before they're shipped to Venice

DANGLING PARTICIPLES
Acrylic prototypes of structural parts hang from the ceiling in the ground-floor office



ACRYLIC CHEVRONS
The installation's supporting structure is a mesh made of snap-together acrylic chevrons assembled in a flexible diagonal grid. These and most of the other parts of the sculpture are digitally fabricated from sheet acrylic, using tightly nested CAD drawings to minimize material waste.

"THESE COMPONENTS HAVE A SLIGHTLY UNSTABLE SENSE ABOUT THEM, LIKE THEY DO THEIR OWN BIDDING"

PHOTOS BY JOHN BOZANICH

way. Students pre-assembling parts of the project sit in groups, learning how to build the clusters, snap-fitting pieces together to make larger assemblies. It's a non-linear, collaborative production system. Things break, fingers blister, and someone must remember to check the video feed for the laser cutter whirling away in the basement. (It needs to run almost all the time to make the 400,000 tiny pieces to be joined by hand, in the right order and at the right time.)

Hylozoic Ground represents a hyper-collaboration among architects, artists, engineers and scientists, underwritten by scores of volunteers. But to appreciate what has been achieved here, it's helpful to have a basic idea of what the structure looks like and what it does. Essentially, it's an elaborate, room-scaled sculptural environment suspended from the ceiling and rising from the floor. Standing inside and looking up reveals a wilderness of horizontally layered plastic components embedded with technologies and lights, inviting exploration. Think *Avatar*'s Tree of Souls. Beesley describes the myriad acrylic pieces that make up the installation as "whiskers," "feathers," "clouds," – words that conjure up textures and emotions rather than performance and form. The project "hisses," "breathes" and "strokes," actions that approximate human behaviours. "It is not a heavy-duty robot that might signal control. These components have a slightly unstable sense about them, like they do their own bidding," he says.

As a person approaches, proximity sensors detect movement, and respond with caressing and swallowing motions, sending out an invitation to engage. Sensors in the tips of appendages react to human touch by setting off an array of microprocessors, producing a series of choreographed movements that ripple through the structure. Stray organic matter from visitors is drawn up by the breathing apparatus's peristaltic motion and absorbed in the upper-layer filters. Beesley calls it a "responsive geotextile," but that seems like

SENSOR DRAWING
Sensor lashes (in red) powered by shape memory alloys produce motion in response to visitors. The installation is suspended from the ceiling and anchored to the floor with custom metal claws.

ABOVE
Beesley examines an oil-filled flask, one of several in the installation's "lymphatic system."

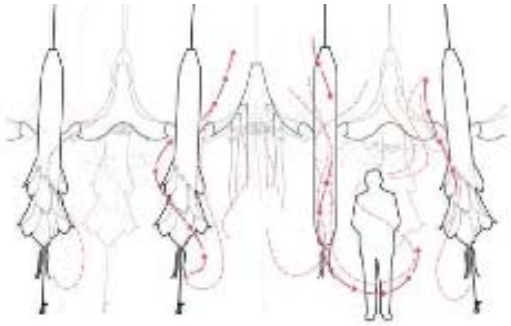
"IT'S RATHER LIKE BEING GREETED BY AN EXPANSIVE, SURREAL DOG THAT IS PLEASED TO MEET YOU"

QUEBEC CITY
Detail shot and overall view of Hylozoic Soil: Medusa Field, mounted for the Mois Multi Festival, Quebec City, 2010

an architectural cover for the ground breaking physical and philosophical ideas it explores.

Empathy and connectedness are leitmotifs in Beesley's work, and are also apparent in his personal interactions. Beyond his own practice, he teaches architecture at the University of Waterloo, from which most of the volunteers are drawn, lured by the chance to work on the cutting edge of architectural exploration. His investigations into accretions on the earth date back to the mid-'90s, when as a Prix de Rome recipient he spent time exhuming the underpinnings of the Eternal City. In response, he produced an exhibit called Palatine Burial, an important juncture in his ongoing research into interconnected membranes suspended over the earth to create a new ground layer. Early work with organic material progressed into increasingly complicated artificial constructions, culminating in Hylozoic Ground, with the name taken from hylozoism, an ancient belief that a form of life exists in all matter.

With each iteration, the sculpture has taken a step toward becoming a more complete artificial organism – with a skeleton that supports movement, breathing apparatus, and nervous and lymphatic systems. The underlying structure is a mesh made of snap-together acrylic chevrons assembled in a flexible diagonal grid. These and most of the other parts are digitally fabricated from sheet acrylic, using tightly nested CAD drawings to minimize material waste. The design of the chevrons and the components that support the kinetics has continued to evolve – as have the software and hardware behind the responsive movement, which were developed by artist, engineer and mechatronics expert Rob Gorbet, Beesley's prime collaborator and fellow Waterloo professor. Gorbet explains that his work goes beyond developing the controllers and firmware embedded throughout the installation, as well as the custom-designed actuators, whose movements are based on shape memory alloys: "My lab is now starting to investigate people's emotive



BREATHING CYCLE
Diagram showing airflow patterns in the installation. Stray organic material from visitors is drawn up via the breathing apparatus's peristaltic movement and absorbed by the upper filter layers.

MEXICO CITY
An overall shot of Hylozoic Soil (top right), installed in the Laboratorio Arte Alameda, a former church in Mexico City, for the Festival de México, 2010. The other two images (above left and right) capture the immersive environment and a detail of the filter layer.

PHOTOS COURTESY OF RAI

response to the installation, and whether we can tailor different motion profiles from the responsive actuators to generate or enhance specific emotions in the viewers."

Dr. Rachel Armstrong, a London-based medical doctor turned artificial life researcher, collaborated with Beesley on the lymphatic system. A network of flexible tubing connects to a series of flasks containing mixtures of oils, Venice canal water and minerals – approximating the conditions for simple cell evolution. This self-renewing chemical system explores how parts of a building might work like a metabolism to transform noxious materials in the environment into benign ones. Armstrong calls Hylozoic Ground "personal, seductive and ambiguously 'alive,' both in terms of the rich sensory experiences that promise to unfold within its fabric, and in the substance of the installation itself, which is an entity that has some properties of living systems but is not truly alive." She imagines visitors entering the pavilion will feel as if they are being embraced by a quivering membrane that licks and sniffs at them, in an experience "rather like being greeted by an expansive, surreal dog that is pleased to meet you."

Beesley and his team will soon discover whether visitors will caress the long mechanical arms that extend to greet them, setting off the sensors to make the membrane canopy quiver. Or will they back away when unfamiliar appendages huff and puff, driven by thermal plumes of stirred-up air and dust? The Canada Pavilion, built in 1958 by renowned Milanese architecture firm BBPR, features a living tree encased in glass, poking up through the space, offering a metaphor for the nation's relationship with nature and artifice. "The tree will be a strange cousin to the piece," muses Beesley. "We'll see which looks more alien, more out of place." **AZ**

Hylozoic Ground is on view in the Canada Pavilion at the Venice Architecture Biennale until November 30, 2010.

Karen von Hahn

Date . 26.06.2010

Creature chic

YOU ARE READING

June 26, 2010

In Design, Style

2 comments

Creature chic

Canada's Biennale Bid: animal, vegetable or architecture?

Popped in to the Design Exchange the other night for the presentation of architect and sculptor Philip Beesley's *Hylozoic Ground*, Canada's juried selection for the 2010 Venice Biennale in Architecture. Hylozoism apparently, is the ancient belief that all matter has life...

And Beezley's Day of the Triffids-inspired entry, which moved its tiny tendrils toward you responsively was vaguely unsettling. Was it a thing, or a place? Was it sculpture or architecture? Was it an ancient primeval form of life or a vision of the future?

Futurist Fern

Some in the design-heavy A-list crowd were charmed by its delicacy. But many were perplexed.

Futurist or Primitive?

Beezley sought to set them straight with the explanation that the piece which exhibited the properties of "ozymotic action" was "a reminder that even the ground beneath our feet isn't really solid but shifting".

Crazy, man.

Meanwhile, I was distracted from Beezley's presentation by the incredible futurist/primeval bracelet on the wrist of the guy standing next to me, who turned out to be Toronto interior designer, William Anderson.

Georg Jensen now Heirloom

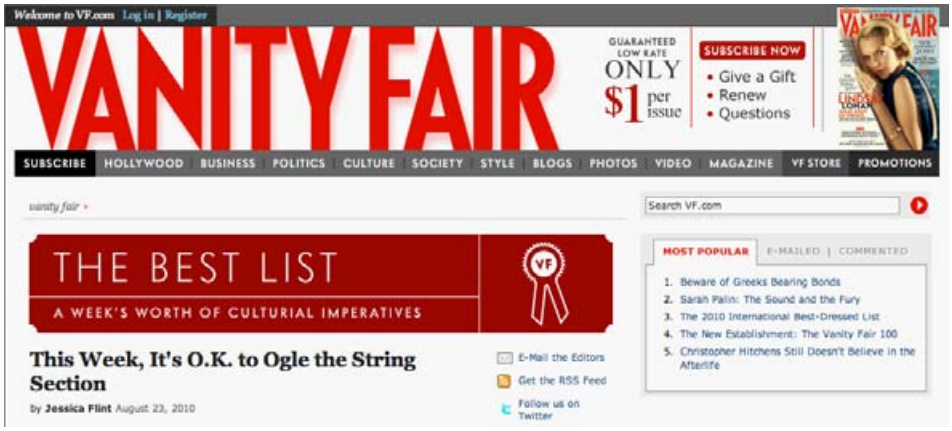
Anderson told me that the piece is Jensen, #163. It was stainless, marked and sized for either a very large woman or a man. When he was just a stripling of 19, he happened upon it at the pawn shop McTamney's. Apparently it had been left for pawn by a biker–presumably one with excellent taste.

Oh, and William's ring is a piece by local sculptor Gord Peteran.

Vanity Fair

Date . 23.08.2010

The Best List: A Week's Worth of Cultural Imperatives
by Jessica Flint



DESIGN

Already an architectural overachiever, Venice will gild the lily this week with the opening of the 12th International Architecture Exhibition (part of the Biennale, which stages the better-known art fair on alternate years). Fifty-three countries, including new entrants Iran and Rwanda, have sent design emissaries to the historic pavilions at the Giardini Publici and spaces around the city. Don't miss the LED-lit Chinese garden in the China pavilion or Philip Beesley's Hylozoic Ground, a network of mechanical tendrils that sense your presence and reach out or shrink away as you pass through the Canadian hall. Running through November 21, the festival opens for previews on August 26 and to the public on the 29th. labiennale.org

Archiseek

Date . 10.09.2010

Waterloo University's Hylozoic Ground to represent Canada at Venice Biennale

Ontario Association of Architects

Date . 09.09.2010

CBC Interview: Philip Beesley on Hylozoic Ground

CBC Interview: Philip Beesley on Hylozoic Ground
Canada's official entry to the 2010 Venice Architecture Biennale

Hear about Hylozoic Ground, Canada's official entry to the 2010 Venice Architecture Biennale from Toronto architect, Philip Beesley

Listen to Toronto architect Philip Beesley with Nora Young on CBC Radio's flagship culture and technology show, "Spark" click and listen to or to download as a podcast at:
<http://www.cbc.ca/spark/2010/06/spark-116-june-6-8-2010/>.

CBC

The interview gives you an idea of the project, its many layers, and why it matters. And less than 12 minutes!

artdaily.org

Date . 20.09.2010

Canadian Pavilion in Venice: Hylozoic Ground by Philip Beesley

by Terry Pender

Canadian Pavilion in Venice: Hylozoic Ground by Philip Beesley

An overall view of Hylozoic Ground as installed in Quebec City as part of the Mois-Multi 11 festival in 2010.

VENICE.- For the 12th International Architecture Exhibition Hylozoic Ground transforms the Canada Pavilion with an immersive, interactive environment made of tens of thousands of lightweight digitally-fabricated components fitted with meshed microprocessors and sensors. The glass-like fragility of this artificial forest is built of an intricate lattice of small transparent acrylic meshwork links, covered with a network of interactive mechanical fronds, filters and whiskers. The environment is similar to a coral reef, following cycles of opening, clamping, filtering and digesting. Arrays of touch sensors create waves of diffuse breathing motion, luring visitors into the shimmering depths of a forest of light. The project is designed by Philip Beesley, Associate Professor of Architecture at the University of Waterloo, with engineering director Rob Gorbet, experimental chemist Rachel Armstrong, and many collaborators.

The project's title refers to 'hylozoism', the ancient belief that all matter has life. Hylozoic Ground offers a vision for a new generation of responsive architecture. The Hylozoic Ground environment can be described as a suspended geotextile that gradually accumulates hybrid soil from ingredients drawn from its surroundings. Akin to the functions of a living system, embedded machine intelligence allows human interaction to trigger breathing, caressing, and swallowing motions and hybrid metabolic exchanges. These empathic motions ripple out from hives of kinetic valves and pores in peristaltic waves, creating a diffuse pumping that pulls air, moisture and stray organic matter through the filtering Hylozoic membranes. 'Living' chemical exchanges are conceived as the first stages of self-renewing functions that might take root within this architecture.

Hylozoic Ground | Canadian Pavilion | 12th International Architecture Exhibition |

The Wall Street Journal

THE WALL STREET JOURNAL.

Date . 23.08.2010
Page . W1
Section . Arts & Entertainment

Meeting in Space: The Venice Biennale Brings Together Architects

by Andrew McKie

Meeting in Space

The Venice Biennale Brings Together Architects

Sergio Pirrone for The Wall Street Journal

The gangway through the cloud made by Transsolar and Tetsuo Kondo Architects.

The title seems simplistic, but it can be interpreted in many ways," says Kazuyo Sejima, the first woman to direct the Venice Architecture Biennale, at the news conference to open this year's exhibition, "People meet in Architecture."

If people meet in architecture, architects meet in Venice. Not in the architecture of the imposing and venerable churches, museums and palazzi that line the Grand Canal; nor even, strictly speaking, in the abandoned warehouses of the Arsenale and exhibition pavilions in Giardini, which constitute the exhibition venues, the permanent structure of which the architects largely disregard; but in the temporary, imagined and potential spaces represented within them.

Sergio Pirrone for The Wall Street Journal

Large balanced struts by Antón García-Abril and Ensamble Studio

The 12th gathering of the most important show for those concerned with what is now usually called "the built environment," which runs until Nov. 21, may have an apparently less opaque subject than some previous years' themes—"Metamorph"; "Out There"; "Next"—but those attending are as determined as ever to interpret it in many ways.

And, indeed, as the architects, critics, engineers, urban planners, academics and design fans trudge from pavilion to pavilion through the dusty gravel and punishing heat, sweltering in their emphatic eyewear and their black designer suits so unsuited to the heat, their T-shirts emblazoned with the names of typefaces (in those typefaces), acquiring more and more cloth tote bags packed with catalogues and manifestos as they go, there is nothing if not variety.

Here, in the Arsenale's warehouses, Smiljan Radic and Marcela Correa of Chile have carved a hole, just large enough for one person, into a large stone. Matthias Schuler's Transsolar of Stuttgart and Tetsuo Kondo of Tokyo have filled a room with a cloud, through which one walks on a spiral gangway. Janet Cardiff has assembled a circle of speakers playing Thomas Tallis's 40-part motet "Spem in alium." Here, too, is Wim Wenders's 3D film of Ms. Sejima and her collaborator Ryue Nishizawa riding bicycles and Segways around the Rolex Learning Center they designed in Lausanne. "The building and the film needed movement," Mr. Wenders says. "They were courageous enough to try it and, by the end, I think they became stunt riders."

Over there, in the Giardini, the Czech and Slovak pavilion's opening appears to be impeded by Health and Safety officials trying to dismantle the timber structures hanging outside with chainsaws, though this turns out to be a performance. The Australians, in a remarkable day-glo orange exhibit entitled "Now and When," are showing an extraordinary rendering (also in 3D) of the country's western cities, contrasted with the ziggurats of quarries in the east that have provided the ore to build them. Belgium has pieces of flooring and plywood table-tops retrieved from redundant factories hung on their walls like abstract expressionist paintings. Philip Beesley, at the Canadian pavilion, is explaining how his strange, unsettlingly beautiful, fern-like structures, which react to light, heat and movement, may lead to responsive, breathing, perhaps even conscious, forms of architecture.

View Full Image

Sergio Pirrone for The Wall Street Journal

'Matter/Antimatter' by Attilio Stocchi, as a part of the

"Well, it is not just a trade fair," says Mirko Zardini, director of the Canadian Centre for Architecture. "The Biennale serves a different purpose from, say, London's Festival of Architecture, or the versions of it now reproduced elsewhere. The curatorial element gives it a different momentum. And though the national pavilions don't always follow the themes closely, at its best, the director is able to capture a moment, not just in visual themes, but underlying attitudes." This echoes Paolo Baratta, the Biennale's president. "An exhibition of architecture cannot be like other exhibitions of knowledge," he argues. "Its intention is to provoke imagination and creativity—and it's also a meeting point. Sejima has given us the idea that clients, architects and citizens must share the capability of listening to the space in which we live; which is the starting point for building a better building, and a better society."

These sentiments may seem both lofty and vague, but the most successful exhibits here are, for the most part, those which have attempted to engage with this debate, whether conceptually or with fully worked-out models and proposals. The Golden Lion for the best national pavilion was awarded last Saturday during the official opening of the exhibition to the Kingdom of Bahrain, which triumphed over 52 other participating countries at its first participation in the event. Its entry consisted of three huts belonging to families involved in fishing, which had been dismantled and reconstructed in an Arsenale warehouse; each contained screens playing interviews with people from those communities.

"Land reclamation in Bahrain has often seen people like these displaced," co-curator Noura Al-Sayeh explained. "In some cases, families from fishing villages have found their homes a mile and a half inland, and these huts have sprung up along the water's edge."

View Full Image

Sergio Pirrone for The Wall Street Journal

The fern-like structures by Philip Beesley in the Canadian pavilion

The prize for an individual project was given to Junya Ishigami for an almost invisible cuboid form, which appeared to be made of very thin white thread that, as could just be made out, was supported by even finer filaments; diagonal buttresses, which, like spiders' webs, could be seen only when the light and observer's angle were right. The explanatory notes explained that were this "Architecture as Air" to be built, it would be likely to fall like rope under the slightest external forces—something which, when I returned to inspect it again on the second day of previews, appeared to have happened to a section of it.

This concentration on the qualities of air and space in building environments, rather than on models of proposed grands projets, characterized many of the exhibits. Perhaps it is a response to economic circumstances. If actual construction is unlikely, virtual constructions have licence to be unlikely, too.

Malaysia offered models of conventional towers, but on closer inspection some were in trees, or under water. The popularity of Denmark's white miniatures of real construction projects (entitled "What Makes A Livable City?") may have been due not only to the country's enviable reputation for architecture but also to the fact that, unless one was prepared to climb into a jam-packed horizontal inflatable balloon, their opening was the only one that offered beer.

Only in the American pavilion, where the history of John Portman's Peachtree development in Atlanta in bar charts of profits, jobs and square footage, projected on the wall, rose like the perspex models on the table behind, was there the uncompromising number-crunching of dollars per brick.

Three pavilions above all share a theme relating to Mr. Baratta and Ms. Sejima's idea of "listening to the space in which we live" in a practical fashion, even when expressed in wildly different interpretations. The Dutch, Japanese and French national entries each examine the notion of the void in modern cities. The Netherlands pavilion does it in the most straightforward manner, simply pointing out that the building lies empty for almost nine months of the year. As you enter an empty room, there is a suspended blue foam ceiling that, when one proceeds to the upper level, turns out from above to be a model of a city. It provides a neat visual example of the percentage of empty space in European urban spaces.

Dominique Perrault, who curated the French pavilion, entitled "Metropolis?," says he believes, "The future of the city is to control the quality of that empty space." In a kinetic, vertiginous multimedia representation of several French cities, his presentation argues that these spaces mean that our notions of the territory of a city are bound to change. "At first I was concerned that the void would be commandeered by developers or the state, but it is simply too big—85% or more. It's impossible now to imagine expansion continuing," he says. Mr. Perrault is so cheerfully enthusiastic that I hesitate to mention the Japanese entry, entitled "Void Metabolism." He roars with laughter. "I know, they are arguing exactly the opposite."

Yoshiharu Tsukamoto of Atelier Bow-Wow, which designed the elegant domestic models in Japan's pavilion, uses a film of the rapidly changing layout of Tokyo to make his point. "During the 20th century, architects could test different expressions and techniques, but the house was always particularized by consumers. Especially in Tokyo, where the ownership of small plots means that the average life span of houses is only 26 years," he says. "But there is no real connection with neighbors. We feel that the Internet and social networks have changed those dynamics, and that there is now the opportunity to create a new typology; to make a house as generous as possible and at the same time begin to use the adjacent spaces to create new community frameworks."

dezeen design magazine

Date . 27.09.2010

Hylozoic Ground by Philip Beesley

Hylozoic Ground by Philip Beesley

August 27th, 2010

Venice Architecture Biennale 2010: Toronto architect Philip Beesley has installed a forest of acrylic fronds that move as though breathing inside the Canada pavilion at the Venice Architecture Biennale, which opens this week.

domus Venezia

Date . 20.09.2010

Philip Beesley / Hylozoic Ground, Canadian Pavi

Philip Beesley /Hylozoic Ground, Canadian Pavilion

SHARE

Philip Beesly, Waterloo architects and a myriad team of scientists and curators have created a first glimpse at what a living architecture could look like. In a structure that takes its skeleton from Buckminster Fuller and layers it with complex heat and motion sensitive fibres that roll and move when approached, all seemingly fuelled by a bubbling green experiment at its centre.

Azure

Date . July. 2010

Now in Venice: Philip Beesley's Hylozoic Ground

AZURE
DESIGN | ARCHITECTURE | INTERIORS | CURIOSITY

Architect

Date . 20.09.2010

As it Lives and Breathes

by Aaron Betsky

hanley wood
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As It Lives and Breathes

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The ground is no longer underfoot. It lives and breathes, surrounding you with tiaras, candelabras, reefs, and stalagmites that pulse, flutter, and ripple in a manner that belies their mineral forms. This is architecture as living jewelry.

Courtesy: Philip Beesley

It is actually an installation called Hylozoic Ground, which currently fills the Canadian Pavilion at the 12th International Architecture Biennale in Venice. It is the latest in a series of experiments in which architect **Philip Beesley** and his firm have collaborated with scientists to explore the ancient Greek notion of "hylozoism," which held that all matter has life. Though this belief has been out of favor for millennia, in the era of quantum physics and advances in earth science the boundaries between the living and the mineral have indeed become increasingly vague. Beesley is fascinated with the notion that what we think of as static structures might actually change and react both to their environment and to us. He also has predilection for the most refined, delicate versions of dirt and stone, namely quartz, diamonds and other compressed forms of carbon. He takes his inspiration from living forms that appear to be mineral, such as ocean reefs.

Courtesy: Philip Beesley

In Venice, the hylozoic installation consists of a forest of plastic connectors without a clear core. They gather into bunches, arching from one to the other. Together, the overall structure is like a Gothic cathedral's ceiling—appropriate, I think, as this was another instance where architecture mimicked natural forms of organization. Suspended within these webs and a baskets are small vials containing a liquid that, Beesley says, can store and dissipate energy gained from the humidity and movement in the pavilion. Lashes extend out from the webs, quivering as you pass or moving in barely perceptible waves through the whole structure.

About the Blogger

Aaron Betsky

Aaron Betsky is the director of the Cincinnati Art Museum, and in 2008 he was director of the 11th Venice International Architecture Biennale. Trained as an architect at Yale, he has published more than a dozen books on art, architecture, and design and teaches and lectures about design around the world. Aaron worked for Frank O. Gehry and Associates and Hodgetts & Fung Design Associates as a designer, taught for many years at the Southern California Institute of Architecture, and between 1995 and 2001 was curator of architecture and design at the San Francisco Museum of Modern Art. From 2001 to 2006 he was director of the Netherlands Architecture Institute in Rotterdam, the Netherlands.

See all of Aaron Betsky's Posts

Photo: Pierre Charron

This skein casts itself all over and around you as you move through the darkened Pavilion, catching you in infinite geometries that seem to change as you move through the lacunae in the web. Then the whole structure, or just a small part, will start to move, its tiny muscles contrasting or relaxing. According to the various texts that accompany the exhibition, they do so either in reaction to your presence or to an internal logic based on the inputs they obtain from their environment. The whole aspires to be a living thing rather than a mute structure.

Whether it works as such, I will have to leave open. I do not have the scientific knowledge to ascertain how much of what Beesley says is verifiable. All I know is what is visible here, which is an architectural structure that seems to be alive, that seems to be mineral, and yet is clearly human-made, that is continuous and fragmentary, offering a structure that is a complete alternative to the building that contains it.

If architecture aspires at times to be a framing structure that comes between ourselves as human bodies incarnate and a wider universe, providing a way of establishing our place in that larger world, then it would seem appropriate that architects today begin to develop structures that articulate what we currently understand that universe to be. Hylozoic Ground is, beyond an exquisite moment of modern rococo, an attempt to construct such a veil of emplacement.

Postscript: Several of you have commented that there is a new generation of lightbulbs out there that are up to 80 percent more efficient and beautiful as well. My favorite is the **Plumen 001**.

Posted By: Aaron Betsky (Bio) at 6:54 AM Permalink and Comments(0) Add a Comment Subscribe

Canadian pavilion at venice architecture biennale 2010

canadian pavilion at venice architecture biennale 2010

'hylozoic ground', the canadian pavilion at the 12th international architecture biennale in venice, italy
image © designboom

'hylozoic ground', canada's official national pavilion for this year's la biennale di venezia, is an experimental piece of architecture that explores the qualities of contemporary wilderness. designed by canadian architect and sculptor philip beesley, the installation is constructed out of an intricate system of transparent acrylic meshwork links, covered with a network of interactive mechanical fronds, filters, and whiskers.

the root of the project's name, 'hylozoism', refers to the ancient belief that all matter has life. true to its source, the whole installation functions similarly to a giant lung, breathing in and out around its occupants. the interactive piece of architecture responds to human presence and movement by tens of thousands of lightweight digitally-fabricated components which are fitted with microprocessors and proximity sensors.

'hylozoic soil' explores how the built environment can affect humans on an emotional and poetic level, bridging the gap between the animate and the inanimate. the technologies used in the construction of the installation has the potential to be applied and translated to fields beyond the discipline of architecture such as geotextiles, material science, environmental engineering, robots, and biotechnology.

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Tze-chun Wei

Date . 09.09.2010

Philip Beesley's Hylozoic Ground

tze-chun wei

Philip Beesley's Hylozoic Ground 2010-09-09

As Beesley explains, "Hylozoic Ground is an immersive, interactive environment that moves and breathes around its viewers... Next-generation artificial intelligence, synthetic biology, and interactive technology create an environment that is nearly alive." Indeed, he adds, "hylozoism is the ancient belief that all matter has life."
The resulting structure is "similar to a coral reef, following cycles of opening, clamping, filtering and digesting. Arrays of touch sensors create waves of diffuse breathing motion, luring visitors into the shimmering depths of a forest of light."

Vernissage TV

Date . 10.09.2010

Philip Beesley Hylozoic Ground
Canadian Pavilion at Architecture Biennale Venice 2010 / Interview

« Topotek 1: Sports Facility Heerenschuerli / Interview with Martin Rein-Cano | Home | Pipilotti Rist: Heroes of Birth / Luhring Augustine Gallery, New York »

Philip Beesley: Hylozoic Ground. Canadian Pavilion at Architecture Biennale Venice 2010 / Interview

September 10, 2010

The Canadian Pavilion at the 12th International Architecture Exhibition – La Biennale di Venezia in Venice, Italy, presents Philip Beesley's Hylozoic Ground, an immersive, interactive environment made of lightweight digitally-fabricated component fitted with meshed microprocessors and sensors.

VernissageTV met with Philip Beesley on one of the preview days of the Biennale. In this interview, the artist and architect explains the word hylozoism and talks about the beginnings of his work on this topic, the concept of the exhibition at the Canadian Pavilion, the poetical and practical side of his work, and the next steps in the evolution of this system. The above video is an excerpt of the interview. The full-length version of the video that also contains an interview with Rob Gorbet is available after the jump.

Hylozoic Ground at the Canadian Pavilion in the Venice Biennale's Giardini is a project designed by Philip Beesley, Associate Professor of Architecture at the University of Waterloo, with engineering director Rob Gorbet,

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Hylozoic Ground at the Canadian Pavilion in the Venice Biennale's Giardini is a project designed by Philip Beesley, Associate Professor of Architecture at the University of Waterloo, with engineering director Rob Gorbet, experimental chemist Rachel Armstrong, and many collaborators.

The Hylozoic Ground environment can be described as a suspended geotextile that gradually accumulates hybrid soil from ingredients drawn from its surroundings. Akin to the functions of a living system, embedded machine intelligence allows human interaction to trigger breathing, caressing, and swallowing motions and hybrid metabolic exchanges. These empathic motions ripple out from hives of kinetic valves and pores in peristaltic waves, creating a diffuse pumping that pulls air, moisture and stray organic matter through the filtering Hylozoic membranes. 'Living' chemical exchanges are conceived as the first stages of self-renewing functions that might take root within this architecture. (Excerpt from the press release).

Philip Beesley: Hylozoic Ground. Canadian Pavilion at Architecture Biennale Venice 2010 / Interview. 12th International Architecture Exhibition – La Biennale di Venezia, Venice / Italy. Preview, August 27/28, 2010.

More info via VTV contemporary art search
Philip Beesley: Links | Videos | Images | More Images

> Right-click (Mac: ctrl-click) this link to download Quicktime video file.

Full-length episode, interviews with Philip Beesley and Rob Gorbet:

AT Casa Corriere

Date . 09.09.2010

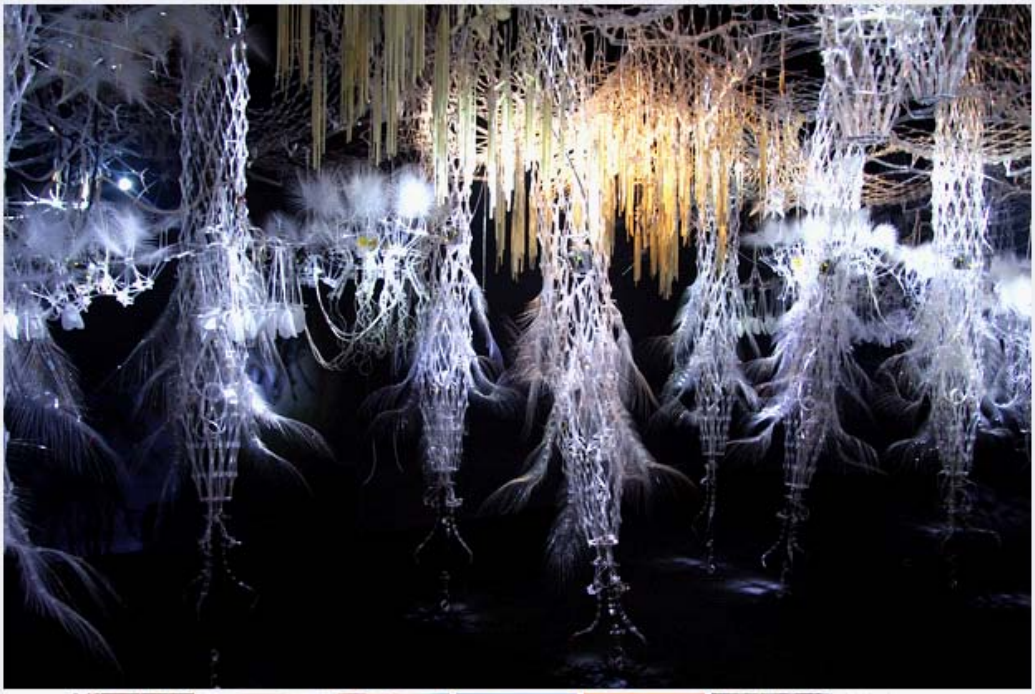
Vivere i Padiglioni

BIENNALE 2010 / NEWS

Vivere i Padiglioni

Interattività: la parola chiave delle Partecipazioni Nazionali alla 12. Biennale di Architettura **Leggi** →

FOTO: 6/10



I numeri, al momento, sono dalla parte di Kazuyo Sejima e della sua Biennale di Architettura dal titolo People Meet in Architecture. Con il 16 % in più di visitatori (3.138 il primo giorno) si è dato ieri il via alla 12. edizione della manifestazione. L'apertura al pubblico è avvenuta dopo tre giorni di vernice con 9.578 presenze contro le 9.472 del 2008. I giornalisti presenti alla vernice sono stati 1.757. L'incremento rispetto all'edizione diretta da Aaron Betsky è stato dell'11%.

Come inizio niente male. Soprattutto per una Biennale **pensata e voluta per il grande pubblico**. Con l'architettura che torna ad essere punto di incontro tra le persone. Con tante (e diverse) interessanti interpretazioni del tema proposto dalla curatrice. Non solo nella mostra da lei personalmente ideata, ma anche (e non è un fatto scontato) nei Padiglioni Nazionali. Dove si è spesso registrata l'intenzione di coinvolgere direttamente il visitatore con installazioni interattive capaci di parlare i linguaggi più contemporanei dell'architettura. Interessando più sensi: vista, olfatto, tatto, udito.

A partire dal padiglione vincitore del Leone d'oro, quello del **Regno del Bahrain**, premiato per le architetture transitorie presentate come dispositivi capaci di rivendicare il mare come spazio pubblico. Al centro dell'installazione, intitolata **Reclaim**: tre capanne di pescatori (dove si beve tè e si gioca a backgammon) sradicate dai siti originali che esprimono il disagio dell'attuale rapporto tra territorio mal urbanizzato e mare.

La linea come origine dell'architettura, invece che della casa, è l'installazione dal titolo **Borderline Architecture** presentata dal **Padiglione Ungherese.** Il manifesto radicale proposto dai curatori descrive gli architetti non come costruttori di case ma come disegnatori di linee. Le persone – questa è l'idea, espressa attraverso centinaia di matite sospese da fili bianchi – si incontrano nel disegno, filo rosso che lega in tutto il mondo la cultura del progetto. La suggestione, mentre si cammina nella selva di grafite, è notevole.

Le Figaro (Paris)

Date . 09.09.2010
Section: Culture et Vous

À Venise, l'architecture est un rêve éveillé
by Béatrice De Rochebouet

1 Toyo Ito & Associés. Projet « Taichung Metropolitan Opera House ».
VINCENZO PINTO/AFP

2 Transsolar et Tetsuo Kondo Architectes (Japon). Projet « Cloudsscapes » (Échappées dans les nuages).
VINCENZO PINTO/AFP

3 Philip Beesley Architect pour le pavillon canadien. Projet « Terrain hylozoïque ».
PHILIP BEESLEY ARCHITECT INC.

EXPOSITION
La 12e Biennale présente d'étonnants projets. Certains très concrets, d'autres très abstraits et qui relèvent plutôt de l'art.

À Venise, l'architecture est un rêve éveillé

4 Do ho Suh et Suh Architects. Projet « Bluepint » (Empreinte bleue).
VINCENZO PINTO/AFP

BÉATRICE DE ROCHEBOUËT
ENVOYÉE SPÉCIALE À VENISE

C'est une atmosphère onirique qui plane sur la lagune où 56 nations ont planché sur le thème « Les gens se rencontrent à travers l'architecture », proposé par Kazuyo Sejima, première femme à diriger la Biennale d'architecture de Venise. À défaut de pouvoir exposer des constructions, on y confronte des idées. Celles-ci ne manquent pas, elles fusent même. Certains font dans le concret comme le pavillon français qui réfléchit en image avec Dominique Perrault sur la Métropole (*voir nos éditions du 30 août*) ; celui du Brésil retrace cinquante ans de constructions après Brasilia ; celui du Japon montre les maisons multifonctionnelles de l'atelier Bow-Wow pour Tokyo. D'autres font dans l'abstrait, tel le pavillon belge qui montre les usures de l'architecture comme des tableaux accrochés sur les murs ou celui de l'Égypte qui propose une « quête du salut », donc de la délivrance dans une immense sculpture habitable couleur or des sables.

Mais ce grand laboratoire, où toutes les formes de représentation même les plus folles sont permises, est, au-delà des questionnements urbains, écologiques, politiques et sociaux, une invitation au rêve. Pour comprendre et vivre l'expérience de l'architecture, qui est parfois philosophique, il nous faut démultiplier nos sens.

Épure éphémère

Architecture rime avec espace. Celui-ci peut être occupé par l'air, avec le nuage sur lequel Transsolar et Tetsuo Kondo, du Japon, invitent à monter (*voir ci-contre*). Par le bruit, avec l'installation en ovale de haut-parleurs diffusant 40 voix enregistrées séparément de l'artiste canadienne Janet Cardiff (2001). L'architecture chante alors comme autant de variations sonores dans une construction. Par la lumière, avec l'immense machine pivotante vert fluo de l'agence française R & Sie(n) qui analyse le comportement de l'homme dans le noir et joue avec toutes ses peurs et ses pathologies. Ou encore par l'eau, avec le ballet de pluie sonore du Scandinave Olafur Eliasson que l'on peut suivre par un effet de lumières stroboscopiques dans une immense salle plongée dans l'obscurité. Cette installation muséale à couper le souffle s'intitule « Votre maison en un clin d'œil », visuelle mais impalpable…

Les limites de l'espace se résument à quelques fils tissés par le Japonais Junya Ishigami, Lion d'or du meilleur projet. Son étude pour le vignoble de château La Coste est une épure éphémère, transparente, en lévitation où chaque individu trouve sa place par instinct. À défaut de comprendre le sens de chacune de ces installations, on peut avoir de l'émotion devant ces pseudo-architectures qui flirtent, comme il y a deux ans, avec l'art contemporain. Le message se doit d'être grandiose, donc, spectaculaire. ■

1 Toyo Ito & Associés
« Taichung Metropolitan Opera House » à Taïwan
Ce maître japonais de l'architecture conceptuelle, qui a eu Kazuyo Sejima dans son agence, est le champion des constructions ne répondant à aucune loi de la pesanteur. Fait de murs courbes, son projet d'opéra qui devrait ouvrir en 2013 est un labyrinthe de vides et de pleins. Avec ses alvéoles merveilleusement dessinées (les superbes croquis aquarellés sont même plus explicites que les maquettes), ce bâtiment organique, qui joue à l'intérieur sur les verticales et les horizontales, a une densité qui ressemble à un gruyère. Les immenses maquettes nous replongent dans le monde des Télé Tubies.

2 Transsolar et Tetsuo Kondo Architectes (Japon)
« Cloudsscapes »
(échappées dans les nuages)
Monter sur un vrai nuage et matérialiser l'air invisible, c'est possible grâce à la rampe en spirale installée au milieu de l'Arsenal par ce groupe d'architectes japonais qui nous fait passer du froid au chaud. Un système sophistiqué sature l'air d'humidité jusqu'à la formation de ce nuage qui selon sa position modifie nos sensations de visibilité et de température. On ressort comme différent de la moiteur. Cette construction olfactive n'est pas un mirage !

3 Philip Beesley Architect pour le pavillon canadien
« Terrain hylozoïque »
C'est une forêt futuriste sortie d'*Avatar !* Plongée dans une semi-obscurité, cette installation composée de milliers de composants d'acrylique transparent dotés de microprocesseurs et de senseurs réagit au passage du visiteur en ondulant. Les feuilles bougent, les lumières clignotent. Le tout sans un bruit dans un mouvement fluide qui laisse le visiteur sans voix. Son concepteur, l'artiste Philip Beesley, qui est aussi professeur d'architecture à l'université de Waterloo (Ontario), s'est inspiré de l'hylozoïsme, doctrine philosophique soutenant que toute matière est douée de vie et qui a donné son nom au projet : *Terrain hylozoïque*.

4 Do ho Suh et Suh Architects
« Bluepint »
(empreinte bleue)
Dans le pavillon central des expositions des Giardini, ces architectes coréens, qui vivent et travaillent à New York et Londres, s'interrogent sur la maison. Celle-ci est matérialisée par un immense voile bleu cousu main de plus de 12 mètres posé à l'horizontale pour permettre au visiteur de voir sa structure. Elle est censée représenter la façade d'une maison à New York où vit l'un d'entre eux. Au-delà de l'entrée, le spectateur se trouve debout sur ce qui semble être l'ombre de l'immeuble. Mais cette plongée dans un bleu de cobalt qui fait rêver permet de s'interroger sur la frontière entre le réel et l'irréel. Est-ce de l'art contemporain ou de l'architecture ? La frontière est poreuse entre ces deux disciplines magistrales ! ■

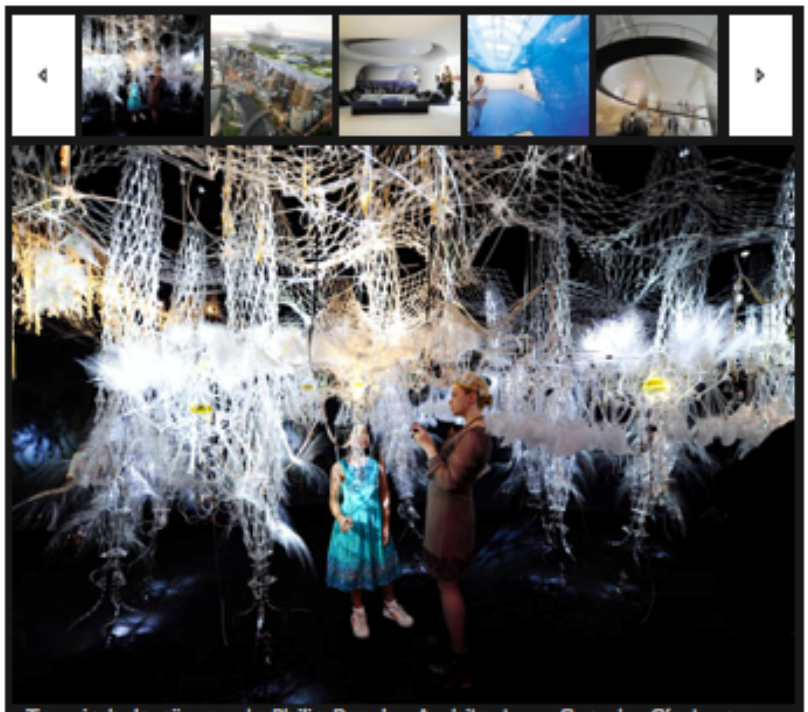
Le Figaro.fr

Date . 08.09.2010

Dans les rêves les plus fous des architectes à Venise

Dans les rêves les plus fous des architectes à Venise

08/09/2010 | Mise à jour : 23:21 Réagir



«Terrain hylozoïque» de Philip Beesley Architect, au Canada. C'est une forêt futuriste sortie d'Avatar! Plongée dans une semi-obscurité, cette installation composée de milliers de composants d'acrylique transparent dotés de microprocesseurs et de senseurs réagit au passage du visiteur en ondulant. Les feuilles bougent, les lumières clignotent. Le tout sans un bruit dans un mouvement fluide qui laisse le visiteur sans voix. Son concepteur, Philip Beesley s'est inspiré de l'hylozoïsme, doctrine philosophique soutenant que toute matière est douée de vie et qui a donné son nom au projet : Terrain hylozoïque. Philip Beesley Architect Inc.

Le Devoir.com

Date . 30.08.2010

12e Biennale internationale d'architecture de Venise

by Lea-Catherine Szacka

12e Biennale internationale d'architecture de Venise

Le pavillon du Canada présente une exposition interactive très « techno » de Philip Beesley

Léa-Catherine Szacka 30 août 2010 Arts visuels

Photo : Source PBAI

Le pavillon canadien à la Biennale d'architecture de Venise présente une installation de Philip Beesley dans une salle sombre remplie de petites composantes d'acrylique transparent, de lumières colorées, de globes de verre et de fils telle une forêt synthétique plutôt étrange.

La Biennale d'architecture de Venise fête cette année son trentième anniversaire. Pour l'occasion, une double première: une femme, asiatique de surcroît, dirige la prestigieuse exposition qui se tient depuis hier et jusqu'au 21 novembre 2010 dans divers lieux à travers la ville de Venise.

People Meet in Architecture est le thème de la 12e Biennale de Venise. Un peu général comme entrée en matière. Selon certains, il faut y voir une forme de provocation; pour d'autres il s'agit d'un thème fourre-tout permettant aux architectes de partout à travers le monde d'exposer ce que bon leur semble. Cette année, l'immense exposition thématique comporte 46 participants. À cela s'ajoutent 53 pavillons nationaux. C'est le Royaume de Bahreïn qui a remporté le prix du meilleur pavillon, alors que la super star de l'architecture Rem Koolhaas a eu droit au Lion d'or pour l'ensemble de sa carrière.

Pavillon du Canada

Philip Beesley, professeur agrégé à l'École d'architecture de l'Université de Waterloo et directeur de la firme PBAI, a réalisé l'installation Hylozoic Ground présentée au pavillon du Canada. Hylozoic Ground est décrite comme «un environnement immersif et interactif fait de dizaines de milliers de composantes légères et fabriquées numériquement, dotées de microprocesseurs et de senseurs maillés». Plus simplement, il s'agit d'une salle sombre remplie de petites composantes d'acrylique transparent, de lumières colorées, de globes de verre et de fils telle une forêt synthétique plutôt étrange, de laquelle se dégagent des sons semblables à ceux d'une respiration profonde. Une exposition très «techno» qui semble laisser les adultes perplexes alors qu'elle amuse grandement les plus jeunes. Interactive, cette installation prend vie au contact des corps humains, s'ouvre et se ferme à intervalles réguliers. L'installation Hylozoic Ground a été réalisée avec le concours de Rob Gorbet, directeur de l'ingénierie, et Rachel Armstrong, spécialiste en chimie expérimentale.

Et quel rapport tout cela a-t-il avec l'architecture? Hylozoic Ground est un projet expérimental qui, extrapolé à son maximum, pourrait, peut-être, donner naissance à de nouvelles façons de construire. Une architecture «intelligente» ou «sensible» serait donc probablement le but ultime de cette installation interactive. Mais, pour l'instant, il est bien tentant de voir cette oeuvre comme un bel objet qui crée un environnement certes esthétique, sans pourtant révolutionner, à court terme, l'architecture.

Or le pavillon du Canada est loin d'être le seul exposant de cette Biennale d'architecture à présenter un projet expérimental, artistique, voire même purement conceptuel. Cette année, tout comme lors de la dernière Biennale d'architecture de Venise (2008), le visiteur pourra certainement se questionner sur la nature de la ligne de démarcation entre exposition d'art et exposition d'architecture. Heureusement, en 2010, l'exposition est plus diversifiée que l'édition précédente et comporte aussi quelques propositions concrètes ainsi qu'une série de 47 entrevues réalisées avec les divers exposants.

Oeuvres remarquées

Parmi les oeuvres particulièrement remarquées: l'installation Cloudscapes, des Allemands Transsolar & Tetsuo Kondo Architects, composée d'une passerelle surélevée plongée dans un nuage de brouillard; Architecture as Air, des Japonais junya.ishigami+associates, proposant l'effronterie de quelques fils à pêche formant une composition complètement transparente (qui a d'ailleurs remporté un des prestigieux Lions d'or); ainsi que l'installation audio The Forty Part Motet, de la Canadienne Janet Cardiff, basée sur une chorale de la Renaissance et composée de 40 haut-parleurs disposés en ovale et reproduisant le son d'autant de voix afin d'évoquer la construction sculpturale de la pièce musicale. Font également partie des exposants les Canadiens Adam Caruso et Mark Pimlott, tout deux expatriés à Londres.

C'est sous une chaleur accablante, mais sans grand remous, qu'a eu lieu, le week-end dernier, l'ouverture officielle de la grand-messe de l'architecture. Cette année, après trente ans d'existence, la Biennale d'architecture met l'accent sur son histoire grâce à une série d'événements commémoratifs. Pendant ce temps, plusieurs visiteurs et experts se questionnent: comment faire une exposition d'architecture qui soit à la fois agréable à regarder et pertinente?

Le Point.fr

Date . 29.08.2010
Section . Culture

Biennale de Venise: le Canada propose une architecture nourrie de high-tech

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Biennale de Venise: le Canada propose une architecture nourrie de high-tech

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Biennale de Venise - Jusqu'au 21 novembre

Site du pavillon canadien de la Biennale de Venise

MSN Actualites

Date . 29.08.2010

Biennale de Venise: le Canada propose une architecture nourrie de high-tech

AFP, Mise a jour : dimanche 29 août 2010 17:39

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AFP

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Biennale de Venise - Jusqu'au 21 novembre

Site du pavillon canadien de la Biennale de Venise

Collective Review

Date . **Sept. 2010**

collectivereview

Home | Lifestyle | Amanda Eliasch | Alive, Not Dead in Venice

AMANDA ELIASCH

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ALIVE, NOT DEAD IN VENICE

6th September | 0 comments | 0 votes yet, click here to agree or disagree

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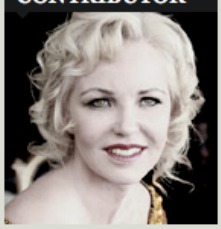
Venice Film Festival: Julian Schnabel, The Black Swan, dinner with Italian Vogue and scrambling over the heads of journalists.

I wanted to be a journalist for a day at the film festival, and this was something else. I spent an irritating hour clamouring for tickets and swearing at policemen who gave me the wrong directions. It is sort of hit and miss getting anywhere except by bicycle, and a very sweaty experience. I ended up giving my tickets to The Black Swan to a stranger – it was all too much for me – and instead landed up at the Architecture Biennale, whizzing through Pavilions at a great speed. The theme was future communication, and the one that stood out was Canada's, which showed us a life of plastic plants. I also loved Russia's interpretation which basically said 'been there done that'. The British mocked with an interactive puddle, and all I could think about were us tax payers who were forking out for this. The future is really not for me: silver babies in plastic tubs, churches with lighting in perspex. I like the past and dreams, so I quickly went back to them, and off I sped to sit drinking tea in the St Marco Square listening to tango music.

CONTRIBUTOR



Amanda Eliasch

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Amanda Eliasch is a Photographer who has worked for Italian Vogue and Assouline producing a book called British Artists at Work and one for the mental health charity Chipmunka Foundation, Cloak and Dagger Butterfly. She lives between Paris London and Los Angeles where she works as Fashion Editor for Genlux Magazine. With wide interests she will be blogging her daily life and hopefully keep you amused.

Agence France-Presse (AFP)

Date . **Aug. 2010**

AFP a world of difference

In Venice, Rwanda highlights traditional designs

By Gina Doggett (AFP) – Aug 28, 2010

VENICE, Italy — Rwanda, a first-time presence at the Venice architectural Biennale, is shining the spotlight on the use of traditional techniques and materials in design and architecture.

The strategy is seen as an essential way to safeguard traditional culture and national identity in the nation traumatised by the 1994 genocide.

Rwanda's modest exhibition at the Biennale opening Sunday shows how centuries-old weaving techniques and natural fibres can be used to create necklaces or shoes, how ash and cow dung can decorate modern walls and how alternatives to paper can be used in handmade books.

"Today, before we throw away vegetable fibres we have to think again," Josephie Malonza of the Kigali Institute of Science and Technology told a seminar Saturday at Rwanda's pavilion.

The featured speaker at the seminar, prominent Burkina Faso architect Francis Kere, accused the North of "putting us under pressure by saying that what we have is primitive."

Africans have alternatives to air-conditioning, and mud is a material that is perfectly adapted to the African situation, he said. "There's no insurance (against damage or destruction). People just band together and in seven days they will rebuild" a mud structure ruined by rain, Kere said.

While Rwanda wants to preserve natural building techniques, Czech architect Martin Rajnis wants to import them from poor countries, picking up ideas from travels to the "third and even the fourth world, among the native people untouched by civilisation."

Rajnis has developed a vision dubbed Natural Architecture based on the natural world of indigenous peoples, plants and animals.

He masterminded the Czech and Slovak pavilion, which draws the visitor in under a canopy of randomly arranged pine planks.

Inside is an installation entirely in unfinished wood taking the visitor along walkways and past multi-layered creations, some twisting into spirals, others formed into cones and domes inspired by natural forms.

Claiming that "architecture is undergoing a crisis," Rajnis says modern buildings "no longer satisfy people. It is necessary to start to create differently: instead of design and aesthetics to take inspiration from the deeper laws of nature."

Light years away from natural building materials is the acrylic meshwork fitted with microprocessors and sensors that the Biennale visitor will find at Canada's pavilion.

The highly interactive installation is a futuristic artificial forest in which visitors can touch the shimmering, lightweight structures, which respond by changing shape and position.

The project titled "Hylozoic Ground" after an ancient belief that all matter has life is geared towards "responsive architecture" -- the next wave for smart buildings.

Fifty-three countries have pavilions at this year's Biennale, which runs until November 21.

Le Monde

Date . Aug. 2010

Biennale de Venise: le Canada propose une architecture nourrie de high-tech

Biennale de Venise: le Canada propose une architecture nourrie de high-tech

dimanche 29.08.2010, 14:12 - VENISE (AFP)© 2010 AFP

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Biennale de Venise - Jusqu'au 21 novembre

Money Invest

Date . 29.08.2010

Biennale de Venise: le Canada propose une architecture nourrie de high-tech

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29/08/10 Posté par Money Invest dans France Aucun commentaire

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anims, fluide, james cameron, syste, waterloo ontario

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Date . 29.08.2010

Die 12. Architekturbiennale in Venedig

by Regine Geibel, Alexandra Riemann

MUENCHENARCHITEKTUR.COM

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Die 12. Architekturbiennale in Venedig

Doppel-T-Traeger

"People meet in Architecture" ist das Motto der diesjährigen Biennale, die zum ersten Mal von einer Frau - Kazuyo Sejima - kuratiert wird. Kazuyo Sejima ist 1956 in Japan geboren und gründete 1995 das weltweit erfolgreiche und in diesem Jahr mit dem Pritzker Preis ausgezeichnete Büro SANAA.
Im Gegensatz zu Aaron Betsky's - angesichts der unpersoenlichen Urbanisation - eher pessimistisch gefärbten Ausstellung in 2008, setzt Kazuyo Sejima wieder Vertraün in die Architektur als künstlerische Disziplin, Lebensräume zu schaffen, in denen sich der Einzelne verwirklichen und Gesellschaft sich entwickeln kann.

Unter diesem erstaunlich emotionalen Thema sind viele ausgesprochen sinnliche Beiträge entstanden. Zu unseren Favoriten zählen dabei von den Arbeiten im Arsenale die von Olafur Eliasson, der Wassertropfen im gleissenden Stroposkoplicht erstarren lässt, die Beiträge von Peter Ebner (ein auskragender Steg aus transluzentem Beton), eine begehbare Stahlspirale, die sich in den Nebel schraubt sowie zwei überdimensionale aufeinander liegende Doppel-T-Träger. In den Giardini begeisterten uns insbesondere der Kanadische Pavillion (Philip Beesley) sowie der Beitrag von Rem Kolhaas, welcher am Samstag mit dem goldenen Loewen für sein Lebenswerk ausgezeichnet wurde.

Der Deutsche Pavillion 2010

Gemäss des Gesamtmottos der diesjährigen Biennale, ist auch der deutsche Beitrag emotional motiviert: "Jede kreative Arbeit beginnt mit Sehnsucht und endet mit ihr." Dieses Statement ist die Grundlage des Konzeptes der Walverwandschaften (Cordula Rau, Eberhard Troeger und Ole W. Fischer), die als diesjährige Generalkommissare für den deutschen Beitrag verantwortlich sind. Sie machten den deutschen Pavillion zu einem Ort der Sehnsucht und setzen auf das sinnliche Erleben dieses umstrittenen Bauwerks. Anstatt konkrete Projekte in Form von Plänen und Modellen zu präsentieren, fokussieren sie auf die Personifizierung und Emotionalisierung der aktüllen deutschen Architekturszene.

Die Walverwandschaften baten mehr als 300 Architekten und Kulturschaffende DIN A4-Skizzen einzureichen, die ihre Sehnsucht darstellen. Sie zeigen die persoenliche Interpretation von Sehnsucht, als wichtige Triebfeder kreativen Schaffens. Die 181 gleichformatigen Beiträge reichen von assoziativen Auseinandersetzungen, über kritische und politische bis zu humorvollen Kommentaren; Zeichnungen, die von der mathematischen Sehnsuchtsformel (Benedikt Schmitz und Maike Lück, Hamburg) über Türme aus geschwungenen Linien (Wiel Arets, Amsterdam) bis zu Schmetterlingspaaren mit filigran ausgeformten Flügeln (Andreas Hild und Dionys Ottl, München) reichen. Eines ist allen gemeinsam: das Verlangen nach etwas Unausgesprochenem...

Statt den deutschen Pavillion als Nazibauwerk abzureissen, wie noch vor kurzem diskutiert wurde, ist bei diesem Konzept der Pavillion selbst als Ausstellungsstück konzipiert und wird mit rubinroten und verspiegelten Wänden (hergestellt von Eternit) sowie einem wehenden Vorhang zum Meer als Ort der Sehnsucht in den Gärten Venedigs inszeniert. Sowohl den roten Stoff für die weiche Bespannung der Wände des Hauptsaals, als auch für die Knoll-Sessel von 1956, die über den gesamten Raum verteilt sind, hat das venezianische Familienunternehmen Rubelli eigens für diesen Zweck hergestellt. Gemeinsam mit den vielen Skizzen, die in dunklen Holzrahmen gleichmässig über die Wände verteilt sind, macht das tiefe Rot den Saal zu einem zeitgenoessischen Salon, der bis zum Ende der Biennale als Veranstaltungs- und Begegnungsstätte dienen wird. Die kleineren Seitenräume sollen als emotionale Kabinette inspirierend, irritierend und provozierend wirken. Auch wenn diese ihr Ziel nicht ganz erreichen, so erweckt der wieder neu geschaffene Zugang zur nahe gelegenen Terrasse am Wasser mit Blick auf die Lagune in jedem Fall Sehnsüchte.

Am Freitag Vormittag luden Jan Mücke, Parlamentarischer Staatssekretär beim Bundesministerium für Verkehr, Bau und Stadtentwicklung sowie zwei der drei Generalkommissare zur Pressekonferenz. Auffällig erfrischend und im Grunde sehr "undeutsch" war diese eher als Empfang konzipiert. Statt in strengen Stuhlreihen nahmen wir in den besagten Sesseln Platz und wurden von einer geheimnisvoll maskierten Musikerin mit Akkustikgitarre und Sehnsuchtshauch-Gesang (Ida-Marie Corell mit ihrem musikalischen Projekt IMCakaLLEROC) begrüsst. Der Staatssekretär als offizieller Gastgeber brachte das Konzept der Generalkommissare auf den Punkt, indem er die Frage stellte: "Was ist es, was den Architekten immer wieder antreibt, diesen Beruf mit seinen vielen schwierigen Abläufen zu bewältigen? Ist es die Sehnsucht, die dies moeglich macht?"

Auch wenn Konzept und Realisierung umstritten sind, sollte sich jeder einen einen Besuch goennen, um sich ein eigenes Bild der diesjährigen Architekturausstellung zu machen.

Wer es gar nicht schafft, nicht mal zu einem der Architecture Saturdays mit den ehemaligen Gesamtkommissaren (beginnend am 4.September) oder zu den am 23. September beginnenden Workshops im deutschen Pavillion (wir werden die einzelnen Termine in unseren Veranstaltungen ankündigen), dem empfehlen wir den Onlinekatalog iBiennale, die erste Biennale-iPad-application oder zum deutschen Beitrag die beiden im Springer Verlag erschienenen Bücher:

Sehnsucht.The Book of Architecture Longings. German Contribution to the 12th international Architecture Exhibition - La Biennale di Venezia 2010, welches das Konzept beschreibt.
What Architects Desire, welches alle 181 eingereichten Skizzen unter Nennung der Verfasser zeigt.

http://www.labiennale.org/

Regine Geibel und Alexandra Riemann
Fotos Simone Brockhaus

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NEWS

Venice Biennale Fund - Support Hylozoic Ground at the 2010 Venice Biennale
V.G. - 14.06.2010

'Hylozoic Ground' is an immersive, interactive environment that will transform the Canada Pavilion in Venice into a shimmering, quivering forest of light that moves and breathes around its viewers. This groundbreaking project by Philip Beesley (PBAI/University of Waterloo) was selected by a national juried competition to represent Canada at the 2010 Venice Biennale in Architecture.

The Venice Biennale in Architecture, the most important and prestigious architectural exhibition in the world, takes place in Venice, Italy, from August 29 through November 21, 2010.

The RAIC and the Canada Council for the Arts are working together to support Canada's architectural representation in Venice. This collaboration is part of a larger project to investigate developing support for the advancement of the presentation and appreciation of contemporary Canadian architectural excellence in Canada and abroad.

For more info, please visit www.hylozoicground.com or contact Poet Farrell at 416-821-2707 or poet@hylozoicground.com.

All donations are tax deductible. An official receipt will be issued.

Monday September 20 2010
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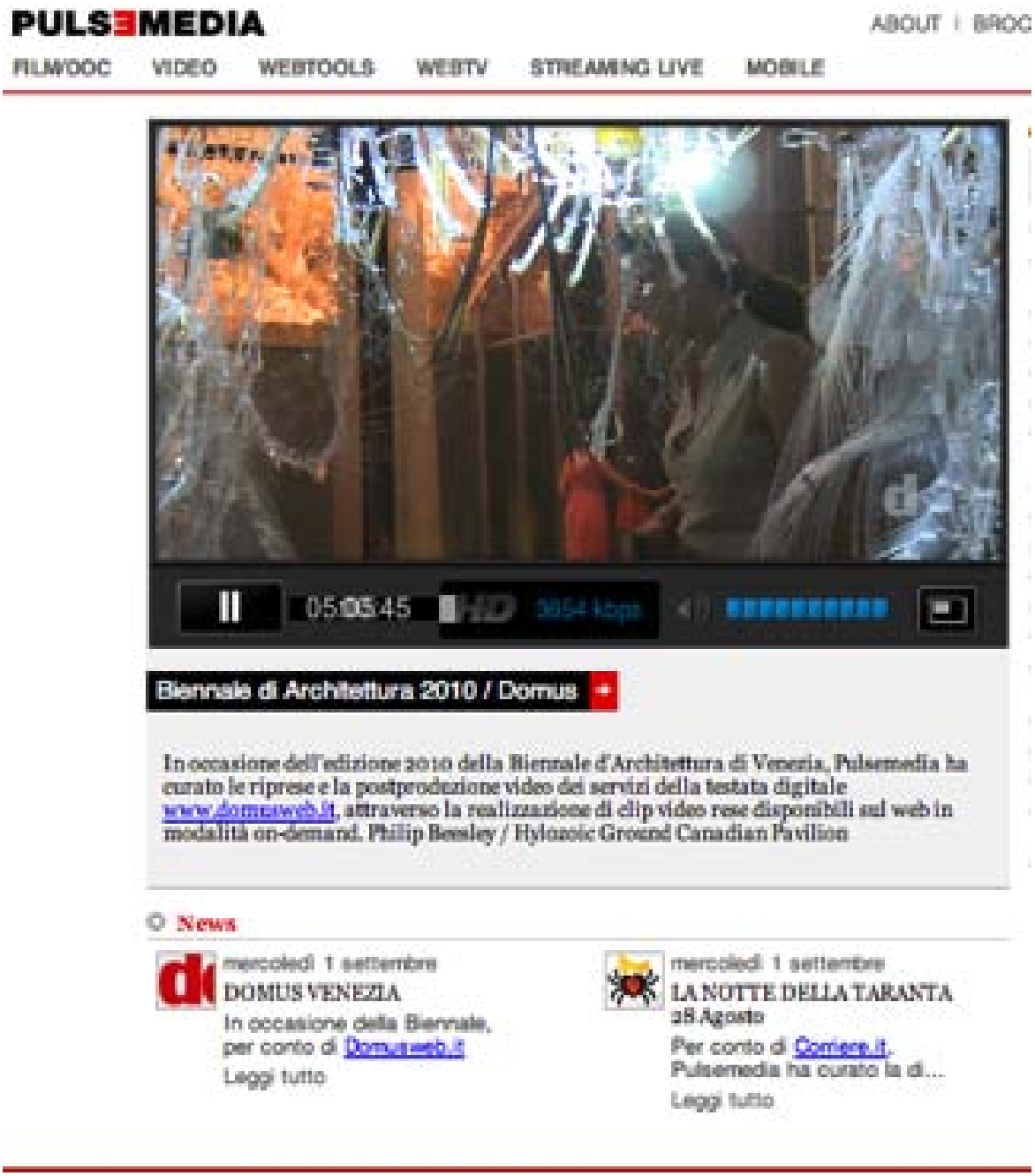
Biennale de Architecture 2010 / Domus



Date . 29.08.2010

Hives and valves, filters and membranes
by BLDG BLOG

Hives and valves, filters and membranes

[Image: Detailed view of *Hylozoic Ground*'s "Protocell" assembly; courtesy of Philip Beesley Architect].

Philip Beesley's *Hylozoic Ground* installation opens this coming Friday at the Venice Biennale, where it is installed inside the Canadian pavilion. It is a "suspended geotextile that gradually accumulates hybrid soil from ingredients drawn from its surroundings."

As Beesley explains, "*Hylozoic Ground* is an immersive, interactive environment that moves and breathes around its viewers... Next-generation artificial intelligence, synthetic biology, and interactive technology create an environment that is nearly alive." Indeed, he adds, "*hylozoism* is the ancient belief that all matter has life."

[Image: Detail from *Hylozoic Ground*; courtesy of Philip Beesley Architect].

Part of this artificial... [View Full Article]

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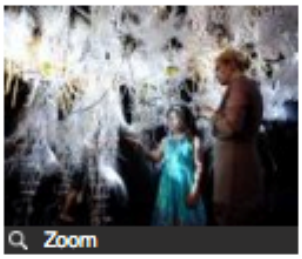

Biennale de Venise: le Canada propose une architecture nourrie de high-tech

29.08.2010, 16h12 | Réagir

Une sculpture en forme de forêt artificielle sortie tout droit d'"Avatar" et bourrée de systèmes high-tech: c'est la vision singulière pour l'architecture de demain proposée par le pavillon canadien à la Biennale de Venise, qui ouvre ses portes au public dimanche.

Comme dans le film de James Cameron, cette forêt aux formes futuristes et plongée dans une semi-obscurité réagit au passage des visiteurs: les feuilles bougent, les lumières clignotent. ..

Le tout sans un bruit et dans un mouvement fluide, contribuant à donner vie à cet amas de milliers de composants d'acrylique transparent dotés de microprocesseurs et de capteurs sophistiqués.

Son concepteur, l'artiste Philip Beesley, qui est aussi professeur d'architecture à l'université de Waterloo (Ontario), s'est inspiré de l'hylozoïsme, une doctrine philosophique soutenant que toute matière est douée de vie et qui a donné son nom au projet: "Terrain hylozoïque".

"Quand j'étais petit, je me rappelle avoir eu des conversations animées avec mes copains pour savoir si une pierre était vivante ou non", se souvient Philip Beesley en riant.

Cette sculpture est "une oeuvre à mi-chemin entre imagination et sciences de pointe. Délibérément, on va et vient en permanence entre fiction et concret, en essayant d'innover et de développer de nouveaux systèmes pour l'architecture de du futur", explique-t-il dans un entretien à l'AFP.

Rob Gorbet, un professeur de Génie électrique et d'Informatique à l'Université de Waterloo qui l'a aidé dans son projet, confirme: "Ce sont les alliages à mémoire de forme qui sont à l'origine de tous les mouvements qu'on voit ici".

Des capteurs sensibles à la proximité ou au toucher envoient des signaux à de petits microprocesseurs qui envoient eux-mêmes un courant électrique à un alliage de nickel et de titane ayant la propriété de se contracter quand on le chauffe au-delà de 90 degrés.

Grâce à ce système, "on a une réaction très organique, très fluide, beaucoup plus naturelle que si on utilisait des moteurs, qui sont plus brusques et plus bruyants", explique-t-il.

"Si la façade d'un immeuble était couverte d'un système comparable, on pourrait concevoir qu'il détecte la présence de personnes et contrôle la lumière ambiante ou le flux d'air. Pour nous, cela reste une sculpture, mais c'est aussi une plate-forme sur laquelle on développe des idées d'architecture expérimentale", se réjouit ce quadra jovial.

Philip Beesley est sur la même longueur d'onde: "Il s'agit de pistes pour l'architecture du futur qui, même si elles semblent relever de la fiction, sont basées sur la réalité et font partie du domaine du possible".

Quand à la ressemblance frappante entre son projet, sur lequel il travaille depuis des années, et la forêt d'"Avatar", il ne veut y voir qu'une "coïncidence délicieuse" car "le monde de l'animation numérique a des points communs avec les outils que j'utilise".

Biennale de Venise - Jusqu'au 21 novembre

Venice Post

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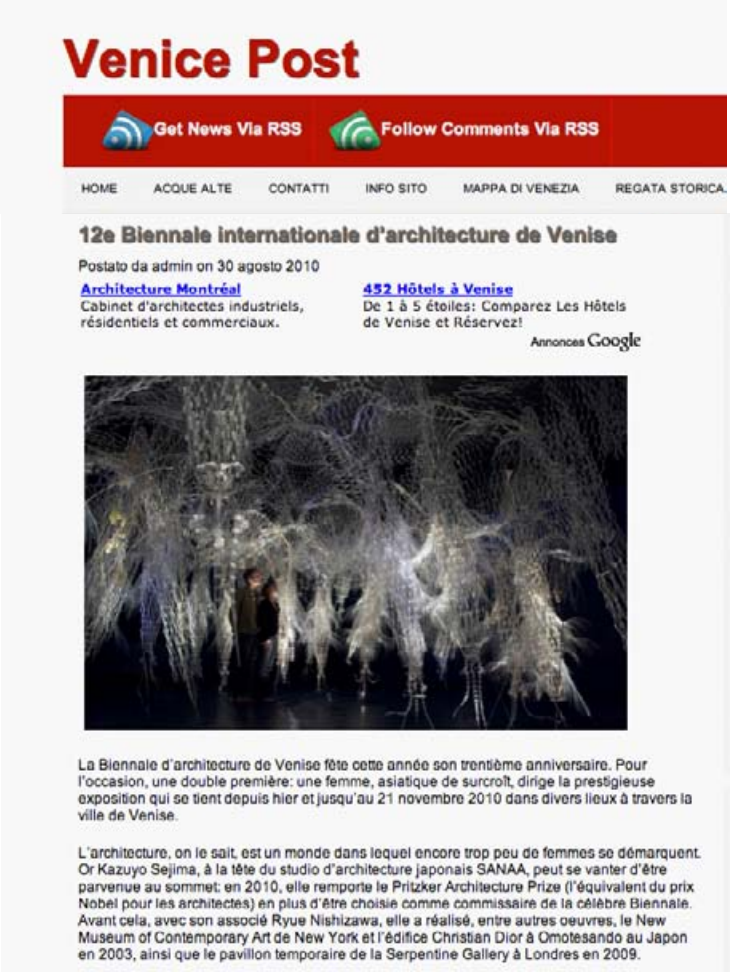
12e Biennale Internationale d'architecture de Venise



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Postato da admin on 30 agosto 2010

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La Biennale d'architecture de Venise fête cette année son trentième anniversaire. Pour l'occasion, une double première: une femme, asiatique de surcroît, dirige la prestigieuse exposition qui se tient depuis hier et jusqu'au 21 novembre 2010 dans divers lieux à travers la ville de Venise.

L'architecture, on le sait, est un monde dans lequel encore trop peu de femmes se démarquent. Or Kazuyo Sejima, à la tête du studio d'architecture japonais SANAA, peut se vanter d'être parvenue au sommet: en 2010, elle remporte le Pritzker Architecture Prize (l'équivalent du prix Nobel pour les architectes) en plus d'être choisie comme commissaire de la célèbre Biennale. Avant cela, avec son associé Ryue Nishizawa, elle a réalisé, entre autres oeuvres, le New Museum of Contemporary Art de New York et l'édifice Christian Dior à Omotesando au Japon en 2003, ainsi que le pavillon temporaire de la Serpentine Gallery à Londres en 2009.

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Field Report: Venice Architecture Bieenale 2010

by Shumi Bose

FORUM

Field Report: Venice Architecture Biennale 2010

by Shumi Bose
September 1st, 2010

architecture, elsewhere, exhibition, exhibition review, field report, review, venice

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As I recover from the intense heat and severe foot-pounding of the XIIth Venice Biennale of Architecture, I'm at something of a loss as to what to make of it. Trying to use the theme this year, "People Meet In Architecture," established by Kazuyo Sejima, overall biennale curator and one half of SANAA (together with Ryue Nishizawa), as a framework only sets me back further, as the consideration of people and experience of architecture was pretty remote from most of the exhibits.

Let me walk you through.

Cloudscapes – Tetsuo Kondo Architects and Transsolar Klima Engineering | Photo by Shumi Bose

The Biennale occurs across two main sites; the spectacular Arsenale, a corridor of vast old military navy sheds in an arrested state of decay, and the Giardini, a large urban park housing 30 national pavilions which is one vaporetto stop down the Gran' Canal. The last biennale of Architecture, curated by Aaron Betsky, saw the Arsenale crammed with many busy exhibits. This year's exhibits — let's call it a symptom of the recession — seem on the whole more ethereal and artsy, more like something you'd use to fill a gallery at PS1. After the blinding sun and sweltering heat, I enjoyed running through Olafur Eliasson's dice-with-death twirling hosepipes, spinning in pitch-darkness emitting ominous electric whipping noises and flashes of light – but there was no chance in hell I was going to "meet" anyone there. Similarly, I loved Transsolar's ultra-delicate iron ramp that snaked around fat brick pillars, into an enveloping and carefully controlled mist-cloud in another of the giant Arsenale galleries – but I couldn't see a soul once up there. Perhaps that is why the Biennale judges decided to award most of their prestigious Lions to arguably unspectacular, but certainly humane projects; the Bahrain exhibit, which scooped the Golden Lion (and involved New York pillar of architectural criticism, Michael Sorkin), followed the plight of an indigenous coastal population who are valiantly resisting the onslaught of glitzy development, and who are using reclaimed materials to stake out their settlements.

Speaking of humanity, the most hilarious moment of the Arsenale occurs in Wim Wenders' 3D film about the SANAA Rolex Centre, which promoted Biennale curator Sejima's latest big project; at one point, breaking tone with the ponderous voiceover, Sejima appears on a segway – a segway! – doing a fine impression of G.O.B. (it hasn't been too long has it?) as she zooms round the slick walkways. And if it counts for anything, I managed to collar Wenders on what his pick of the Arsenale was; he identified the haphazard but utterly fragile and humane display thrown together by Chile, in the two-week window they had after the recent earthquake.

Back in the Giardini, the pavilions were something of puzzlement to me: so many of them seemed to want to be books. Old books, books from the nineties, OMA and Actar books. The German pavilion was a case in point; drawings of their chosen theme (the untranslatable phrase "Senn Sucht") hung framed around the walls of a red room. And there were chairs in the middle. That's it! There were two ponderous exhibits in the wings but nothing that translated to a genuine experience. The Swiss Pavilion showed an arcane research on bridges, photographed in black and white – beautiful maybe, but why? – whereas the Israeli went one further, and had you make up your own book from stacks of photographs dumped on the floor, exploring the theme of the kibbutzim.

Most disappointing for me personally was the French contribution, curated by Dominic Perrault, who is smart enough to know better. Through thick plastic hanging curtains, the curators had managed to emulate the smell of a Foot Locker exactly; the audio from much-celebrated (but now boring) Parisian urban night-skating was uncomfortably loud, and all the urban graphics and movies were incredibly — in the true sense of credible belief — dated. No doubt about depth of research or points of interest, particularly regarding regeneration of lesser-investigated French cities like Lyon, but the graphic style was pre-OMA, like old MVRDV books; sad to say but all the Scandinavians & Brazilians followed suit, presenting something like a "greatest hits" of projects we have seen before.

'Hylozoic Ground' by Philip Beesley Architects for the Canadian Pavilion at La Biennale di Venezia 2010 |Courtesy Philip Beesley Architects

It wasn't all bad; with characteristically English trepidation I have to say I liked the nerdy, scholarly British Pavilion — which investigated John Ruskin's time in the host city when writing his masterful "Stones of Venice" — purely for the richness of the literary references in there. With a wooden scale-section of the 2012 Olympic stadium occupying the main room, it did seem a tiny bit schizophrenic, but the construction made for a great space for the drawing workshops hosted there in honor of Ruskin himself. Canada's contribution had to be seen to be understood; Philip Beesley's "Hylozoic" investigations are not altogether new (check out some YouTube videos about hylozoic soil here); this installation progresses his Cronenberg-like explorations of post-human life. Intense, enveloping and freakishly responsive, it is composed of thousands of plastic, metal and motorised components, and glowing biocells containing reactive pheromones. The whole thing used several levels of internal communication (mechanic, computerised, chemical) to react and respond both to itself and visitors. Very scary and weird for an insectophobe like me, but thrilling all the same; kids like it! The Belgians submitted a quiet, minimalist collection of salvaged building fixtures which bore traces of wear, like those circular scratches on steel elevator doors, or the center of stair treads where paint and varnish have long flaked off – suggesting perhaps the ghosts of "people meeting" in architecture?

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"HYLOZOIC GROUND" Pabellón de Canadá en Bienal de Arquitectura de Venecia

Uncategorized Tags: arquitectura responsiva, bienal de venecia, diseño digital, diseño parametrico, fabricacion digital

September 24, 2010 2

"Hylozoic Ground" es el titulo del pabellón nacional de Canadá para la 12ª Exposición Internacional de Arquitectura de Venecia. Este pabellón diseñado por el arquitecto y escultor canadiense Philip Beesley tiene, según el Times de Londres, "el poder de ser la estética dominante de los paisajes del siglo 21".

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Saturday, 28th August 2010

Japanese architect Sejima's people-oriented Biennale

AFP

A woman admires Canadian architect Philip Beesley's project Hylozoic Ground at the Canadian pavilion at the Biennale Giardini in Venice, yesterday.

The 12th Architecture Biennale opens tomorrow and will run until November 21 at the Biennale Giardini in Venice, Italy, on the theme People Meet in Architecture.

Kazuyo Sejima, Japan's Pritzker Prize-winning architect and the first woman to curate the prestigious Venice architecture show, says it should be all about people.

"Of course form is very important, because form is one attitude for relating to the surroundings," Ms Sejima said on Thursday after unveiling the 12th edition of the Biennale in the lagoon city.

"But at the same time people's activity is to me very important. People also are involved in the process of creativity," said Ms Sejima, 54, dressed all in white on a hot summer's day.

Sejima, whose Tokyo studio Sanaa, co-founded with Ryue Nishizawa, created the New Museum of Contemporary Art in New York and London's Serpentine Gallery, said the architect's view of space "can give people opportunities".

Describing the selection process for the event as "very difficult... because there are so many wonderful architects around the world," Sejima said she focused on youth and diversity. The average age of the contributors is somewhere between 40 and 45. "It is a very nice chance for young architects to show good ideas," she said, adding that "roughly half" of the participants are attending for the first time.

Four dozen exhibitors – architects, engineers, artists and studios – are taking part in the 12th edition of the prestigious show, with newcomer countries including Albania, Bahrain, Iran, Malaysia, Rwanda and Thailand.

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venice architecture biennale 2010: canadian pavilion

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HYLO ZO I C G R O **UND PHILIP BEESLEY** Canada Pavilion .12th International Architecture Exhibition Venice Biennale. La Biennale di Venezia 20 10

FOR IMMEDIATE RELEASE:

HYLOZOIC GROUND- PHILIP BEESLEY

CANADA PAVILION AT THE 12th INTERNATIONAL ARCHITECTURE EXHIBITION - LA BIENNALE DI VENEZIA

WWW .hylozoicground.com

For the 12th International Architecture Exhibition *Hylozoic* ***Ground*** transforms the Canada Pavilion with an immersive, interactive environment made oftens ofthousands oflightweight digitally-fabricated components fitted with meshed microprocessors and sensors. The glass-like fragility of this artificial forest is built of an intricate lattice of small transparent acrylic meshwork links, covered with a network of interactive mechanical fronds, filters and whiskers. The environment is similar to a coral reef, following cycles of opening, clamping, filtering and digesting. Arrays of touch sensors create waves of diffuse breathing motion, luring visitors into the shimmering depths of a forest of light. The project is designed by Philip Beesley, Associate Professor of

:f Architecture at the University ofWaterloo, with engineering director Rob Gorbet, experimental chemist Rachel Armstrong, and many collaborators.

The project's title refers to 'hylozoism', the ancient beliefthat all matter has life. Hylozoic Ground offers a vision for a new generation of responsive architecture. The Hylozoic Ground environment can be described as a suspended geotextile that gradually accumulates hybrid soil from ingredients drawn from its surroundings. Akin to the functions of a living system, embedded machine intelligence allows human interaction to trigger breathing, caressing, and swallowing motions and hybrid metabolic exchanges. These empathic motions ripple out from hives ofkinetic valves and pores in peristaltic waves, creating a diffuse pumping that pulls air, moisture and stray organic matter through the filtering Hylozoic membranes. 'Living' chemical exchanges are conceived as the first stages of self-renewing functions that might take root within this architecture.

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Revolution in Schwebe

by Wojciech Czaja

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12. Architektur-Biennale Venedig 2010

Ausstellung - Biennale di Venezia - Venedig (I)

29. August 2010 bis 21. November 2010
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Veranstalterin: Biennale di Venezia

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Revolution in Schwebe

12. Architekturbiennale in Venedig: Gelungen ist ein Balanceakt zwischen Kunst und Kritik. Die Architektur muss man suchen

von Wojciech Czaja

Und dann das. Dramatisch beleuchtet, dramatisch in Szene gesetzt, dramatisch über den Köpfen der Besucher hinwegschwebend, als wäre die tonnenschwere Masse da oben leicht wie eine Feder, die in einer süßen Windböe vom Himmel fällt. Antón García Abril, Architekt und Autor der Installation Balancing Act, ist ein Meister des Gleichgewichts. In der Corderie-Halle des Arsenale setzte er zwei 20 Meter lange Betonträger übereinander, aber nicht irgendwie, sondern anhand einer fein berechneten Choreografie aus der Welt der physikalischen Kräfte.

"Ich kann mir nicht helfen. Ich habe das Bedürfnis, mit schweren Elementen leichte Räume zu gestalten", sagt der 41-jährige Spanier. Wie schon bei seinem eigenen Wohnhaus in Las Rozas, Madrid, verblüfft er den Betrachter mit Unerwartetem. Normalerweise werden industriell gefertigte Elemente im Brückenbau eingesetzt. Hier tanzt das 25 Tonnen schwere Ding auf einer selbstgeschweißten Stahlfeder und ist der perfekte Auftakt für die 12. Architekturbiennale in Venedig, die heute, Samstag, eröffnet wird.

"People meet in architecture" lautet der übergeordnete Titel der Schau. Und selbst wenn der Großteil der Exponate eine tiefgehende Auseinandersetzung mit dem beauftragten Thema vermissen lässt, gebührt der Direktorin Kazuyo Sejima - erstmals wird die Biennale von einer Frau angeführt - eine gehörige Portion Respekt. Nach vielen gescheiterten Versuchen ist die Biennale, die in den letzten Jahren nicht durch Subtilität auffiel, endlich wieder ein Hort des Neuen, endlich wieder ein Hort des feinen Experiments - ohne Zaha und ohne Frankie O.

"Auch wenn das viele beunruhigen mag - ich bin davon überzeugt, dass wir mit der uns vertrauten statischen Architektur nicht mehr weit kommen werden", sagt Beesley, ein Anhänger des Hylozoismus, des Glaubens daran, dass Materie lebt. "In ein paar grundlegenden Bereichen wie etwa in der Nahrungsmittelversorgung brauchen wir dringend Unterstützung. Je früher wir uns damit anfreunden, desto besser. Es muss sich etwas in Bewegung setzen."

Auf der Architekturbiennale ist vieles in Bewegung. Pritzker-Preisträgerin Kazuyo Sejima hat bewiesen, dass verkrustete Systeme dazu da sind, aufgebrochen zu werden. Der Jahrmarkt der Eitelkeiten dürfte überstanden sein.

Für den Beitrag verantwortlich: Der Standard, 28.08.2010
Ansprechpartnerin für diese Seite: office@nextroom.at

"Wir leben in einer Zeit radikaler Änderungen", sagt Sejima, "deswegen ist es wichtig, dass die Architektur auf diese Änderungen mit allen ihr zur Verfügung stehenden Mitteln reagiert. Am Ende würde ich mir wünschen, dass wir dank dieser Ausstellung etwas genauer wissen, in welche Richtung sich unsere Gesellschaft entwickeln wird und welche Träume die Zukunft für uns birgt."

Und tatsächlich: Von Träumen (und Albträumen) sind auf dieser kunstaffinen Architekturbiennale so viele Exponate geprägt wie nie zuvor. Die Bandbreite ist groß. Die Volksrepublik China zog sich zurück ins letzte Eck des Arsenale, bearbeitete die alten Stahltanks mit Brecheisen und Stange und lässt daraus viele kleine, allem Anschein nach unzensurierte Schwalben aus durchsichtigem Acrylglas entfliehen.

Griechenland baute eine Holzarche, jawohl: eine Arche, und packt mit ein, was nötig ist, um die Reise in die Zukunft zu überstehen: einen Laptop mit Navigationssystem und MP3-Player, eine ganze Batterie an Pflanzensamen und Gewürzen und einen Backbordmotor zur Flucht.

Deutschland wiederum lässt in seinem Pavillon die "Sehnsucht" walten - so das umschweifende Motto des diesjährigen Beitrags von Cordula Rau, Eberhard Tröger und Ole W. Fischer. Gestillt wird vor allem jene nach einer bequemen Sitzgelegenheit in dunkelrotem Plüsch. Mehr ist nicht drin.

Neben ein paar Pavillons, die sich - wie übrigens auch der österreichische Beitrag unter Kommissär Eric Owen Moss - im krampfhaft pluralistischen Ausstellen vieler einzelner Projekte verzetteln, ist die Summe der unscheinbaren und wenig in Erinnerung bleibenden Länderbeiträge damit bereits erreicht. Der ganze große Rest ist zumeist simpel und einprägsam, bisweilen berührend und radikal, in jeder Hinsicht aber aufschlussreich und interessant.

Rumänien stellt einen einfachen White Cube in seinen Pavillon. "Ich wünsche mir, dass jeder einzeln hineingeht und den Raum auf sich wirken lässt", sagt Architekt Tudor Vlasceanu. Mit exakt 94,4 Quadratmetern entspricht er dem Lebensraum eines durchschnittlichen Bukaresters. Mit einer Bevölkerungsdichte von 8500 Einwohnern pro Quadratkilometer zählt die rumänische Hauptstadt zu den dichtesten Ballungsräumen Europas. Vlasceanu: "Ich weiß schon, dass Bukarest nicht die wichtigste und spannendste Stadt Europas ist. Aber wir haben ein Problem, das auf diesem Kontinent recht selten ist. Wir wissen nicht, wohin mit den Menschen."

Obwohl die Niederlande auch nicht gerade dünn besiedelt sind, stellt sich dort ein Problem ganz anderer Art dar: "In den Niederlanden stehen 4326 architektonisch wertvolle, historisch bedeutende oder sich unter Denkmalschutz befindliche Bauwerke seit Jahren leer", sagt Ole Bouman, Kurator und Direktor des Niederländischen Architekturinstituts (NAI). "Das ist nicht nur eine Verschwendung wertvoller Flächenressourcen, sondern auch eine Vernachlässigung unserer kulturellen Verantwortung." Jedes einzelne dieser Gebäude wurde nachgebaut und schwebt nun als federleichte Styroporskulptur über den Köpfen der Besucher. Der Aufstieg in den ersten Stock lohnt, ganz gleich, wie viele Blasen an den Füßen einen davon abzuhalten versuchen.

Nicht entgehen lassen sollte man sich übrigens auch den Hylozoic Ground im kanadischen Pavillon. Der Torontoer Architekt und Designer Philip Beesley verliert sich in den Abgründen kinetischer Architektur und baut technoide Lebewesen aus Plastik, Gummi und Papier. Die frei hängenden Skulpturen bewegen sich wie Farne in der Meeresströmung, wie Tiefseequallen und Kraken.

Lancia Trendvisions

"Hylozoic Ground" - Architecture that Lives and Breathes

LANCIA TRENDVISIONS

design

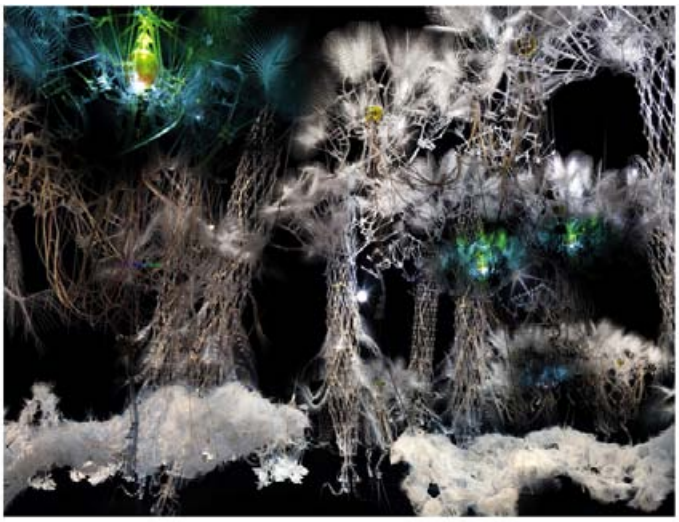
"Hylozoic Ground" - architecture that lives and breathes

Could the reality of living in a world where the earth, trees and buildings that we inhabit are all chemically linked, where vital information flows freely between man and his surroundings be just around the corner ? We are not exactly talking James Cameron's Avatar here but almost... This is "Hylozoic Ground" by Philip Beesley: living architecture in the form of an immersive, interactive environment.

For the twelfth edition of the Venice Architecture Biennial, the Canadian pavilion was transformed into an interactive forest, an opalescent membrane that breathed and swayed with each visitor's footstep and that that learned and imitated these movements perfectly.

For the twelfth edition of the Venice Architecture Biennial, the Canadian pavilion was transformed into an interactive forest, an opalescent membrane that breathed and swayed with each visitor's footstep and that that learned and imitated these movements perfectly.

Once inside, visitors were lured into the shimmering depths of a forest of light by an array of touch sensors creating waves of diffuse breathing motion, introducing a new concept to architecture. The project refers to 'hylozoism', the ancient belief that all matter has life.



Philip Beesley presented a book on his concept at the same time in Venice, which follows the creative process for the "Hylozoic Ground" environment, defined as a suspended geotextile that gradually accumulates hybrid soil from ingredients drawn from its surroundings. Akin to the functions of a living system, machine intelligence makes it so that human interaction triggers the same actions, such as breathing, swallowing and so on, creating hybrid metabolic exchange. Looking after the environment is so fundamental to live a better life, imagine if one day it is the environment itself that looks after us in the same way. Worth a thought and some extra effort to respect our natural surroundings, don't you think?

Fenizia Group International

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HYLOZOIC GROUND BY PHILIP BEESLEY

Venice Architecture Biennale 2010: Toronto architect **Philip Beesley** has installed a forest of acrylic fronds that move as though breathing inside the Canada pavilion at the **Venice Architecture Biennale**, which opens this week. (more...)

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Canadian Pavilion in Venice: Hylozoic Ground by Philip Beesley

VENICE.- For the 12th International Architecture Exhibition Hylozoic Ground transforms the Canada Pavilion with an immersive, interactive environment made of tens of thousands of lightweight digitally-fabricated components fitted with meshed microprocessors and sensors. The glass-like fragility of this artificial forest is built of an intricate lattice of small transparent acrylic meshwork links, covered with a network of interactive mechanical fronds, filters and whiskers. The environment is similar to a coral reef, following cycles of opening, clamping, filtering and digesting. Arrays of touch sensors create waves of diffuse breathing motion, luring visitors into the shimmering depths of a forest of light. The project is designed by Philip Beesley, Associate Professor of Architecture at the University of Waterloo, with engineering director Rob Gorbet, experimental chemist Rachel Armstrong, and many collaborators. The pr

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Date . **Sept. 2010**

UNA OBLONGA DISRUPCION VISUAL

HOME / ARCHIVO / BLOG / Pabellón Canada [Bienal de Venecia]

Pabellón Canada [Bienal de Venecia]

Posteado el 7 SEP 2010 por EDGAR en ARQUITECTURA /// 2 COMMENTARIOS

El pabellón de Canada decidió dedicarlo completamente a la obra del arquitecto Philip Beesley, una variante de su famoso Hylosoic Ground (ganador del premio VIDA de telefónica en la pasada edición, y que estuvo expuesto en Matadero Madrid)

La interesante y macabra instalación, es una serie de mecanismos interactivos activados por multiples sensores y comandados por arduinos, fabricados en cortadoras cnc en plástico y metacrilato que emulan las actividades de una especie de ser vivo, a camino entre una planta tropical y un ser extraterrestre y ocupa la totalidad de la galería que obscurecida y pintada de negro invita a recorrerla y descubrirla.

Agor@ Magazine

Date . **Aug. 2010**

Agor@ magazine

Riprendi il tuo spazio

Ritrovarsi in una selva lucente: la materia vivente di Philip Beesley

MOSTRA INTERNAZIONALE DI ARCHITETTURA BIENNALE DI VENEZIA 2010

giovedì 26 agosto 2010 di Redazione Cultura

Lettori unici di questo articolo: 101

Hylozoic Ground (Terra dell'Ilozoico) della PBAI (Philip Beesley Architect Inc.), in collaborazione con il Consiglio canadese per le Arti, l'Istituto reale canadese di architettura e la University of Waterloo School of Architecture è il progetto che rappresenta il Canada alla 12. Mostra Internazionale di Architettura Biennale di Venezia dal 29 agosto al 21 novembre. La vernice avrà luogo nei giorni 27 agosto alle ore 17.00.

Si tratta di un progetto sperimentale squisitamente canadese, un'architettura che esplora la "giungla" del mondo d'oggi e che riempirà il Padiglione Canadese, sito nei Giardini della Biennale, di un'interattiva vegetazione di fronde, filtri e vibrisse meccanici, che captano la presenza dei visitatori e vi rispondono. Una rete di sensori e azionatori tattili creano infatti un moto respiratorio il cui scopo è di attirare i visitatori "nei recessi profondi e scintillanti di una foresta di luce".

Hylozoic Ground fu selezionato per rappresentare il Canada alla 12. Mostra Internazionale di Architettura Biennale di Venezia 2010, che quest'anno ha come titolo People meet in Architecture, poiché ritenuto "un progetto che si propone quale risposta unica alla Biennale, considerata laboratorio congetturale per la sperimentazione architettonica".

L'installazione Hylozoic Ground, il cui nome richiama la concezione filosofica secondo cui la materia è vivente e animata, è una creazione dell'architetto canadese Philip Beesley, in collaborazione con Rob Gorbet e Rachel Armstrong, sostenuta dal Consiglio canadese per le Arti e l'Istituto reale canadese di architettura. Essa sviluppa il lavoro interdisciplinare svolto dalla PBAI e collaboratori, coniugando ricerche innovative nei campi dell'architettura, ingegneria e scultura.

L'installazione a Venezia segna anche il ritorno di Philip Beesley in Italia. Scultore, oltreché architetto, Beesley passò un periodo a Roma quale vincitore del premio canadese in architettura Prix de Rome. Attualmente insegna all'Università di Waterloo (Ontario).

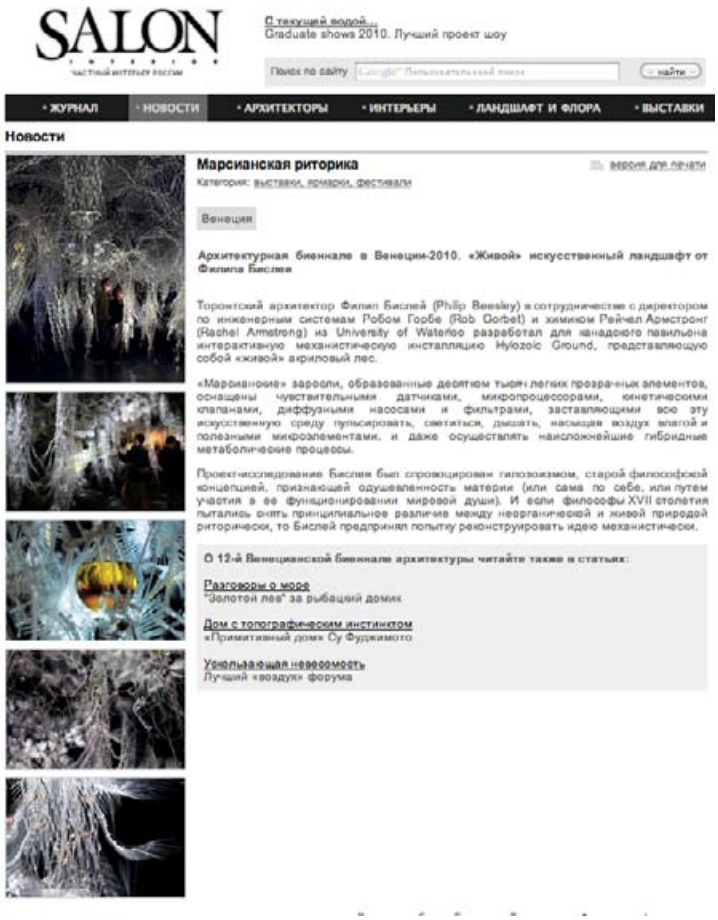
Nelle sezioni della mostra curate dal direttore artistico Kazuyo Sejima, la Biennale Architettura presenta, negli spazi dell'Arsenale e del Palazzo delle Esposizioni, quattro architetti e artisti canadesi: Janet Cardiff e George Bures Miller, già vincitori del Premio Speciale "La Biennale di Venezia" alla Biennale Arti Visive del 2001; Adam Caruso, architetto formatosi a Montreal e attivo a Londra nello studio Caruso St John Architects LLP; Mark Pimlott, anch'egli formatosi a Montreal e attivo a Londra e all'Aia con l'architetto Tony Fretton e Philip Christou, nativo dell'Alberta e socio con Florian Beigel dello studio londinese Arc/Architecture Research Unit.

Altre immagini di Hylozoic Ground sono scaricabili cliccando su

http://www.canadacouncil.ca/news/imagegallery/qt1290536143491952 88.htm

Salon Interior

Date . **Sept. 2010**



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MAGAZINE

12esima Mostra Internazionale di Architettura in Magazine

Posted by Valentina Cavicchiolo Sep 3, 2010

Riapre la Mostra Internazionale di Architettura della Biennale di Venezia. Giunta alla 12esima edizione si potrà visitare dal 29 agosto al 21 novembre 2010. Quest'anno l'evento ritorna nelle mani di un Architetto, un architetto donna per la precisione, Kazuyo Sejima. Una scelta che si fa sentire già dal titolo della Mostra: "People meet in Architecture. Le persone si incontrano nell'Architettura". Del resto non sono le donne, da sempre, depositarie della socialità, del dialogo, della mediazione?

Uscendo dalla Vernice del 26, 27 e 28 agosto (una tre giorni dedicata ad architetti, addetti ai lavori, giornalisti) viene da chiedersi se dopo anni di urbanistica spinta sia forse arrivato il momento di progettare per la gente. Per far incontrare le persone nell'architettura servono più vuoti che pieni, serve che l'architettura diventi scenografia e lasci il protagonismo dell'attore a chi la vive.

La 12esima Mostra di Architettura è anche il riflesso dei cambiamenti socio-economici che avvengono nella società attuale e la sfida che si trovano di fronte gli architetti di oggi non è semplice. Viviamo un momento di grande crisi economica che ha portato ciascuno a ripensare la propria vita, le proprie priorità. Eliminati gli sprechi, si arriva all'essenziale. Di cosa c'è bisogno oggi? Qualità di vita, sostenibilità, tecnologia, recupero degli spazi. Ma soprattutto c'è la necessità ritornare al cuore dell'architettura: l'uomo. E di costruire sulla base delle esigenze e dei ritmi dell'essere umano.

Le partecipazioni nazionali si sono focalizzate proprio su questo. Ecco una selezione che vale non solo uno sguardo, ma una riflessione più approfondita.

Padiglione Canada (Giardini)

Il Canada partecipa alla Biennale per la prima volta. L'opera che porta, curata da Philip Beesley, è insolita e suggestiva: Hylozoic Ground.
Il riferimento è all'ilozoismo, antica dottrina secondo cui la materia è una forza dinamica vivente che ha in sé stessa animazione, movimento e sensibilità senza bisogno di interventi esterni. In *Hylozoic Ground*, invece, l'agente esterno c'è. Il visitatore si trova di fronte una foresta di microprocessori e sensori in acrilico con cui può interagire. Decine di migliaia di componenti leggerissime che respirano e palpitano come esseri viventi. Da vedere.

Fast Company

Date . Sept. 2010

The Venice Architecture Biennale: A Visitor's Journal
by Stefanie Kubanek

The Venice Architecture Biennale: A Visitor's Journal

This year's theme is less about buildings than the people they serve.

[*Product designer and former Pentagram associate partner Stefanie Kubanek recently returned from the mammoth Venice Architecture Biennale, and filed this report. — Ed.*]

The 12th International Architecture Exhibition of the Venice Biennale opened last Sunday, and for the first time in history, the show is directed by a woman: Kazuyo Sejima, who co-won the Pritzker Prize this year.

The exhibition is a relief; it is about presenting architecture as a human-centered endeavor and not as a self-indulgent showdown. The exhibition encourages the unconventional, the present, and the real.

Kazuyo Sejima is also real and present. She seems reserved and shy but there is a strong sense of determination and passion about her work and mission. The title of this Biennale -- *People Meet in Architecture* -- might sound a little too simple, but it is not. It's about time we draw attention to how people respond and relate to architecture and other aspects of the built environment.

Why did it take us so long to move away from the elite and make the fisherman the center of attention?

Below, some installations that do an excellent job of highlighting this year's theme:

Vacant NL
Dutch architects Rietveld Landscape designed a foam-model city to represent the millions of square meters of abandoned property in the Netherlands. The exhibit calls upon the Dutch government and the future Minister of Innovation (!) to use the space for the creative industry's innovation programs.

Hylozoic Ground
This installation, by Canadian architect and sculptor Philip Beesley, is a poetic, sensitive, magical, and scientific exploration of architecture. It's an artificial forest full of sensor-controlled foliage that reacts to human movement.

reFRESH

Date . July/Aug. 2010

People Meet in Architecture
by Paul Mendez

Cino Zucchi Architetti (CZA), Milano
Parco Pubblico, San Possi-Il Parco (Vc)
2001-2008
Courtesy: CZA

Back to the Palace
This will be the first year of the Biennale back at its historical home, Ca' Giustinian, the 15th century Gothic palazzo and former hotel beloved of Marcel Proust, after a three-year restoration. In conjunction with the opening of the exhibition, the adjoining Sala delle Colonne will reopen, completing the transformation of Ca' Giustinian into a twenty-first century, multifunctional arts and events centre for Venice.

The two other venues of the Biennale are the Palazzo delle Esposizioni, incorporating the new Library of Historical Archives of Contemporary Arts (ASAC), and the Arsenale, the largest pre-industrial production centre in the world and symbol of Venice's past as a military, economical and political superpower.

An exciting feature of the Arsenale will be an indoor cloud installation by German climate-engineering firm Transsolar, who seek to offer an experience only the most intrepid explorers have enjoyed. Most people have been up above the clouds and into the blue sky above, on a plane, but how many have been able to damp their skin in pure precipitation, in the Arsenale?

Just as eye-catching – and disorienting – will be Canadian architect and sculptor Philip Beesley's 'Hylozoic Ground', an alien landscape if ever there was one on earth. Hylozoism is, according to the website, 'the ancient belief that all matter has life', and the installation is described as 'an immersive, interactive environment that moves and breathes around its viewers'. Spooky. We may well be approaching a time in which the homes we live in serve not just as cosseting havens but as visceral extensions of our humanity, living, breathing and thinking with us, and Beesley's astonishing experiment could herald that future, as long as it doesn't thread its tendrils round anyone's neck.

Keeping with the artificial intelligence theme will be American experimentalists Arandà\ Lasch, never too far from the nib of the pen when art, architecture and science journals refer to the 'soul in the machine' or the relationship between science and art, and whose installation promises to showcase advanced materials, precise engineering and a multitude of opportunities.

Politics in play
The focus is not purely scientific, but also political. The United States Pavilion, often one of the bigger draws, will this year be presented by Atlanta's High Museum of Art, and will explore the credentials of the architect as a force for change. With most architects at the beck and call of the rich and prosperous for most of the time, co-curators Michael Rooks and Jonathan D. Solomon will present 'Workshopping', a series of projects in which a social problem can be identified and solved by design, possibly the architectural answer to an off-duty medic stopping to help an injured man in the street, majoring on social and environmental sustainability, wisely putting the issues of today before the dreams of tomorrow.

The British Council have appointed London's MUF Architecture/Art Llp as its artistic directors this year, whose philosophy is 'driven by an ambition to realise the potential pleasures that exist at the intersection between the lived and the built.' Specialising in public and exhibition spaces, they are expected to address that key architectural tenet – how people interact with one another within a space, one which is in this instance, both a gallery space (and therefore personal and contemplative), and public space, therefore impersonal and strange.

There are several artists exhibiting this year, who at first glance may be suspected of having missed last year's exhibition (the art and architectural shows alternate), but whose works are, on closer inspection, highly relevant to architecture. As a sculpture student at Künstakademie Düsseldorf, German photographer Thomas Demand was encouraged to research the area where sculptural expression and architecture met, such that his work has evolved to explore familiar architectural models, often domestic, but devoid of people, who have left behind their mess. Maybe they will be found in 'TheBuildingWhichNeverDies', French firm RBySie(n)'s contribution to the exhibition, where a space is defined in which to explore the difficulty inherent in unfamiliar human interaction, at the boundary between fiction and reality.

The Italian Pavilion
Central to the Biennale will be the Italian Pavilion, curated this year by the architect Luca Molinari and anticipated to be a groundbreaking exhibition in itself. Titled 'ALAT! – Reflections from the Future', it is a play on the host nation's name and therefore will ask questions of how contemporary architecture is read. Divided into three sections, the first, 'Amnesia. Italian Contemporary Architecture 1990-2010', will refer to Italian society's apparent indifference to high-quality contemporary architecture; the second, 'Lab Italy', will delineate the research of young and emerging architects on the basis of ten different themes, to find solutions to Italy's continuing societal issues; and Italy 2050, a dialogue with influential ideas/technology magazine WIRED, will see scientists, thinkers, artists and designers share their visions for a future Italy.

New Faces
As well as the many established names, the first-time national participants include Albania, Iran, the Kingdom of Bahrain, Morocco, Malaysia and the Republic of Rwanda, who will present the culmination of a beautifully-structured programme studying the capabilities of sustainable vegetable fibres for use in architecture, promoting local materials and artisans to increase the productivity and export potential of the African continent. Utilising the banana tree, the Rwandan architectural tradition will be symbolised by the King's Hut, which had to be rebuilt each time the travelling royal decided to stop at a village. From a UK perspective, it will also be interesting to see the manifestation of their proposal for the collection and treatment of rain.

Building on the Biennale's more interactive feel this year, three online competitions will be launched through the main website for the best photograph of the exhibition; the best critical text on the exhibition; and the best video on its theme, 'People Meet in Architecture'.

And if all that isn't enough to tempt you onto a September flight to the Laguna, director Kazuyo Sejima heads a list of exhibiting superstars that includes Herzog & de Meuron, Rem Koolhaas and the OMA, Toyo Ito, Cecil Balmond, fellow 2010 Pritzker laureate Ryue Nishizawa, artist Olafur Eliasson and curator Hans Ulrich Obrist. President Paolo Baratta invites us to 'become people in architecture'. See you there!

Canadian company Philip Beesley Architects will be exhibiting Hylozoic Ground at this year's Biennale – pictured is Hylozoic Veil.

USEFUL INFORMATION > > >

1. The 2010 Venice Biennale of Architecture will take place from 29 August and close on 21 November
2. There are 43 international architects, artists, firms and engineers, and 56 countries participating in the event
3. There is a strong focus this year on inviting universities to participate, and not just architecture faculties
4. Tickets from €20pp, €16 for concessions; permanent pass €70. Free admission up to the age of 6
5. Easy transport links and full parking available

Flights from London Gatwick to Venice Marco Polo from £175.35pp, based on the long, romantic weekend of September 3-6 (see www.skyscanner.net)

For further information, visit www.labiennale.org

Sydsvenskan

Date . Sept. 2010

SYDSVENSKAN Fredag 24 september 2010

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KULTUR & NÖJEN

Han formar framtiden

Text: Leo Gullbring
Uppdaterad 5 september 2010 6.34 Publicerad 5 september 2010 6.30
[+] [-] Textstorlek |

Är det verkligen tid för eftertanke? Knappast, menar den kanadensiske arkitekten Philip Beesley. Den nya arkitekturen måste fortsätta att experimentera med nya material, ny teknologi och ifrågasätta förlegade skönhetsbegrepp.

Manetlika, fjäderlätta skapelser som reagerar på minsta lilla rörelse. Tusenbladade ihopstickade kreationer. Men det här är inte något återskapande av naturen, Philip Beesley ser sin installation Hylozoic Ground som en nödvändig provokation som ska ersätta förlegade skönhetsbegrepp med ny estetik. Den kanadensiska paviljongen bryter sig in i gränslandet mellan teknik, byggnation, natur och upplevelse, och drömmer om en levande arkitektur.

– Med vår västerländska civilisation i blodet så har vi svårt att acceptera de här formerna, de är inte rena och tydliga och eviga, utan elastiska, känsliga, de utvidgas och dras ihop, de reagerar på vår närvaro.

– En del ser en skönhet i vårt projekt, men du ser kanylen där, du ser de blodlika vätskorna som rinner igenom den här strukturen? Det här handlar om det groteska, om det röriga, äckliga, eskatologiska, det är en helt annan estetik.

Philip Beesley och hans kollegor utforskar en framtida arkitektur där människa och byggnad växer ihop, där våra sinnen förstärks och utvidgas till nya dimensioner med hjälp av bioteknik. För Philip handlar det om att utforska ny mark som för ihop konst, biologi, arkitektur, datorkunskap, men han kan redan nu visa på praktisk användning som att omvandla solljus till energi.

– Vårt hus lyckades inta en fjärdeplacering i Solar Decathlon i Washington, tävlingen om energieffektivt byggande. Det här är framtidens arkitektur!

– Ibland kan det behövas eftertanke inom arkitekturen, men inte nu. Vi har fantastiska möjligheter att utforska och vi har enorma utmaningar att ta itu med här på vår jord. Vi kan inte vända oss inåt!

Snabbsökning på Sydsvenskan.se

Kultur & Nöjen Solar Decathlon Washington Hylozoic Ground Philip Beesley

Unit B

Date . Aug. 2010

unitB

Responsive Architecture

25/08/2010
Philip Beesley: Hylozoic Ground

Hylozoic Ground by architect and sculptor Philip Beesley will be in the Canada Pavilion at the Venice Biennale in Architecture. 'Hylozoic Ground is an immersive, interactive environment that moves and breathes around its viewers. This environment can 'feel' and 'care'. Next-generation artificial intelligence, synthetic biology, and interactive technology create an environment that is nearly alive. Tens of thousands of lightweight digitally-fabricated components are fitted with microprocessors and proximity sensors that react to human presence. This responsive environment functions like a giant lung that breathes in and out around its occupants. Arrays of touch sensors and shape-memory alloy actuators (a type of non-motorized kinetic mechanism) create waves of empathic motion, luring visitors into the eerie shimmering depths of a mythical landscape, a fragile forest of light.' "...the glass-like fragility of this artificial forest, built of an intricate lattice of small transparent acrylic tiles, is visually breathtaking. Its frond extremities arch uncannily towards those who venture into its midst, reaching out to stroke and be stroked like the feather or fur or hair of some mysterious animal. Beesley's Hylozoic Soil stands as a magically moving contemporary symbol of our aptitude for empathy and the creative projection of living systems."- Fundacion Telefonica Jury, 1st prize, VIDA 11.0
Hylozoic Ground

Posted by Unit B

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Architekturbiennale

Planktonwald und Strandhütten in Venedig

Auf Tuchfühlung

Im kanadischen Pavillon hat sich der Torontoer Architekt und Designer Philip Beesley ausgetobt. Was er "Hylozoic Ground" nennt, ist eine Art technoider Planktonwald, der von der Decke herab um die Besucher herumwedelt.

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1 | 2 | 3 | 4 | 5 | 6 | 7

Iegādāties | Izdrukāt lapu

27.08.2010. Canadian architect Philip Beesley (L) shows his project " Hylozoic Ground " to French Culture Minister Frederic Mitterand (R) at the Canadian pavilion at the Biennale Giardini in Venice on August 27, 2010 during the opening of the 12th Architecture Biennale whose theme is "People meet in Architecture. AFP PHOTO / VINCENZO PINTO

Pilsēta/Valsts: VENICE-Italy

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Fotogrāfs: VINCENZO PINTO; **Avots:** AFP **Atsauce:** AFP/LETA

Publicēšanas datums 27.08.2010

AFP

1 | 2 | 3 | 4 | 5 | 6 | 7

Iegādāties | Izdrukāt lapu

27.08.2010. Canadian architect Philip Beesley shows his project " Hylozoic ground " in the Canadian stands at the Biennale Giardini place in Venice on August 27, 2010 during the opening of the 12th Architecture Biennale exhibition entitled "People meet in architecture". AFP PHOTO / VINCENZO PINTO

Pilsēta/Valsts: VENICE-Italy

ID: 4895176

Parametri: 4256x2832 px; 1.26 MB

Fotogrāfs: VINCENZO PINTO; **Avots:** AFP **Atsauce:** AFP/LETA

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Prime Magazine

Date . Sept. 2010

《PRIME 本质》大师献礼之十八

呼吸的空间

威尼斯建筑双年展Hylozoic Ground

主持今年威尼斯建筑双年展的是日本建筑师妹岛和世（Kazuyo Sejima），她也是双年展的第一个女性总策展人。刚刚获得有“建筑界诺贝尔奖”之誉的普利兹克奖的她，为各个国家的设计师选定的主题是“人们在建筑里相遇”。今年的双年展与往年的最大不同，是能看到诸多新媒体，主办单位推出了 iPad 目录，不少展馆也推出了多媒体互动项目。

抽象的主题让各个参展方以抽象的作品来答题。来自加拿大的建筑师与雕刻家 Philip Beesley，他此次展出的项目 Hylozoic Ground 就像他以往的作品那样，繁复、唯美、极具空间感。轻盈的塑料触须会随着空气的流动微微摆动，它们的每一次颤动都让人觉得这是一个活的有机体，整组装置如同会呼吸的生命。Philip Beesley 做了大量的准备工作，用感应器、微型处理器、机械连接装置和过滤器覆盖包围整个装置，装置可以根据环境移动，并吸收过滤空气中的水分和有机分子。这组装置被形象地称作“生命空间”，Philip Beesley 想以此暗示一个古老的哲学观——万物皆有生命，建筑和城市也应如此，未来的城市应打造成一个有生命的机体。

Meetings Along the Edge

Better Home Improvement

Date . **March 2010**

Meetings Along the Edge

A road to somewhere

Design Anthropology & Experience Design

Some media objects randomly collected during the journey.

Hylozoic Ground: Canada sends an artificial forest to Venice

Posted: March 24th, 2010 | **Author:** (author unknown) | **Filed under:** Syndicated | Comments Off

Hylozoic Ground, the award-winning installation from Philip Beesley Architect, Inc., has been chosen to represent Canada at the Venice Biennale of Architecture this coming Fall. The installation is immersive and responsive, embedded with a network of Arduino microcontrollers, sensors and actuators. The acrylic lattice, covered with "interactive mechanical fronds, filters and whiskers," reacts to the movement of the occupants in the space, suggesting a more empathic relationship between architecture and people.

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- Design Cases
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- Multimedia
- Stories
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- September 2010
- August 2010
- July 2010
- June 2010
- May 2010
- March 2010
- February 2010
- January 2010
- December 2009
- November 2009
- October 2009
- September 2009
- July 2009
- May 2009
- April 2009
- March 2009
- February 2009
- January 2009
- December 2008
- November 2008
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Philip Beesley Released Outdoor decoration Forest posted in Outdoors

Philip Beesley Released Outdoor decoration Forest

Architectural Biennale exhibition was held in Venice 2010. "Alive" artificial landscape of Toronto architect Philip Beesley, in collaboration with the director of engineering systems Rob Gorbet and chemist Rachel Armstrong from the University of Waterloo has developed for the Canadian pavilion an interactive installation mechanistic Hylozoic Ground, which is a "living" acrylic timber.

"Martian" thickets formed by ten thousand light transparent parts, equipped with sensitive sensors, microprocessors, kinetic valves, pumps and filters diffuse that causes the artificial environments pulsate, glow and breathe, filling the air with moisture and beneficial trace elements, and they even help to realize the most complex hybrid metabolic processes.

Project-research of Beesley was provoked by Hylozoism, ancient philosophical concept that recognizes the inspiration of substance (either by itself, or through participation in its operation of the world soul). And if the philosophers of the XVII century tried to remove the fundamental difference between inorganic and living nature of rhetoric, then Beesley made an attempt to reconstruct the idea of mechanistic.

International Architecture & Design

Date . Fall 2010

INTERNATIONAL ARCHITECTURE & DESIGN

Canada's Pavilion Envisions a Living, Breathing Architecture

by John Bentley Mays

architecture, its follies and sharply intelligent interrogations. If many of the featured architects have kicked aesthetics out of their studios, they are excelling where it counts: they are giving thought to the abiding problem of creating a more livable world.

VENICE BIENNALE OF ARCHITECTURE

Held on even years as part of the prestigious contemporary art exhibition Venice Biennale since 1980, the International Architecture Exhibition celebrates its 12th year in 2010. This major architectural event is directed this year by Kazuyo Sejima of the award-winning Tokyo-based firm Sejima & Ryue Nishizawa, also known as SANAA.

The exhibition, themed "People Meet in Architecture," takes place in the Giardini, a picturesque park of municipal gardens east of Venice, close to the waterfront in the Castello district. The gardens house 30 permanent national pavilions, including the Canadian venue, designed in 1958 by a Milanese firm. Noteworthy exhibitions in the past include the 1982 display, featuring architecture from Islamic countries after the Second World War, and the exhibit in 2000, which focused on cities rather than buildings, and was centred on environment, society, and technology themes.

In the 2006 Biennale, which examined architectural challenges posed by cities with populations of several millions, an enormous fleece sweater installation, called *Sweater Lodge*, was suspended in the Canadian pavilion and comprised an actual lodge, or interior space. For the 2008 "Out There: Architecture Beyond Building" event, Canada featured several buildings organized by cultural and geographic region—Arctic, West Coast, Mountain, Prairie, Continental, and Atlantic. ***—Staff***

The Venice Biennale's 12th International Architecture Exhibition runs to Nov. 21.

COURTESY PBAI

Detail of *Hylozoic Ground*: In the pavilion, columns and spirals made of lightweight mesh are fitted with microprocessors that sense people's movements and react in a way said to be "almost lifelike."

CANADA'S PAVILION ENVISIONS A LIVING, BREATHING ARCHITECTURE

Out in that neighbourhood of the architectural universe where visionary thinking is pushing back all boundaries, the quest is on for construction systems that are unlike the rigid boxes and grids we're familiar with. Canadian designer and theorist Philip Beesley, to cite one researcher on this cutting edge, foresees an architecture that is reactive instead of static, more like supple fabric than steel or concrete, possessed of a kind of animation that sets it apart from the lifeless materialism of traditional building approaches.

This autumn, Beesley is showing the world what he has discovered. His project, *Hylozoic Ground*, is Canada's contribution to the Venice Biennale's 12th International Architecture Exhibition. It envelops visitors in a floating comput-

erized meshwork of transparent acrylic tiles—a kind of high-tech tropical rain forest—that responds to human presence by flexing and breathing like the sentient vegetation in the movie *Avatar*.

The approximately $1 million installation, Beesley said just before departing for Venice, "represents an attempt to build a synthetic kind of earth or soil, which then bubbles up and expands and creates a whole building system that might offer a future architecture—an architecture that is responsive, that forms around us, and that might move and eventually have feelings and other living qualities."

Beesley's long-running inquiry is inspired by several cultural sources, old and new. One is hylozoism, the ancient belief that all things are alive, that life springs from earth, air, and water. "The idea that life emerges, springs upward, is quite different from the transcendental ideas that have existed in Western culture," Beesley said. "The tradition of standing on top of the pyramid and being in charge is a very different one from hylozoic philosophy, where things emerge upward."

Another resource is the action painting of the 1950s. "When I think about a core quality of hylozoic ground, when I think about it as art, I think of [abstract expressionists] Borduas, Pollock, Riopelle, who were trying to capture the energy and relationships in an immersive ground. That sense of a saturated, underlying, or surrounding ground is one that I have carried with me for the last 35 years."

Trained as a visual artist before becoming an architect, Beesley describes himself as "a child of the Aquarian Age" with "a radical interest in primal fertility." He honed his skills with physical stuff during a long period of architectural practice, while seeking for a way to close what he calls the "gap between visual art's primal energies and architecture's hunger for substance and depth and materiality." He considers *Hylozoic Ground* to be one result of this effort, a joining of "highly practical and extremely grounded acts of making and engineering" with imaginative gestures that are "as evocative, sensitive, and potent as possible."

Despite the highly poetic character of his work, Beesley insists that his project has strong implications for next-generation design. "Could there be an architecture that offers sensitivity, that steps off the platform of control?" he asks. *Hylozoic Ground* could be pointing a valuable way forward for architecture, and for our understanding of the built environment. —***J.B.M.***

Animal Architecture

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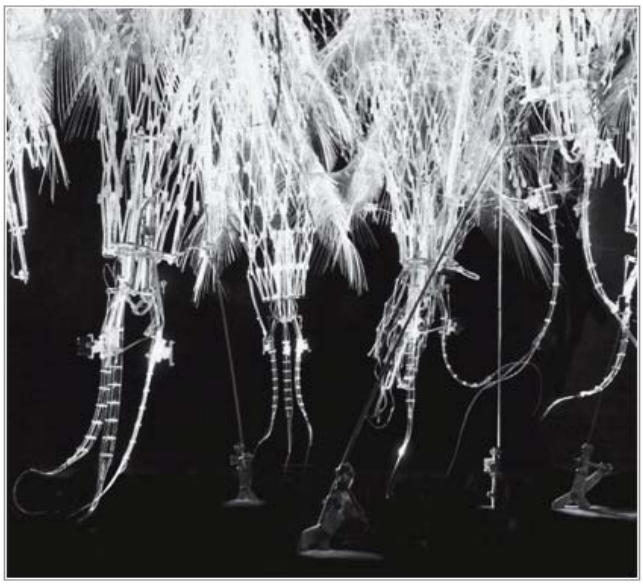
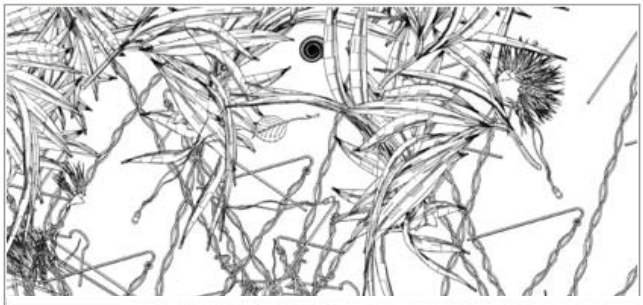
Philip Beesley's Hilozoic Soil

Posted by Ned Dodington on 6/28/10 • Categorized as Featured Projects, Posts, Upcoming Events



If you're not already aware we would like to introduce you to the strange bio-tech world of Philip Beesley. We say strange because unlike anyone else we've seen it's Beesley's work that simultaneously fascinates and repels us. The intricacy of the delicate tectonics, and the visual depth of the work is a convincing display of mechanical reproduction. But the theatrical presence of the work in a space leave little in the way of subtlety. More over there's an uncanniness to his environments that goes beyond the simple amalgamation of life and machine.



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Новости

Марсианская риторика

версия для печати

Категория: выставки, ярмарки, фестивали

Венеция

Архитектурная биеннале в Венеции-2010. «Живой» искусственный ландшафт от Филипа Бисли

Торонтский архитектор Филип Бисли (Philip Beesley) в сотрудничестве с директором по инженерным системам Робом Горбе (Rob Gorbet) и химиком Рейчел Армстронг (Rachel Armstrong) из University of Waterloo разработал для канадского павильона интерактивную механистическую инсталляцию Hylozoic Ground, представляющую собой «живой» ажиловый лес.

«Марсианские» заросли, образованные десятком тысяч легких прозрачных элементов, оснащены чувствительными датчиками, микропроцессорами, кинетическими клапанами, диффузными насосами и фильтрами, заставляющими всю эту искусственную среду пульсировать, светиться, дышать, насыщая воздух влагой и полезными микроэлементами, и даже осуществлять наисложнейшие гибридные метаболические процессы.

Проект исследование Бисли был спровоцирован гилозоизмом, старой философской концепцией, признающей одушевленность материи (или сама по себе, или путем участия в ее функционировании мировой души). И если философы XVII столетия пытались снять принципиальное различие между неорганикой и живой природой риторически, то Бисли предпринял попытку реконструировать идею механистически.

О 12-й Венецианской биеннале архитектуры читайте также в статьях:

Разговоры о моде
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«Примитивный дом» Су Фуджимото

Ускользающая невесомость
Лучший «воздух» форума

Satellite

Date . June. 2010

SATELLITE

Oh, What Tangled Webs We Weave

SATELLITE
CONTEMPORARY. ART. CULTURE. ASIA.

ABOUT THE WRITER

oh, what tangled webs we weave

June 7th, 2010 § Leave a Comment

Recently, I've been super intrigued by large, web-like lattice installations. They often lead me to fantasies in which the late Louise Bourgeois' giant metal spiders spin these intricate and compelling fabrics - delicate yet strong enough to stretch across vast expanses, they occupy ancient palaces and cavernous empty dark spaces with an ethereal quality.

Viennese/Croatian design collective For Use/Numen, for instance, created these astounding viscous-looking webs from your humble transparent tape. Don't take it lightly though, these sticky cocoons are able to withstand human weight. Currently exhibited at the DMY Berlin's International Design Fair, they were previously incarnated inside a small Croatian gallery, then in an abandoned attic at the Vienna Design Week. For the latest installation, they used over 117,000 feet of tape. Read more **here at Fast Company.** You can even watch a video showing the choreography of its creation.

I've also been incessantly mesmerised by Canadian artist Philip Beesley's Hylozoic Ground for the Canadian Pavilion of the 2010 Venice Biennale.

From their website:

> *Hylozoic Ground is a uniquely Canadian experimental architecture that explores qualities of contemporary wilderness. The project will transform the Canada Pavilion into an artificial forest made of an intricate lattice of small transparent acrylic meshwork links, covered with a network of interactive mechanical fronds, filters, and whiskers.*
>
> *Tens of thousands of lightweight digitally-fabricated components are fitted with microprocessors and proximity sensors that react to human presence. This responsive environment functions like a giant lung that breathes in and out around its occupants. Arrays of touch sensors and shape-memory alloy actuators (a type of non-motorized kinetic mechanism) create waves of empathic motion, luring visitors into the eerie shimmering depths of a mythical landscape, a fragile forest of light.*

Checking out their **video gallery** is a must-do. You'll see waving tendrils of light delight audiences and tentacles of hanging foliage respond to the slightest touch.

These two fantastic interactive installations made me recall seeing Argentinian artist Tomas Saraceno's Galaxies Forming Along Filaments, Like Droplets Along The Strands Of A Spider's Web at last year's Venice Biennale. Formed with elastic ropes, wandering through the installation was akin to stepping through a minefield - at once you wanted to lose yourself gazing at the constellation, and at the same time not trip over a section of dark rope and cause the whole cosmos to come tumbling down.

Hylozoism: A Future City that Breathes

ARCHITECTURE, EVENTS, INSTALLATIONS

VENICE BIENNALE 2010.

Posted by yellowtrace on September 6, 2010 at 6:00 am.

Hylozoism: A Future City That Breathes (11 pics)

Posted by wishNYa on August 29, 2010 at 12:30am

View wishNYa's blog

Toronto architect Philip Beesley has installed a forest of acrylic fronds that move as though breathing inside the Canada pavilion at the Venice Architecture Biennale, which opens this week.

The project's title refers to 'hylozoism', the ancient belief that all matter has life. Hylozoic Ground offers a vision for a new generation of responsive architecture. The Hylozoic Ground environment can be described as a suspended geotextile that gradually accumulates hybrid soil from ingredients drawn from its surroundings. Akin to the functions of a living system, embedded machine intelligence allows human interaction to trigger breathing, caressing, and swallowing motions and hybrid metabolic exchanges. These empathic motions ripple out from hives of kinetic valves and pores in peristaltic waves, creating a diffuse pumping that pulls air, moisture and stray organic matter through the filtering Hylozoic membranes. 'Living' chemical exchanges are conceived as the first stages of self-renewing functions that might take root within this architecture.

Transmedia Camp 101

Date . Aug. 2010

TRANSMEDIA CAMP 101
Just another WordPress.com weblog

Canadian Pavilion at Venice Biennale 2010

by Siobhan O'Flynn

canadian pavilion at venice biennale 2010

'hylozoic ground' by philip beesley architects for the canadian pavilion at la biennale di venezia 2010
all images courtesy philip beesley architects

canada's entry to the 12th international architecture exhibition, la biennale di venezia,
offers a vision for a new generation of responsive architecture. the collaborative work
conceived by philip beesley is an immersive, interactive architectural installation fitted
with arrays of sensors and kinetic devices. lightweight interlinking systems are interwoven
with next-generation chemistry that supports exchanges within the environment, in pursuit
of an environment that 'cares.'

'hylozoic ground'

'hylozoic ground' is an immersive interactive environment made of tens of thousands of
digitally fabricated components fitted with microprocessors and sensors. the glass-like fragility
of this artificial forest is created by an intricate lattice of small transparent acrylic meshwork links,
covered with a network of interactive mechanical fronds, filters, and whiskers. the environment
is similar to a coral reef, following cycles of opening, clamping, filtering, and digesting. arrays
of touch sensors and shape-memory alloy actuators create waves of diffuse breathing motion,
luring visitors into the shimmering depths of a forest of light.

detail

the project's title refers to 'hylozoism,' the ancient belief that all matter has life. 'hylozoic ground'
offers a vision for a new generation of responsive architecture. the hylozoic ground environment
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matter through the filtering hylozoic membranes. 'living' chemical exchanges are conceived as
the first stages of self- renewing functions that might take root within this architecture.

'hylozoic ground'

Wallpaper*

Date . Sept. 2010

Venice Architecture Biennale 2010

Thursday, 23 September 2010

Wallpaper*

*DESIGN INTERIORS FASHION ART LIFESTYLE

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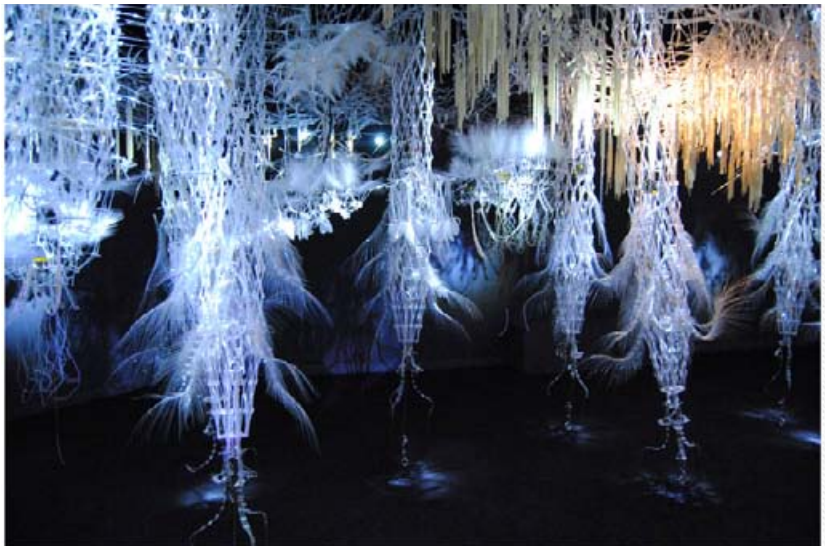
Gallery / Architecture / Venice Architecture Biennale 2010 Prev / Next

Canada 36 of 62 Prev / Next Start Slideshow

The most old-fashioned pavilion - inside and out - this smoked glass and steel structure, by Italian masters BBPR, houses an installation by architect and sculptor Philip Beesley titled 'Hylozoic Ground', a hissing, translucent inverted garden of clear acrylic fronds and stalks. It is certainly atmospheric, with something of the neo-organic quality of the models of Antoni Gaudi, and there is also a refreshing absence of digital media on display. Even so, the biological/architectural crossover feels rather out of time, a science fiction vision from the past (rather like the country's pavilion itself), awaiting a revival of interest.

www.philipbeesleyarchitect.com

Photography by Orlando Lovell



Woman Around Town

Date . Sept. 2010

Venice Biennale - More than Just Architecture

by Claire McCurdy

Venice Biennale—More than Just Architecture

Friday, September 24th, 2010
by Claire McCurdy on Playing Around

As a tourist in Venice twenty years ago I had certainly felt the magic of the place. My memories were of lovely but sinister Carnevale mask shops, glittering Murano glass, the brilliant light and shades of the plaza of San Marco with masses of pigeons fluttering about and landing on peoples' heads and arms, the canal, the gondoliers, cathedrals. In short, all the familiar tourist spots.

That trip, however, could not possibly have prepared me for the International Biennale Architecture Exhibition in Venice. I knew it would be a unique opportunity to immerse myself in world class exhibitions of art and architecture, absorb and learn, and bring back thoughts and images to readers. I could not have imagined how far this exhibition would take the concept of "architecture" to new and wonderful places.

The themes of the exhibition seemed unusually accessible: "People Meet in Architecture." And the Biennale also featured its first ever woman director—a Japanese woman architect, Kazuyo Sejima. Clearly this would be a great departure from tradition.

And it was. I believe I did notice a compact, elegant Japanese influence on models of city planning, and certainly a dedication to transparency and accessibility for the visitors. In addition, many exhibits invited the visitor to communicate, touch, and play: the Canadian pavilion exhibition's brilliant white tendrilled "creature"; from Hungary, enveloping curtains made of thousands of pencils suspended on string; from Korea, an ancient Korean wooden house (Hanok) with children happily crawling all over it; and two extraordinary exhibits featuring intangible elements filling space, clouds or music.

And last but not least, the brilliant posthumous show of Louise Bourgeois, centering on a statue of a giant spider; and its webs.

The 12th International Architecture Exhibition "People Meet in Architecture," opened in August and will run through November 21. The exhibition, laid out in the Palazzo delle Esposizioni della Biennale (Giardini) and in the Arsenale, features 48 participants—firms, architects, engineers and artists from around the world. In addition collateral events by international individuals and firms have been organized during the Biennale.

"The 2010 Architecture Biennale should be a reflection on architecture in the 21st century, clarifying new values and a new lifestyle," according to Director Kazuyo Sejima, inviting each person to be his or her own curator. "The atmosphere of the exhibition itself will therefore be achieved through multiple points of view rather than a single orientation," she said.

Days Two Through Four—I Giardini

The following day, and for two days afterwards, I visited the Giardini, (Gardens), where many of the national pavilions were grouped together. Rather than attempting to go global, I focused on a few exhibitions with major impact.

Canada—"Hylozoic Ground: Liminal Responsive Architecture "

Visitors emerging from this show were dazed, smiling, waving their fingers as if they could still touch and communicate with the creature inside the pavilion.

As the architect attests, "hylozoism is the ancient perception of life arising out of material." Visitors, encountering a glass-like forest and a live creature—a giant, twitching, pulsating, glowing mass of white fronds and whiskers waving gently—walked through this exhibit entranced, taking in the bright colors and gently touching the waving fronds, as if one could communicate with this alien life-form.

The Architect's Newspaper

Date . Sept. 2010

Going Gaga at the Giardini

by William Menking

THE ARCHITECT'S NEWSPAPER

Venice 2010> Going Gaga at the Giardini

International | 8.23.10 | *William Menking*

The Austrian pavilion, dressed up in a snazzy scrim.

The Venice biennale does not open officially to the press until Thursday, August 26, and just about all of the national pavilions in the giardini are madly rushing to finish before that date. All the pavilions that is, except sadly the crumbling Venezuelan pavilion, which will not have an exhibition in it this year.

Pobre Venezuela is sitting this biennale out.

The small, rough concrete structure was designed by Carlo Scarpa in 1954, and is being kept alive, I have been told, by a single guardian angel who maintains it free of charge. Where are the petro dollars? Or is the Chavez government thinking this exhibition is irrelevant to its more pressing economic problems? Making it even sadder, right next door the Russian pavilion has been lovingly restored on the exterior, with a new skylight and pre-Soviet iron pinnacle.

So far, a first impression of this year's biennale, under curator Kazuyo Sejima's theme "People Meet in Architecture," is that there is remarkably little architecture here. The majority of national buildings feature installations that are more like art than architecture. For example, the exhibition at the Polish pavilion, *Emergency Exit*, curated by Londoner Elias Redstone, is composed of reclaimed birdcages stacked to the roof. It asks viewers to surmount the structure, hold their breath, and then dive into a void. I trust Elias, so will give it a jump tomorrow and report back—assuming I make it out alive.

The Italian pavilion, by the way, has a great-looking Op Art cafe created for the last art biennale, inserted in a corner with a nice outdoor seating area on a canal. The Canadian pavilion, which did not open on time in 2008, is filled with an amazing installation by Philip Beesley called *Hylozoic Ground*, with a publication edited by ex-Storefront staffer Pernilla Ohrstedt and Hayley Isaacs. Check out a few more first glimpses from the giardini below, and stay tuned!

The Egyptian pavilion's sharp-edged sculpture.

The project at the adjacent Egyptian pavilion looks as if it were meant to be made on a CNC milling machine, but is being entirely cut and framed by hand—with very sharp edges all along. In the garden, Raum Berlin have a crew of workers making funky wooden chair/stairs, and I may try to bring one home!

Stair-chairs under construction by the Raum Berlin crew.

The Italian pavilion, by the way, has a great-looking Op Art cafe created for the last art biennale, inserted in a corner with a nice outdoor seating area on a canal. The Canadian pavilion, which did not open on time in 2008, is filled with an amazing installation by Philip Beesley called *Hylozoic Ground*, with a publication edited by ex-Storefront staffer Pernilla Ohrstedt and Hayley Isaacs. Check out a few more first glimpses from the giardini below, and stay tuned!

Portale Italia

Date . Aug. 2010

PORTALE ITALIA
ITALIA-NEWS.it COMMUNITY
direttore: ERNESTO CURCIONE EDIZIONE NAZIONALE

Internazionale di Architettura Biennale di Venezia 2010

Il Canada alla 12. Mostra Internazionale di Architettura Biennale di Venezia 2010

inserito da: Redazione pubblicato il: 25/08/2010 09:12

E-mail PDF Commenta

RITROVARSI IN UNA SELVA LUCENTE: LA MATERIA VIVENTE DI PHILIP BEESLEY

Hylozoic Ground (Terra dell'Ilozoico) della PBAI (Philip Beesley Architect Inc.), in collaborazione con il Consiglio canadese per le Arti, l'Istituto reale canadese di architettura e la University of Waterloo School of Architecture è il progetto che rappresenta il Canada alla 12. Mostra Internazionale di Architettura Biennale di Venezia dal 29 agosto al 21 novembre. La vernice avrà luogo nei giorni 27 agosto alle ore 17.00.

Si tratta di un progetto sperimentale squisitamente canadese, un'architettura che esplora la "giungla" del mondo d'oggi e che riempirà il Padiglione Canadese, sito nei Giardini della Biennale, di un'interattiva vegetazione di fronde, filtri e vibrisse meccanici, che captano la presenza dei visitatori e vi rispondono. Una rete di sensori e azionatori tattili creano infatti un moto respiratorio il cui scopo è di attirare i visitatori "nei recessi profondi e scintillanti di una foresta di luce".

Hylozoic Ground fu selezionato per rappresentare il Canada alla 12. Mostra Internazionale di Architettura Biennale di Venezia 2010, che quest'anno ha come titolo People meet in Architecture, poiché ritenuto "un progetto che si propone quale risposta unica alla Biennale, considerata laboratorio congetturale per la sperimentazione architettonica". L'installazione Hylozoic Ground, il cui nome richiama la concezione filosofica secondo cui la materia è vivente e animata, è una creazione dell'architetto canadese Philip Beesley, in collaborazione con Rob Gorbet e Rachel Armstrong, sostenuta dal Consiglio canadese per le Arti e l'Istituto reale canadese di architettura. Essa sviluppa il lavoro interdisciplinare svolto dalla PBAI e collaboratori, coniugando ricerche innovative nei campi dell'architettura, ingegneria e scultura.

L'installazione a Venezia segna anche il ritorno di Philip Beesley in Italia. Scultore, oltreché architetto, Beesley passò un periodo a Roma quale vincitore del premio canadese in architettura Prix de Rome. Attualmente insegna all'Università di Waterloo (Ontario).

Nelle sezioni della mostra curate dal direttore artistico Kazuyo Sejima, la Biennale Architettura presenta, negli spazi dell'Arsenale e del Palazzo delle Esposizioni, quattro architetti e artisti canadesi: Janet Cardiff e George Bures Miller, già vincitori del Premio Speciale "La Biennale di Venezia" alla Biennale Arti Visive del 2001; Adam Caruso, architetto formatosi a Montreal e attivo a Londra nello studio Caruso St John Architects LLP; Mark Pimlott, anch'egli formatosi a Montreal e attivo a Londra e all'Aia con l'architetto Tony Fretton e Philip Christou, nativo dell'Alberta e socio con Florian Beigel dello studio londinese Aru/Architecture Research Unit.

Questo comunicato contiene collegamenti ipertestuali dai quali è possibile scaricare immagini del progetto. Altre immagini di Hylozoic Ground sono scaricabili cliccando su http://www.canadacouncil.ca/news/imagegallery/qt12905361434915

Ambasciata del Canada, Roma - 24 agosto 2010

0 commenti

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philip beesley - hylozoic ground

"Hylozoic Ground is an immersive, interactive environment that moves and breathes around its viewers. This environment can 'feel' and 'care'. Next-generation artificial intelligence, synthetic biology, and interactive technology create an environment that is nearly alive."

Venice Biennale 2010

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Canada Pavilion_Giardini

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Hylozoic Ground

Canada Pavilion_Giardini

Hylozoic Ground is an immersive, interactive environment made of tens of thousands of **digitally-fabricated components** fitted with meshed **microprocessors** and **sensors**. The glass-like fragility of this artificial forest is built of an intricate acrylic meshwork, covered with a network of interactive mechanical fronds, filters and whiskers. Arrays of touch sensors and shape-memory alloy actuators create waves of diffuse breathing motion, luring visitors into a shimmering forest of light. The project's title refers to '**hylozoism**', the ancient belief that all matter has life.

Architects:
Philip Beesley with **PBAI**

Collaborators:
Rob Gorbet with **Gorbet Lab**;
Rachel Armstrong with **AVATAR / FLinT Laboratory**

Commissioner:
Philip Beesley

TAG : NATIONAL PARTICIPATIONS , CANADA

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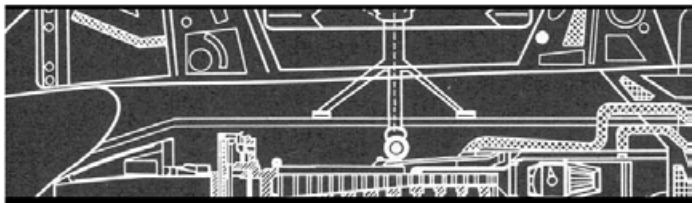

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Hylozoic Ground by Philip Beesley

Posted on August 26, 2010 by lisaann245

Venice Architecture Biennale 2010: Toronto architect Philip Beesley has installed a forest of acrylic fronds that move as though breathing inside the Canada pavilion at the Venice Architecture Biennale, which opens this week. Venice Architecture Biennale 2010: Toronto architect Philip Beesley has installed a forest of acrylic fronds that move as though breathing inside the Canada pavilion at the Venice Architecture Biennale, which opens this week

See the rest here:
Hylozoic Ground by Philip Beesley

The Architectural Review

Date . Sept. 2010
by Catherine Slessor

THE ARCHITECTURAL REVIEW

The National Pavilions at the Venice Biennale, Venice, Italy

22 September 2010 | By Catherine Slessor

[Exhibition] An extensive exploration of the Venice Biennale's sensuous delights and pavilion peculiarities

Whether an involuntary consequence of squeezed cultural-relations budgets, or a more tactical response to the aura of Sejima as director, this year many countries appeared to be keeping their contributions low key. Even so, in the Giardini and Arsenale, visitors were confronted with the usual daunting spectrum of curatorial propositions and possibilities.

For Chile, Mathias Klotz's photographs calmly recorded the devastation of the 2010 Chilean earthquake. Though 'only' 500 people died, the quake was one of the strongest in recorded world history, with many coastal towns and historic districts wiped out by the ensuing tsunami. In the festive biennale milieu dedicated to reaffirming architectural omnipotence, it was a reminder of the fragility of built form and human life.

Switzerland presented a sober survey of the work of engineer Jürg Conzett, rendered in moody panoramas of Swiss landscapes heroically traversed by his structures. Brazil also opted for a monographic homage to the apparently immortal Niemeyer. Belgium investigated the physical effects of use and wear through a beautifully laconic array of ordinary objects and fittings, such as carpets and handrails. Neighbouring Netherlands (Giardini geography occasionally apes the real thing) focused on the reuse of vacant buildings expressed through a huge, celestial blue polystyrene model of a 'city' of empty buildings suspended in mid-air like a temporary sky.

For Japan, Yoshiharu Tsukamoto of Atelier Bow-Wow and SANAA's Ryue Nishizawa showed a series of delightful house proposals in the context of Tokyo's 'metabolising' city fabric. Unlike Europe, with its historic city cores and grand plans, Tokyo consists of a fluid aggregation of independent buildings or 'grains'. France under Dominique Perrault also homed in on the city, this time as a wider urban terrain, with an installation of films and texts, though the vigorously flickering walls (doubtless unintentionally) induced minor queasiness in visitors. Russia's contribution was a survey of redundant Soviet-era factories in the former textile town of Vyshny Volochyok, investigating how derelict land might be brought back into use. A familiar topic of post-industrial regeneration, perhaps, but it's estimated that there are 300 Vyshny Volochyoks across Russia, housing 10-15 million people.

At the less careworn end of the curatorial spectrum, Hungary delivered a cheerful homage to the art of hand drawing, adorned with rippling pencil curtains. In a riposte to the proscriptions of health and safety, Poland encouraged visitors (at their own risk) to leap off a gabion tower on to an inflatable landing shrouded in dry ice. Canada went all weirdly sci-fi with Hylozoic Ground, an interactive forest made of thousands of lightweight, digitally fabricated components fitted with microprocessors and sensors to mimic organic life.

There were some misfires, notably the Scandinavians, who played it rather too Nordically straight (more Finnish schools?), and the USA, whose pavilion inexplicably gave house room to architect John Portman. Spain was an inelegant articulation of some vaguely right-on, green credentials, with its section of the Biennale catalogue left enigmatically blank. For hardcore nihilism, however, one couldn't touch the Venezuelans, who didn't turn up at all.

The virtues of austerity and authenticity were underlined by Bahrain's award of Golden Lion for best pavilion. Making its debut in Venice, the tiny oil-rich kingdom confounded the stereotype of the Gulf as a latter day architectural Gomorrah, instead choosing to reflect on the ecological and social decline of Bahrain's historic sea culture. This was achieved with admirable simplicity through three traditional fishermen's shacks plucked from their original context and reassembled in the Arsenale (itself a relic of a lost maritime civilisation). The poignant dignity of the rough hewn structures had nothing to do with architects and everything to do with an instinctive response to site, climate and materials.

Several biennales ago in 1996, the British Pavilion was colonised by a huge scale model of Richard MacCormac's Ruskin Library for the University of Lancaster. Ruskin and Venice are grimly locked together in art-historical perpetuity, but it's well known that he came to deplore the consequences of his Venetian investigations and their careless rehashing in a tide of crass pseudo-Gothic imitations - 'accursed Frankenstein monsters of, indirectly, my own making', as he put it. However, he was also deeply concerned with memory and especially the part buildings play as both text and repository of cumulative history. 'We cannot remember without architecture,' he admonished in The Seven Lamps of Architecture.

For this biennale, the shade of Ruskin rose again, with the British Pavilion ironically rechristened Villa Frankenstein by curator Liza Fior of Muf Architecture. Ruskin's meticulous and obsessive recording is at the heart of what Fior describes as 'close looking', a strategy and spirit that underpinned the British contribution.

On duck egg blue walls, Ruskin's Venetian jottings and sketches were paired with images from a remarkable unseen archive by local photographers Alvio and Gabriella Gavagrin. The Gavagrins live in Castello, Venice's easternmost sestiere. Here during the press vernissage, Castello's streets and gardens are transformed into a supercharged summer fete. Yet through the Gavagrins' prism of black and white camera vérité, the same locale is depicted as a place of decay and abandonment, a mouldering banquet served up for tourists.

Augmenting this subtle urban examination devised by Venice-based artist and philosopher Wolfgang Scheppe was an inhabitable scale model of part of the 2012 Olympic Stadium. Built by local carpenters and wedged into its space like a modern Teatro Olimpico, this will be used for drawing workshops during the Biennale (see page 88). There was also a suite devoted to the lagoon and its ecology, replete with aquaria and stuffed birds. Both these sections were freighted with earnest notions of pedagogy, outreach and legacy, which though estimable in their own right, seemed slightly at odds with the more dreamlike atmosphere of the Ruskin/Gavagrin rooms.

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Date . Sept. 2010

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News

Venice #11: 'Hylozoic Ground'

The Canadian Pavilion offers an immersive, interactive installation, an exploration in responsive architecture, a breathing, intricate lattice of living web of tens of thousands of digital sensors, in Philip Beesley's 'Hylozoic Ground.'

The project stems from the concept of Hylozoism, the ancient philosophical belief that all matter contains life. A geotextile meshwork weave of digital components, feathers and whiskers, the artificial forest breathes and reacts as a living organism, giving a heightened sense of being part of an interconnected, responsive world.

Der Standard (Germany)

Date . Aug. 2010

derStandard.at

12. ARCHITEKTURBIENNALE

Revolution in Schwebe

VON WOJCIECH CZAJA | 27. August 2010, 18:20

Gelungen ist ein Balanceakt zwischen Kunst und Kritik - Die Architektur muss man suchen

"Superbia 1:1" im rumänischen Pavillon ist eine vereinfachte Darstellung des Lebensraums Bukarest. Genau 94,4 Quadratmeter hat jeder Bewohner zur Verfügung.

Und dann das. Dramatisch beleuchtet, dramatisch in Szene gesetzt, dramatisch über den Köpfen der Besucher hinwegschwebend, als wäre die tonnenschwere Masse da oben leicht wie eine Feder, die in einer süßen Windböe vom Himmel fällt. Antón García Abril, Architekt und Autor der Installation Balancing Act, ist ein Meister des Gleichgewichts. In der Corderie-Halle des Arsenale setzte er zwei 20 Meter lange Betonträger übereinander, aber nicht irgendwie, sondern anhand einer fein berechneten Choreografie aus der Welt der physikalischen Kräfte.

"Ich kann mir nicht helfen. Ich habe das Bedürfnis, mit schweren Elementen leichte Räume zu gestalten" , sagt der 41-jährige Spanier. Wie schon bei seinem eigenen Wohnhaus in Las Rozas, Madrid, verblüfft er den Betrachter mit Unerwartetem. Normalerweise werden industriell gefertigte Elemente im Brückenbau eingesetzt. Hier tanzt das 25 Tonnen schwere Ding auf einer selbstgeschweißten Stahlfeder und ist der perfekte Auftakt für die 12. Architekturbiennale in Venedig, die heute, Samstag, eröffnet wird.

"People meet in architecture" lautet der übergeordnete Titel der Schau. Und selbst wenn der Großteil der Exponate eine tiefgehende Auseinandersetzung mit dem beauftragten Thema vermissen lässt, gebührt der Direktorin Kazuyo Sejima - erstmals wird die Biennale von einer Frau angeführt - eine gehörige Portion Respekt. Nach vielen gescheiterten Versuchen ist die Biennale, die in den letzten Jahren nicht durch Subtilität auffiel, endlich wieder ein Hort des Neuen, endlich wieder ein Hort des feinen Experiments - ohne Zaha und ohne Frankie O.

"Wir leben in einer Zeit radikaler Änderungen" , sagt Sejima, "deswegen ist es wichtig, dass die Architektur auf diese Änderungen mit allen ihr zur Verfügung stehenden Mitteln reagiert. Am Ende würde ich mir wünschen, dass wir dank dieser Ausstellung etwas genauer wissen, in welche Richtung sich unsere Gesellschaft entwickeln wird und welche Träume die Zukunft für uns birgt."

Und tatsächlich: Von Träumen (und Albträumen) sind auf dieser kunstaffinen Architekturbiennale so viele Exponate geprägt wie nie zuvor. Die Bandbreite ist groß. Die Volksrepublik China zog sich zurück ins letzte Eck des Arsenale, bearbeitete die alten Stahltanks mit Brecheisen und Stange und lässt daraus viele kleine, allem Anschein nach unzensurierte Schwalben aus durchsichtigem Acrylglas entfliehen.

Griechenland baute eine Holzarche, jawohl: eine Arche, und packt mit ein, was nötig ist, um die Reise in die Zukunft zu überstehen: einen Laptop mit Navigationssystem und MP3-Player, eine ganze Batterie an Pflanzensamen und Gewürzen und einen Backbordmotor zur Flucht.

Deutschland wiederum lässt in seinem Pavillon die "Sehnsucht" walten - so das umschweifende Motto des diesjährigen Beitrags von Cordula Rau, Eberhard Tröger und Ole W. Fischer. Gestillt wird vor allem jene nach einer bequemen Sitzgelegenheit in dunkelrotem Plüsch. Mehr ist nicht drin.

Neben ein paar Pavillons, die sich - wie übrigens auch der österreichische Beitrag unter Kommissär Eric Owen Moss - im krampfhaft pluralistischen Ausstellen vieler einzelner Projekte verzetteln, ist die Summe der unscheinbaren und wenig in Erinnerung bleibenden Länderbeiträge damit bereits erreicht. Der ganze große Rest ist zumeist simpel und einprägsam, bisweilen berührend und radikal, in jeder Hinsicht aber aufschlussreich und interessant.

Rumänien stellt einen einfachen White Cube in seinen Pavillon. "Ich wünsche mir, dass jeder einzeln hineingeht und den Raum auf sich wirken lässt" , sagt Architekt Tudor Vlasceanu. Mit exakt 94,4 Quadratmetern entspricht er dem Lebensraum eines durchschnittlichen Bukaresters. Mit einer Bevölkerungsdichte von 8500 Einwohnern pro Quadratkilometer zählt die rumänische Hauptstadt zu den dichtesten Ballungsräumen Europas. Vlasceanu: "Ich weiß schon, dass Bukarest nicht die wichtigste und spannendste Stadt Europas ist. Aber wir haben ein Problem, das auf diesem Kontinent recht selten ist. Wir wissen nicht, wohin mit den Menschen."

Obwohl die Niederlande auch nicht gerade dünn besiedelt sind, stellt sich dort ein Problem ganz anderer Art dar: "In den Niederlanden stehen 4326 architektonisch wertvolle, historisch bedeutende oder sich unter Denkmalschutz befindliche Bauwerke seit Jahren leer" , sagt Ole Bouman, Kurator und Direktor des Niederländischen Architekturinstituts (NAI). "Das ist nicht nur eine Verschwendung wertvoller Flächenressourcen, sondern auch eine Vernachlässigung unserer kulturellen Verantwortung." Jedes einzelne dieser Gebäude wurde nachgebaut und schwebt nun als federleichte Styroporskulptur über den Köpfen der Besucher. Der Aufstieg in den ersten Stock lohnt, ganz gleich, wie viele Blasen an den Füßen einen davon abzuhalten versuchen.

Next Nature

Date . June 2010

Self-Repairing Architecture

by Rachel Armstrong

Essay: Self-Repairing Architecture

All buildings today have something in common: They are made using Victorian technologies. This involves blueprints, industrial manufacturing and construction using teams of workers. All this effort results in an inert object, which means there is a one-way transfer of energy from our environment into our homes and cities. This is not sustainable. I believe that the only possible way for us to construct genuinely sustainable homes and cities is by placing them in a constant conversation with their surroundings. In order to do this, we need to find the right language.

By Rachel Armstrong

Metabolic materials are a technology that acts as a chemical interface or language through which artificial structures such as, architecture, can connect with natural systems. I am developing this technology in collaboration with scientists working in the field of synthetic biology and origins of life sciences whose model systems of investigation are materials that belong to a new group of technologies being described as 'living technology' (Bedau, 2009), which possess some of the properties of living systems but are not considered 'alive'.

The characteristic of metabolic materials is that they possess the living property of metabolism, which is a set of chemical interactions that transform one group of substances into another with the absorption or production of energy. This transfer of energy through chemical exchange directly couples the environment to the living technology and embeds it within an ecosystem. Metabolic materials work with the energy flow of matter and systems using a bottom up approach to the construction of architecture.

A practical example of how the first protocell based metabolic materials may inform architectures was developed for a series of collaborations with architect Philip Beesley where active protocells were engineered to be accessible for public display. Sargasso Sea (CITA collaboration for 'Architecture and Climate Change' exhibition, Royal Danish Academy, December 2009), Hylozoic Grove, (Quebec, February, 2010) and Hylozoic Field (Mexico City, Festival of Mexico, March-April 2010) featured protocell 'incubators' that took the form of flasks of modified protocells reaching several centimetres in diameter. A propositional relationship was created between the soft technology and the synthetic framework of the cybernetic field suggesting that living materials in the incubators would replace the inert scaffolding materials of the main exhibit.

A more intricate chemical landscape was designed to exist within a similar cybernetic framework at the Canadian Pavilion for the Venice Biennale, which is exhibited from September to November 2010 in Venice, Italy. The proposed chemical systems within this installation performed a functional and dynamic relationship both to the cybernetic installation and the human visitors. The metabolic materials 'breathed in' carbon dioxide that was naturally dissolved in the water drawn from Venice's canals and were able to demonstrate a carbon fixation process where the waste gas was recycled it into millimetre scale building blocks. In this way metabolic materials turned products of human activity into bodily components for the construction of Beesley's giant synthetic 'life form'.

Metabolic materials will challenge the assumptions that we have about architectural building processes and since they require water for their development they are likely to be useful in areas with repeated flooding or in urban areas that are lower than sea level or, as in the case of Venice, have a complex relationship with the sea. Protocell technology could stop the city of Venice sinking on its soft geological foundations by generating a sustainable, artificial reef under the foundations of Venice and spreading the point load of the city.

Protocell technology technology could stop the city of Venice from sinking on its soft geological foundations by generating a sustainable, artificial reef under its foundations. Computer rendering by Christian Kerrigan.

The speculative technology underpinning the construction of an artificial reef under Venice employs a species of carbon-fixing species of protocell technology that is engineered to be light sensitive. The protocell system would be released into the canals, where it would prefer shady areas to sunlight. Protocells would be guided towards the darkened areas under the foundations of the city rather than depositing their material in the light-filled canals, where they would interact with traditional building materials and turn the foundations of Venice into stone. With monitoring of the technology, the woodpiles would gradually become petrified and at the same time, a limestone-like reef would grow under Venice through the accretion and deposition of minerals.

NOW Magazine

Date . **Sept. 2010**

Art As Organism
by Fran Schechter

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PHILIP BEESLEY

PHILIP BEESLEY ARCHITECT INC. Aurora. Royal Conservatory of Music (273 Bloor West).

NUIT BLANCHE FEATURE

Art as organism

PHILIP BEESLEY'S ARCHITECTURAL WORKS ARE MORE LIKE LIVING BEINGS THAN OBJECTS

BY FRAN SCHECHTER

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The beautiful, tangled art installations that Philip Beesley and his team – which includes engineer Robert Gorbet and biologist Rachel Armstrong – create are also meditations on the future of architecture.

Instead of acting like a fortress or tomb designed to resist the forces of nature, a building might function, he suggests, as a third skin around our bodies, based on forms that want to lose energy and promote interaction, like those of sea urchins or dandelions.

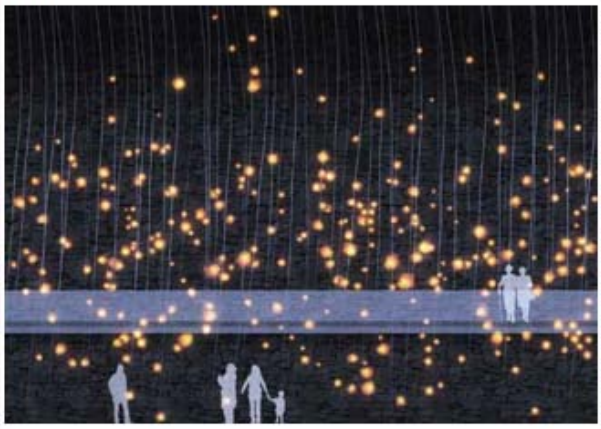
In the visionary artist/architect's studio near High Park, assistants adjust hanging prototypes and tweak computer renderings in preparation for his Nuit Blanche show Aurora.

Hylozoic Ground, their most recent in a series of installations named for hylozoism, the ancient idea that all material has life, is currently representing Canada at the Venice Architecture Biennale. It starts with a mesh made of acrylic chevrons clipped together into canopies and columns. The environment flexes and responds, using muscle wire that contracts like muscle protein and microprocessors that cause the installation to assemble and shift, like a coral reef or swarm of insects.

Protocell chemistry, based on simple reactions in living cells, forms a lymphatic system in interconnected flasks. Carbon in the form of limestone is precipitated from water trickling from the Venice lagoon, a process that might one day bolster the foundations of the sinking city.

But that's just the technology. Beesley, his conversation as densely layered as his installations, describes in almost spiritual terms the emotions that the structures, with their caressing and swallowing movements, evoke.

"Hylozoic Ground has a toughness, but its delicacy sets up a very interesting reaction: people care about it; they touch carefully. Its vulnerability brings out a quality of intimacy that is absolutely natural in a crowd."



"My hope is certainly to open a sense of the sublime, of vast immersive experience, but at the same time to foster a sense of ambivalence – and to foster agency in the relationship, as opposed to being consumed and manipulated."

Some find the strangeness of the environment vaguely creepy.

"The touch and encounter of materials is very tentative and very raw. There's some suffering embedded in it as well as some nurturing," Beesley says. "Defensive details, hooks and claws and needles, can make the field quite tense and nervous, darkening the tone. It gives us a range from erotic floral attractions to, say, an octopus's beak or a cat's paw."

I wonder if Beesley is working with biomimicry, the discipline seeking design solutions in nature profiled in NOW's recent Green Issue.

"Our work does not imitate nature as such, but by going through many, many cycles of design – digital simulation, fabrication, prototyping, material testing – the forms that result, surprisingly, by lovely coincidence, have an awful lot to do with some forms offered us by natural evolution. For example, to produce the most unstable, trembling, fan-like, almost convulsive quality in an air-stirring element, we made a frond that produces helical chains of air convection, with feathery tines like a palm frond's."

ISSP (Initiative for Science, Society, and Policy)

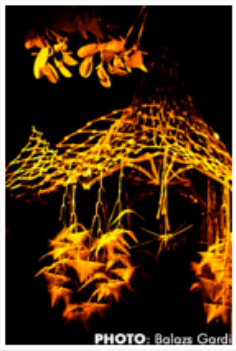
Date . **Aug. 2010**

ISSP
THE INITIATIVE FOR SCIENCE, SOCIETY AND POLICY

SUPPORTING THE ARCHITECTURE OF TOMORROW

The ISSP has helped support a project that combines architecture and art with living technology. The project, called Hylozoic Ground, will be presented at the Venice Biennale in Architecture, August 29th.

Hylozoism is the ancient belief that all matter has life, and it is exactly that thought that Philip Beesley has tried to explore with the *Hylozoic Ground* project.

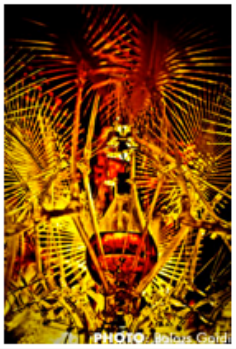


Tens of thousands of lightweight digitally-fabricated components are fitted with micro-processors and proximity sensors that react to human presence. This responsive environment functions like a giant lung that breathes in and out around its occupants. Arrays of touch sensors and shape-memory alloy actuators (a type of non-motorized kinetic mechanism) create waves of empathic motion, luring visitors into the eerie shimmering depths of a mythical landscape, a fragile forest of light.

With the *Hylozoic Ground* project, Philip Beesley is demonstrating how buildings in the future might move, and even feel and think. In a series of experimental installations that have attracted global attention, Beesley is leading a group of experts from science and art in creating a uniquely Canadian experimental architecture.

In the group is among others Dr. Rachel Armstrong who is leading the *Hylozoic Ground* team in developing its ground-breaking 'Living Architecture' chemical circulation systems. Armstrong is an interdisciplinary practitioner with a background in medicine and Co-Director of AVATAR (Advanced Virtual And Technological Architectural Research) at the Bartlett School of Architecture, UCL who collaborates extensively with artists, scientists and architects to create new experimental spaces that re-engage with the fundamental creativity of science. Dr. Rachel Armstrong is also one of the main speakers at the upcoming event on Living Technology organized by the ISSP and held in Odense August 24.

Still, from a living technology perspective the perhaps most significant about Hylozoic Ground is the structures that are creating "carbon-capture protocells". These protocells shows great potential for a new science about "self-renewing architecture". Through a chemical reaction with water, these cells create new material and could, theoretically, be the technology needed to repair the buildings of Venice, which are slowly sinking into the sea. The development of new science, the interdisciplinary use of knowledge and the thought of changing fundamental essentials towards a greater good are three elements that fits perfectly in the ISSP's fundamental values.



The main purpose of this funding is to enhance the interoperability between different sciences and above all to support the development of knowledge that can help the fundamentals in this world. For ISSP the knowledge the Hylozoic Ground project will come to produce constitute one highly interesting and innovative step in this direction.

LINKS

- Rachel Armstrong's TED talk on Saving Venice
- News report on the Hylozoic art project
- Article by Martin Hanczyc about the Hylozoic art project
- Hylozioc ground project website
- Rachel Armstrong's TED-homepage
- La Biennale webpage
- Photos of the Hylozoic Ground by Balazs Gardi

FRAME Magazine

Date . Sept. 2010
Posted by Cassandra Pizzey

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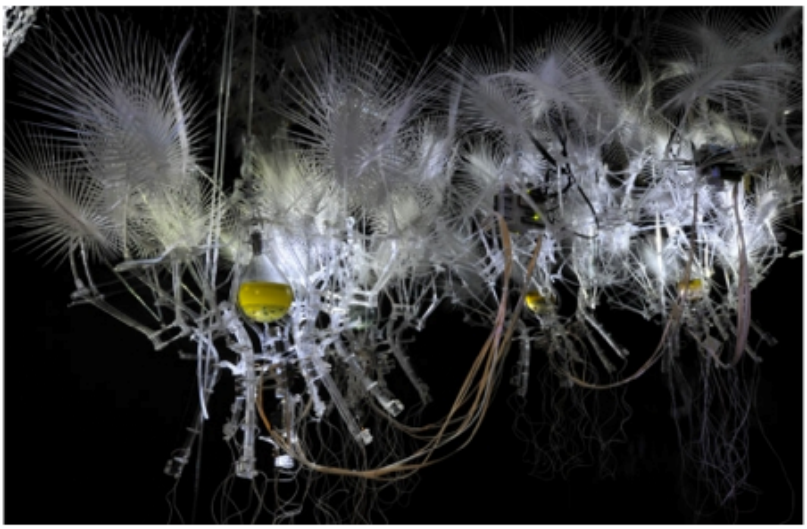
Hylozoic Ground At The Venice Biennale



The Canadian pavilion at the Venice Architecture Biennale has been turned into an interactive 'forest', courtesy of Philip Beesley.

Part of the Soil Series, Hylozoic Ground at the Venice Biennale is presented by PBAI, a Toronto-based design collective, and led by architect and sculptor Philip Beesley. The installation is constructed from transparent, acrylic, meshwork links which have been combined to resemble leaves.

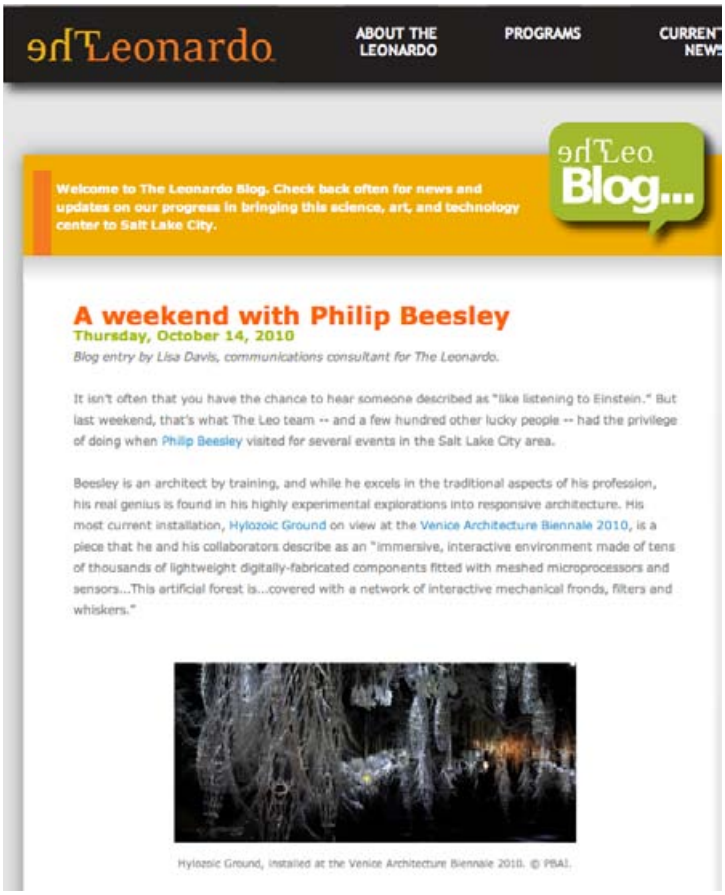
From the plant-like structures hangs a network of mechanical fronds, filters and whisks that react to movement thanks to thousands of microprocessors fitted in the fabric. As people move around the installation, it seems to breath and move like a living organism, enticing visitors deeper into its mythical landscape.

Apart from its aim to affect people emotionally, Philip Beesley's architecture uses a wide range of technological applications. The installation makes use of such disciplines as sustainable design, geotextiles, material science, robotics and biotechnology.

The Leonardo

Date . **Oct. 2010**

A Weekend with Philip Beesley
by Lisa Davis



La Depeche

Date . **Oct. 2010**

Biennale de Venise: le Canada propose une architecture nourrie de high-tech

Canadian Architect

Date . Oct. 2010

Gaining Ground
by John Bentley Mays

Gaining Ground

Hylozoic Ground, Canada's official entry to this year's Venice Biennale, is the result of many years of tireless research and development by architect and University of Waterloo professor Philip Beesley.

TEXT John Bentley Mays
PHOTOS Philip Beesley architect

Stepping across the threshold of the Canadian pavilion at the Venice Biennale's 12th international exhibition of architecture (on view until November 21, 2010), you find yourself beyond the looking glass, in a place where familiar meanings fall apart or stand on their heads.

The dense, fantastical assemblage of myriad tiny acrylic leaves and fronds and gleaming vessels, arteries and gullets that breathe and swallow and gesture in the thick, hot air of Venice's public gardens is architecture, Canadian artist and designer Philip Beesley assures us.

It's surely not architecture as nearly everyone understands the term, however: stuff that is mute and inflexible, the built barricade between the dweller and the environment. Beesley's piece moves, it responds, it even embodies in those glass vessels chemical energy exchanges similar to those that occur in a living body. If architecture, this is no ordinary item of the building art, unless one is willing--as I am, out of courtesy, though with some misgivings--to go the distance with Beesley and stretch the broad tent of *architecture* to cover clothing and even skin, of which construction is, after all, a prosthetic extension.

But let's throw caution to the winds, and call this highly intricate, high-tech mechanism a work of architecture. What kind of architecture is it?
Beesley has titled this installation *Hylozoic Ground*. The reference to hylozoism is clear enough: it's the quaint, ancient cosmological fairy tale in which everything, including inanimate matter, is held to be alive, sentient, reactive. The word *hylozoic* also points to an intention deeply engraved in the work itself: that we view this complex piece, with its subtle movements and processes mimicking those of life, as an instance of ordinary reality heightened and clarified--as arealization of the hylozoic rhythm that could be seen everywhere, if our eyesight and inner apprehension were more acute.

I will return to the topic of hylozoism in a moment, but the second word in the title invites us to hurry on. In what sense is this electro-dynamic installation ground, or a kind of ground?

For *ground*, read *soil*--or what Beesley has recently called *contemporary soil*. "Soil has always been the *prima materia* of architecture," the architect writes. "Soil might seem to stand silently, apparently offering secure mass and compression, available as plastic, friable resource for framing human territory. But contemporary soil does not, in itself, quietly offer itself to the enlightened framing of space...soil consumes space, erasing and consuming daily circumstance within its unspeakably silent, primal fertility."

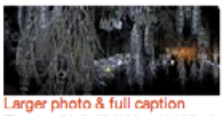
This characteristically poetic redefinition of a word most people think they know the meaning of helps explain one experience of *Hylozoic Ground*: the feeling that, if equipped with a few more gadgets, microchips and such, and placed in a natural landscape, the thing might actually grow, even flourish, and begin the transformation of its physical surroundings. It could become something even more active than it is--an instrument that brings about a new arising of transfigured terrain from the earth, instead of imposing on the land the Western idea that the world is merely so much real estate upon which to build.

Some scraps of the latter are featured in the Canadian pavilion's exhibition catalogue, alongside technical expositions of Beesley's philosophy and working method by other hands. Written in a vehement, breathless manner, his ecstatic texts sweep together all the times of given landscapes--geologic, historic, immediate--into fluid, incandescent visions that light up the page. This is apparently the effect that *Hylozoic Ground* and other installations are intended to have on viewers, yet don't (at least in my case)--not quite and not yet, anyway.

But Beesley's provocative inquiries and his collaborations with specialists across the disciplines of architecture, art, engineering and humane scholarship are longstanding and ongoing, and his vivid romance with landscape and wilderness shows no signs of exhaustion. We can expect Beesley's architectural project, and, it is to be hoped, his nature writing, to go on unfolding into the future, registering ever more exactly his discoveries on the outer edges of contemporary architectural practice. **CA**

John Bentley Mays is an architecture critic and writes regularly for The Globe and Mail.

Photos



Larger photo & full caption
File size: 38.5 KB (620px X 255px)
Caption: The fantastical artificial landscape of Hylozoic Groun...

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File size: 34.2 KB (621px X 217px)
Caption: Beesley's Kissing Pores use a rangeof microprocessors...

File size: 12.3 KB (184px X 246px)
Caption: A detail of the Hylozoic Ground Protocell flask which...

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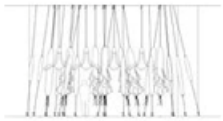
Caption: A worm's-eye rendering illustrates Beesley's invented m...



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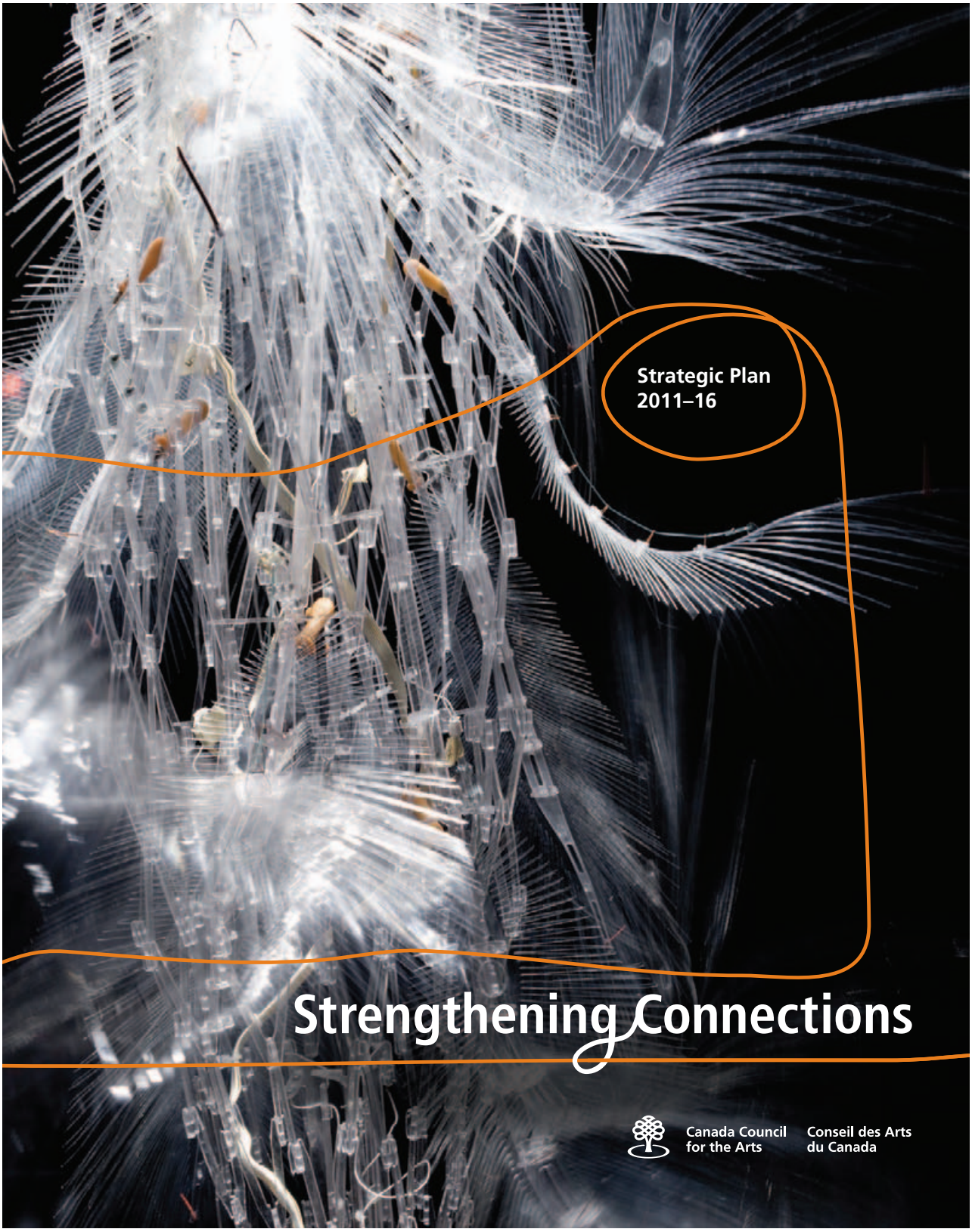
Caption: A scale figure is inserted into a drawing of the Venice...

Canada Council for the Arts

Cover of Canada Council for the Arts' Strategic Plan

Canada Council for the Arts | Conseil des Arts du Canada



Mandate

The Canada Council for the Arts is a federal Crown corporation created by an Act of Parliament in 1957 "to foster and promote the study and enjoyment of, and the production of works in, the arts."

The Council offers a broad range of grants and services to professional Canadian artists and arts organizations in music, theatre, writing and publishing, visual arts, dance, media arts and integrated arts. It further seeks to raise public awareness of the arts through its communications, research and arts promotion activities.

The Council also awards prizes and fellowships every year to approximately 200 artists and scholars. The Canadian Commission for UNESCO and the Public Lending Right Commission operate within the Council. The Canada Council Art Bank houses the country's largest collection of contemporary Canadian art, which it rents to the public and private sectors.

Canada Council for the Arts | Conseil des Arts du Canada

About the photos

Hylozoic Ground

Hylozoic Ground is an installation inspired by "hylozoism," the ancient belief that all matter has life. This five-year project is a mesmerizing marriage of art and science that is comprised of "tens of thousands of lightweight digitally-fabricated components that are fitted with microprocessors and proximity sensors that react to human presence."

The interactive nature of *Hylozoic Ground* parallels the role the arts and design play in our lives – it is a moving, breathing, responsive network that inspires and connects us. Canadians will have an opportunity to see this spectacular and moving work in a planned tour to galleries across the country in 2011.

Details of *Hylozoic Ground* at the Canada Pavilion of the 2010 Venice Biennale. Developed by PBAI (Philip Beesley Architect Inc.), in collaboration with the University of Waterloo School of Architecture; designed by Philip Beesley with collaborators Rob Gorbet (engineering director) and Rachel Armstrong (experimental chemistry advisor).

The Canada Pavilion of the Venice Biennale is supported by the Canada Council for the Arts and the Royal Architectural Institute of Canada.

Nature

Date . Oct. 2010

Living Quarters
by Rachel Armstrong and Neil Spiller

SYNTHETIC BIOLOGY

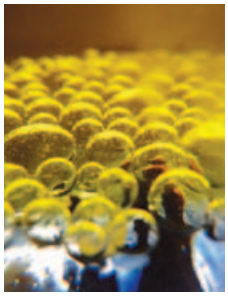
Living quarters

Synthetic biology could offer truly sustainable approaches to the built environment, predict **Rachel Armstrong** and **Neil Spiller**.

Architects have long drawn inspiration from the forms and functions of natural systems. Yet biological cells and organisms have requirements — such as nutrition and growth-support structures — that limit their use in construction. Synthetic biology offers new ways to combine the advantages of living systems with the robustness of traditional materials to produce genuinely sustainable and environmentally responsive architecture.

In the context of climate change and urbanization, there is a pressing need to replace construction methods that are harmful to our habitat with sustainable ones. Architecture is currently responsible for 40% of the urban carbon footprint, mostly due to emissions from fossil fuels burned during the various stages of materials manufacture and building construction. As global populations rise — approaching 9 billion people in 2050, 70% of whom will live in cities — carbon emissions from the built environment will increase. If we continue to build with steel and concrete, even the most stringent energy-saving measures will not curtail greenhouse-gas production. Even green roofs and walls need energy-intensive support systems to maintain them within an artificial setting.

Strategies will be required to achieve 'carbon negative' buildings, including innovative retrofitting, energy harvesting, recycling of materials and the use of elements that interact with and respond directly to the environment. Chemically active interfaces could alter microclimates around surfaces and act as 'environmental pharmaceuticals'. For example, coatings could absorb carbon dioxide on building surfaces, adsorb pollutants or trap dust particles electrostatically.


Surfaces containing artificial 'cells' that absorb carbon dioxide could make buildings greener.

BIOLOGICAL BUILDING BLOCKS

The tools of synthetic biology are galvanizing the development of new forms of architecture that respond to environmental change by incorporating the dynamic properties of living systems, such as growth, repair, sensitivity and replication. Still at an early stage, diverse interdisciplinary collaborations are springing up to find new uses for top-down genome engineering and bottom-up chemical self-assembly techniques, including trapping carbon dioxide and producing energy-efficient materials. Challenges to be overcome include the sustenance and support of biological systems within the built environment, bioethical concerns and ensuring public safety.

Researchers are developing promising examples of biological systems that can fulfil architectural functions. Bacteria commonly found in the environment — such as *Micrococcus*, *Staphylococcus*, *Bacillus* and *Pseudomonas* species that also linger in air — may be adapted for use as biosensors. A new centre at the University of Oregon in Eugene plans to coordinate research that links architecture and microorganisms, both existing and designed. The university's Biology and the Built Environment (BioBE) Center, awarded funding this summer from the Alfred P. Sloan Foundation in New York, will investigate the 'microbiome of the built environment' — the complex bacterial ecosystems that occur within buildings and their interactions with humans and the environment. Such relationships are important, for example, for maintaining indoor air quality.

Species of another airborne bacterium, *Brevundimonas,* show promise as an indicator of indoor pollutants: some can metabolize toxins such as arsenic, and could be genetically modified to change colour in the presence of a range of heavy metals. Other types of bacteria might be grown decoratively on walls or roofs to signal levels of harmful pollutants in cities. For example, undergraduates from the University of Cambridge, UK, engineered the bacterium *Escherichia coli* to change hue in the presence of an inducer, a system that could be adapted to detect heavy metals. This was just one of many pioneering entries in the 2009 International Genetically Engineered Machine (iGEM) synthetic-biology competition at the Massachusetts Institute of Technology in Cambridge.

Innovative forms of lighting that use bioluminescent bacteria are being investigated by microbiologist Simon Park at the University of Surrey in Guildford, UK. In 2009, with artist Anne Brodie, he demonstrated a photographic booth that takes portraits using the ethereal light generated by *Photobacterium phosphoreum*. A glowing Christmas tree produced in 2007 by biologist Edward Quinto of the University of Santo Tomas in Manila, using bioluminescent *Vibrio fischeri* bacteria from the guts of squid, raises the possibility of using luminous trees for street lighting.

Biological structures can inspire entirely new construction methods and materials. Terreform One, an interdisciplinary architectural design practice in New York, has envisaged growing a leathery skin for covering buildings, dubbed 'Meat House'. By transforming pig cells and using large-scale three-dimensional printing techniques to establish the structural framework, the skin would be grown to the required shape and size and then fixed with preservatives. Its biodegradable nature would avoid the need for later demolition. The technique is prohibitively expensive — around US$1,000 for three square centimetres of skin — but it demonstrates the alternative approaches offered by synthetic-biology techniques.


Venice's sinking foundations might be supported by growing an artificial limestone reef generated by programmable man-made 'protocells'.

SCIENCE AND THE CITY
Full content and enhanced graphics at: nature.com/cities

The greatest challenge in applying synthetic biology to architecture is to fabricate accurate scaffoldings for the production of engineered tissue and materials. Natural forms are difficult to model with computers because they do not follow simple mathematical functions, and so translating them from the cellular to the architectural scale is difficult. The Norwegian company Uformia, based near Tromsø, is developing software that will allow irregular organic shapes — such as materials mimicking the porous matrix of bone, which combines high tensile strength with low density — to be modelled digitally for printing in three dimensions.

Bringing biological cultures out of the lab into the city raises other practical difficulties. Valuable bacterial populations, such as those that fix carbon dioxide in wetlands, would be difficult to sustain in dry urban locations lacking food sources. Exposed to predatory organisms such as moulds, biological materials must be protected with antifungal substrates. And safety concerns preclude the release of new genetically engineered organisms into the environment without strict controls. For architectural purposes, simple and safe biotechnologies are preferred. An alternative approach to genetic modification is to produce self-assembling materials that are not living but that mimic the dynamic traits of organisms and are optimized to function within their specific environment.

HALF LIFE

The architectural design potential of partially living materials is being investigated by Andy Adamatzky's Unconventional Computing group at the University of West England in Bristol, UK. He and his team are exploring how hybrids of simple organisms and robots — such as the Phi-Bot, whose electronics is controlled by a slime mould — can detect and respond to light, toxins and metabolites. The behaviours of these integrated systems are more complex than can be coordinated through traditional computing methods, broadening the range of applications. Molecules that self-organize can also generate evolving patterns within structures that are traditionally inert, such as dynamic stained-glass windows.

Environmentally responsive paints and coatings for building exteriors based on the principles of chemical self-assembly are being developed at the Center for Fundamental Living Technology at the University of Southern Denmark in Odense. 'Protocells' made from oil droplets in water — so named because of their life-like properties — allow soluble chemicals to be exchanged between the drops and the surrounding solution. Responding to shifts in chemical information in time, space and concentration, the protocells regulate their internal chemistry by 'conversing' with their surroundings.

As a potential practical application, the group has engineered protocells to capture carbon dioxide from solution and convert it into a solid carbonate form, similar to naturally occurring limestone or shell. Such layers might be used in carbon fixing or in carbon-negative architectures. Their experiments so far have shown that carbonate-producing material can be accumulated; further work to stabilize these irregular shells with silicates is ongoing. Protocell systems are also being developed for insulation and environmental remediation.

Chemist Lee Cronin's group at the University of Glasgow, UK, is pursuing another type of artificial inorganic chemical cell, or 'chell', which has potential architectural uses including chemical and biological sensing to detect carbon dioxide and pollutants. The internal chemistries of the chells can be finely controlled using a digital delivery system for the ingredients, making them useful for fuel-cell technology or as chemical delivery systems for responsive surfaces.

NEXT STEPS

Distributed, self-assembling systems may one day enable buildings to grow, self-repair and respond creatively to the unpredictable effects of climate change. For example, a collaboration between the University of Southern Denmark, the University of Glasgow and our research groups at University College London and the University of Greenwich is developing living claddings. Driven by gravity feed and chemical gradients, these might produce water in desert environments and harvest sunlight to produce biofuels.

The pressing environmental problems of Venice are amenable to some synthetic-biology solutions. Our installation entitled *Hylozoic Ground*, displayed at the Canadian Pavilion at the Venice Biennale 2010 and created with architect Philip Beesley from the University of Waterloo in Ontario, Canada, showcased the recycling of carbon dioxide exhaled by visitors into solid carbonate using protocell technology. Similar deposits could stabilize the city's foundations by growing an artificial limestone reef beneath it.

The application of synthetic biology to architecture holds promise for solving major environmental problems. Further collaborations between biologists, chemists, architects and industry are needed to expand the range of tools, methods and materials available. As with any new technology, engagement with the public and with policy-makers is vital to direct future regulation that will protect public safety and address perceived risks. ■

Canadian Art

Date . Oct. 2010

Venice's Architecture Biennale: From Lapping Waters to Hylozoic Ground

by Noah Richler

Venice's Architecture Biennale: From Lapping Waters to Hylozoic Grounds

VARIOUS LOCATIONS, VENICE AUG 29 TO NOV 21 2010

by NOAH RICHLER

Philip Beesley *Hylozoic Ground* 2010 installation view © PBAI

Waves lap at the edges of Venice, *La Serenissima*, with an aggression the island city did not know in the era when boats were propelled by wind or by the push of the gondolier. Now engines at the sterns of vaporetti, workers' boats, police boats, private boats, ambulances and cruise ships the size of city blocks are chopping up the waters and disturbing the prior balance of the lagoon's fetid ecosystem. Where for centuries the occasionally rising waters only flooded ground floors and *calles*, leaving behind mossy detritus that would sometimes accumulate as soil, today the brick foundations and wrought-iron gates of *palazzi* that have tilted for centuries are being eaten away more hastily. Builders struggle to keep pace with the work of restoration that is demanded of them.

While the bridges of the Rialto and the Academia support tourist throngs, steel girders have started to replace the failing wooden beams holding up the arches of the typical *sotoportego*—the arcades along canals and between houses connecting the labyrinth of streets—and, with dull hubris, the Hilton chain has opened a hotel in the refurbished Stucky flour mill on Giudecca Island. This is possibly the ugliest building in all of Venice. Squat and massive (and perfectly right-angled in this city of leans), the building could've easily served as a prison. The new hotel shows the gall of Venetians persisting in finding a way to live in a place that is sinking, but without any of the interest in beauty that has turned centuries of wresting a city from the lagoon into an act of human wonder. In *La Serenessima*, transgression became transcendence.

But if the city, marvelous as it is, does eventually die, it will be because it is obstinate rather than organic. The 21st-century mentality of the Hilton Molino Stucky and of the cruise ship juggernauts, which bring 3,000 passengers at a time for a quick walk over the Rialto and through Campo San Marco, will have won out, turning the city that has relinquished its osmotic relationship to the lagoon into the world's prettiest mausoleum. At night, the lights are not on. There is no one living or breathing in the city's splendid palaces and apartments. The Venetians who for centuries made the city work cannot afford it and have abandoned it for smaller islands in the lagoon or for a life of commuting from the mainland. On the distant shore are the factory stacks and the elegant arch of the Porto Marghera, these industrial lands providing wealth to the cities of Mestre and Chioggia as the lagoon once did to Venice.

The relationship to the water was symbiotic once; Venetians exacted a living from the lagoon and those who sailed into and beyond it did so in ways that these days would be described as "sustainable." By Palestrina, at the southwestern end of the lagoon, island life continues in the manner that visitors from Ruskin to Hemingway would have known. Fishers' shacks off the banks of the islands may not be made of "organic" materials, but their ways of being meet the definition—their piles of junk, which could easily be props for a science-fiction movie about a post-apocalyptic world, are actually remarkable illustrations of materials living, breathing and being recycled. In their crazy, idiosyncratic way, they are a part of the environment. They *belong*.

Philip Beesley *Hylozoic Ground* 2010 installation view © PBAI / photo Pierre Charron

At this year's Venice Architecture Biennale, there is a consciousness of the proximity of the lagoon—in particular, in the British pavilion's celebration of Ruskin's notebooks and its accompanying exploration of the lagoon as morphic and changeable. However, Pezo von Ellrichshausen's Chilean exhibit is striking for just the opposite reason—it takes buildings out of their context and isolates them as objects in themselves, miniature forms suspended freely in empty space against striking photographs of actual in situ buildings. In the Dutch pavilion, the blue shapes of buildings are suspended on tracks of wires and aligned in blocks as they would be in a city, and spectators are free to observe them from above or below.

Overall at the biennale, there is much made of the idea of building and the meaningful relationships that good ones have to the space around them (enough to have kept three firemen busy in conversation, this being Italy, after all) but it is the Canadian exhibit of Philip Beesley's *Hylozoic Ground* that takes the relationship of materials to buildings a quantum leap further—to the point that the installation, like the fishers' huts resting on pillars in the lagoon and like the antique city of Venice itself, lives and breathes and appears a part of the environment in which it rests.

In darkness of the pavilion, visitors walk through and around and beneath Beesley's root- and fern-like shapes; they're made of plastic that resembles a silvery-transparent glass. The leaves of these shapes lift, and the stalks and roots of his constructions occasionally brim with light as an animal with a visible heart might. The very motion of visitors about the room warms the air and prompts movements in the installation that occur with a slight mechanical-wheezing sound. Beesley's shapes are at once delicate and strong. They feel mutable. The shapes have an interesting symmetry. They appear, like certain plants, to be vertically symmetrical, dissolving the border of matter that in our own mundane lives, as we presently imagine them, distinguishes earth from air. *Hylozoic Ground* draws sustenance from both realms.

Leaving, it is hard not to wonder when (more than if) our future building will be like this. A humility has come, in the 21st century, from a new understanding that humans are subject to immutable laws and are better off working with nature rather than seeking to dominate it. What Beesley's installation appears to suggest is that these immutable laws do not distinguish between biological matter and what we think of as "man-made" stuff. It is possible to envision a world in which the ordinary architect's model—a place where rivers and fields and towns and people behave exactly as their office-bound, godlike designer intends—is a far more outrageous fantasy than Beesley's hint of a new life, one in which the matter of houses, and not just their inhabitants, is organic.

Discovery

Date . November 2010

Manmade Coral to Protect Your House
by Alyssa Danigelis

MANMADE CORAL TO PROTECT YOUR HOUSE

Analysis by Alyssa Danigelis
Tue Nov 9, 2010 10:10 AM ET
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Natural coral might be straining under oil spill pressure in the Gulf of Mexico, but a living manmade version could become an effective, carbon-negative way to "grow" walls. Scientists from several European universities are collaborating to develop the material.

Researchers from the University of Greenwich, the University of Southern Denmark, the University of Glasgow and the University College London are working with protocells, which are engineered bubbles of fatty oil suspended in an aqueous solution.

Danish scientists even got protocells to behave like the marine organisms that build coral, capturing carbon dioxide in solution and turning it into carbon-based materials. The idea is to ultimately get the process to generate calcium carbonate. Imagine architects being able to order a solution that grows limestone walls for a project, effectively trapping CO2 in the process.

As Gizmag's Ben Coxworth points out, this type of artificial process is already on display, albeit in a futuristic, interactive art installation setting. Canadian sculptor and architect Philip Beesley's Hylozoic Ground environment presents visitors with arrays of fragile touch sensors. Scientific designer Martin Hanczyc developed the project's living chemistry feature: protocells that turn visitors' exhalations into carbon-containing solids.

With Hylozoic Ground currently on display in Venice for the architecture biennale, the European scientists are talking about potentially using protocells to stabilize wood piles and keep the city above water. Whether this kind of artificial coral could actually help Venice remains unclear, but with design this amazing, I wouldn't mind seeing these guys give it a go. The Floating City could use the support.

Photo: Architect and sculptor Philip Beesley's interactive Hylozoic Ground installation at the Venice Biennale in Architecture turns CO2 into something more concrete. Credit: Philip Beesley.

Gizmag

Date . November 2010

'Living' carbon-negative material could be used to protect buildings

by Ben Coxworth

ECOGIZMO

'Living' carbon-negative material could be used to protect buildings

By Ben Coxworth 3 Comments

19:00 November 7, 2010

'Protocell drivers' in a flask surrounded by carbon structures, in the Hylozoic Ground installation

Architects have been looking at ways to improve city buildings with living walls and living roofs that add some much needed greenery and help remove carbon from the atmosphere. Now researchers are looking at using a different sort of "living " material created from protocells – bubbles of oil in an aqueous fluid sensitive to light or different chemicals – to create a coral-like skin that could be used to clad city buildings, build carbon-negative architecture and even "grow" reefs to stabilize the city of Venice.

Instead of using tiny, living marine polyps whose secretions form into calcium carbonate to create coral, the researchers from the University of Greenwich, in collaboration with the University of Southern Denmark, the University of Glasgow and University College London, are looking at using protocells – tiny droplets of fatty oil suspended in water, that have been engineered to behave like living microorganisms.

Besides moving through their liquid environment, oil-in-water protocells have been observed doing things such as avoiding each other's trails, circling one another, and swarming. Their "behavior" is due to chemical reactions, and it is the ability of protocells made from oil droplets in water to allow soluble chemicals to be exchanged between the drops and their surrounding solution that the researchers are looking to take advantage of.

Under certain conditions, the oil droplets will develop a precipitate coating that they eventually slough off. At the University of Southern Denmark, researchers have been able to get protocells to capture carbon dioxide from the water, and convert it into a carbon-containing precipitate. Done on a large enough scale, it is hoped that coral-like building materials could be produced from a conglomeration of the cast-off skins. Because the CO2 would be taken from the air (via the water) and locked up in the limestone-like material, the process would be carbon-negative.

It might all sound like science fiction, but it is currently being publicly demonstrated, on a small scale. Hylozoic Ground, an installation created for the Canadian Pavilion in the Venice Biennale 2010, uses protocells to create carbon-containing solids from the CO2 exhaled by visitors. Created by Canadian architect Philip Beesley, the scientific aspect of the installation was designed by Dr. Rachel Armstrong of University College London.

Besides its potential to clad buildings in an ethical, green and sustainable way, it is also hoped that the technology could be used to stabilize the entire city of Venice, by creating a limestone "reef" beneath its foundations that would spread the structural weight-load of the city.

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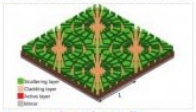
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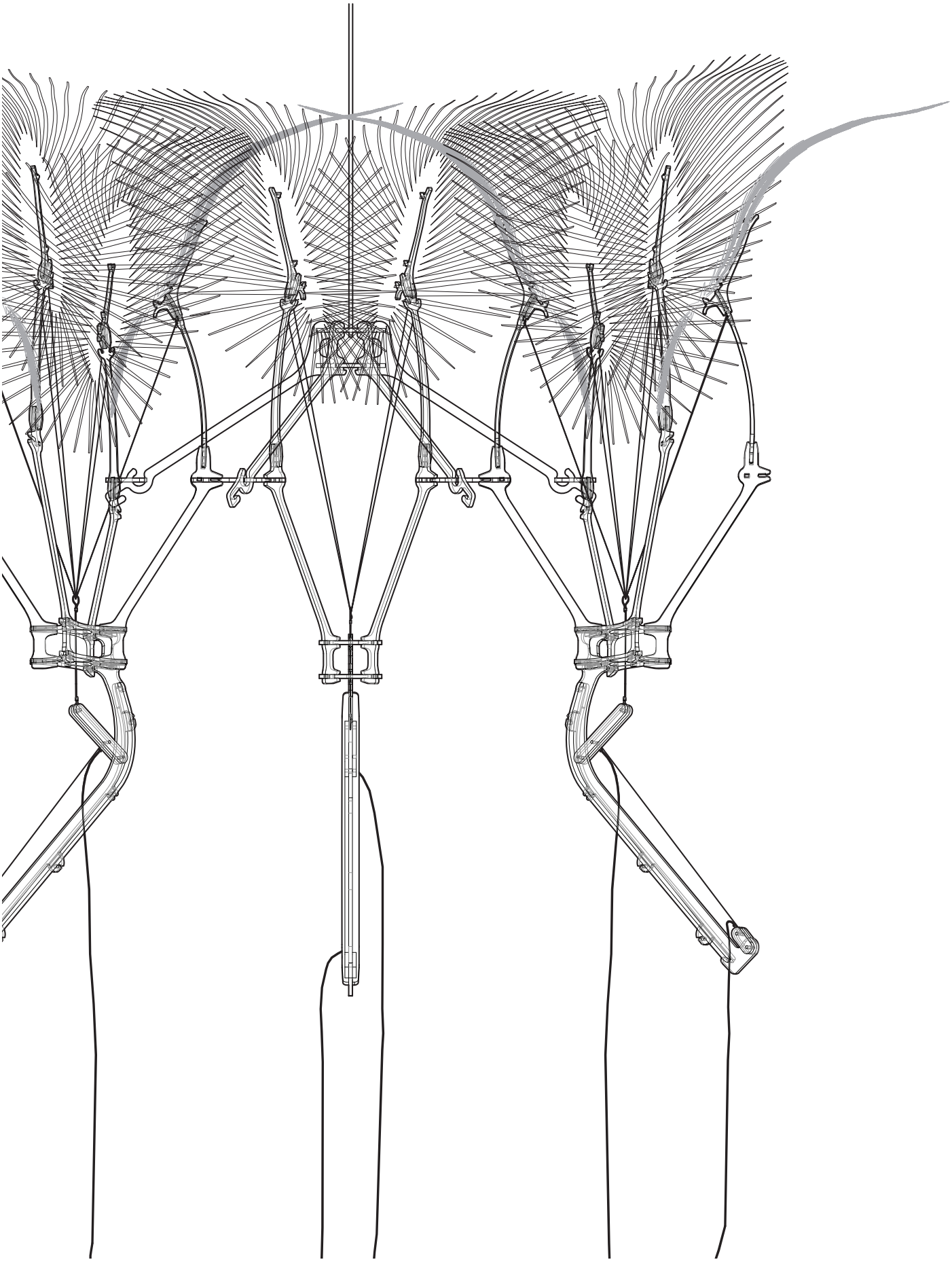

www.hylozoicground.com