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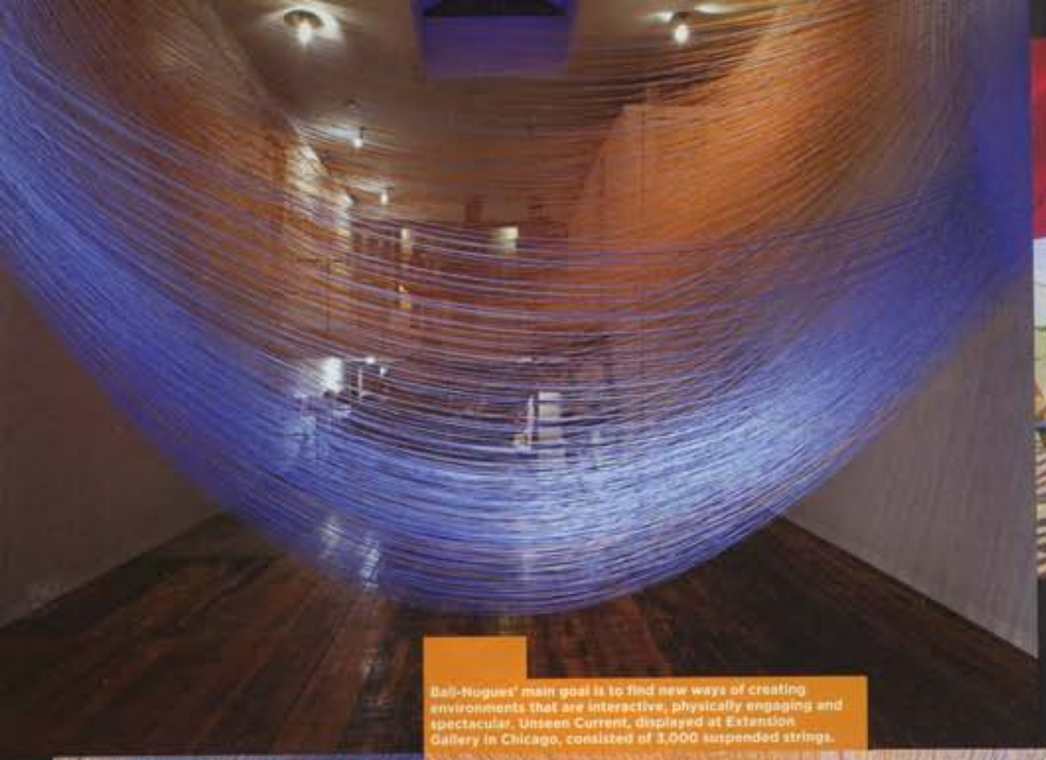
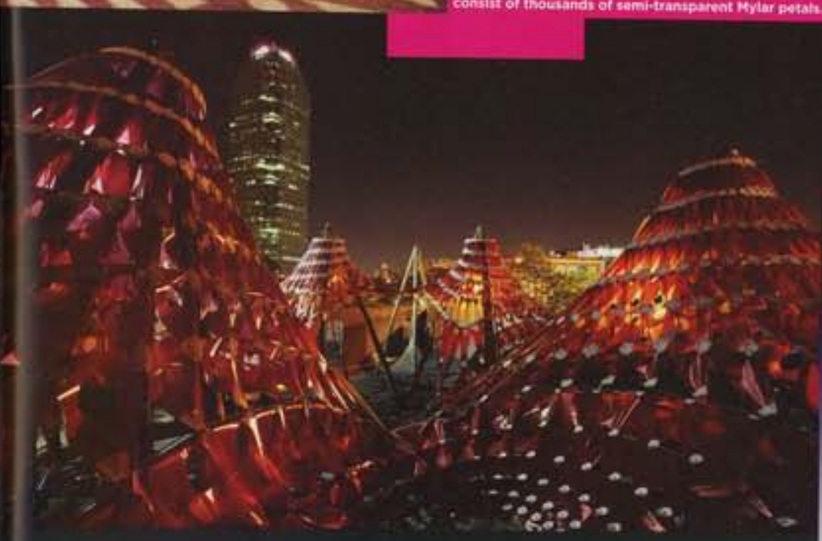


Ball-Nogues' main goal is to find new ways of creating environments that are interactive, physically engaging and spectacular. Unseen Current, displayed at Extention Gallery in Chicago, consisted of 3,000 suspended strings.

The duo received international acclaim in 2007 for Liquid Sky, installed at P.S. 1 Contemporary Art Center in New York. The six tent-like structures consist of thousands of semi-transparent Mylar petals.



The studio's experiments have inspired permanent structures. A web of petals, similar to Liquid Sky, was used to form Teepee, a wildlife observation pavilion in New York that opens this year.

SPACE INVADERS

After stints at Gehry Partners, Benjamin Ball and Gaston Nogues opened their own studio and are now moving fabrication into unchartered territory. What they do could lead to a whole new way of building

By Mimi Zeiger

If architecture offices are typically slick affairs – tight formations of desks, computer monitors and ergonomic chairs – then I'm not sure how to characterize the space where Benjamin Ball and Gaston Nogues work. Their headquarters, carved out of a former bank lobby in downtown Los Angeles, is grungy and cavernous, a remnant of what L.A.'s Spring Street looked like before high-end art galleries and restaurants began gentrifying the area.

The designers come from very different backgrounds: Benjamin Ball got his start in film set production, while Gaston Nogues is a native of Buenos Aires and is a self-proclaimed gearhead.

"Craft tends to be tied to tradition," says Ball. "With computation, we're able to open up the process and experiment with automation"

Elastic Plastic Sponge, a versatile form made of 250 adjoining cells and fluorescent tubes, was conceived for an outdoor festival. Visitors could crawl on the bouncy structure, causing illuminated wave effects. It was created with students at SCI-Arc.

Both designers trained at the Southern California Institute of Architecture (SCI-Arc) and cut their teeth at Gehry Partners. In 2004, they teamed up, and by 2007 they'd won the coveted Young Architects Program commission for an installation at P.S. 1 Contemporary Art Center in New York. A year later, at the Venice Architecture Biennale, they mounted Echoes Converge, an elaborate canopy composed of thousands of carefully measured and dyed strings.

Their collaborative practice, Ball-Nogues Studio, sits on the edge of the discipline, fabricating highly experimental environments and installations out of unlikely materials: Mylar, string and cardboard are all fair game. Most of what they create starts and ends with the studio, from conception and production to installation, and up until recently very little of it has become permanent.

The old plaster ceiling in their workspace has been demolished, and in the middle of the room hangs an armature that supports hundreds of loops of string. Three coloured balls – cyan, magenta, yellow – seem to float within the string field like a hologram. It's a mock-up for Feathered Edge, an installation on view at the Museum of Contemporary Art, Los Angeles, last fall. The MOCA piece was more ambitious: 34 kilometres of string was suspended from the gallery's double-height ceiling in large, rhythmic swags, creating a diaphanous net that refused to resolve into a fixed form as visitors moved through the space. From a distance, it had the illusory quality of dust motes caught by sunbeams.

When I arrived at their studio, Nogues was tidying up, gathering beer bottles left over from a performance held the previous night as part of Art Walk (when area galleries host simultaneous openings). Local artists, designers and thinkers took to the stage to expound on a single word. As he picked up a half-full bottle sitting next to a strange-looking machine, it seemed appropriate that one of the words was "apparatus," an instrument or appliance designed for a specific operation. The machine is a Ball-Nogues invention, loftily named the Insta-llator 1 with the Variable Information Atomizing Module. It's a steel box about the size of an industrial sewing machine, with gears and spray pumps along one side. String spools in one side, and the lengths are then painted, measured and marked before being trimmed according to computational data.

To expediate the process of constructing Feathered Edge, an installation made from 34 kilometres of string, Ball-Nogues developed the Insta-llator 1 (above), a machine that calibrates the colour, length and location of each string based on computational data.

The cut strings are then stitched to a digital print before hanging. While it still entails an intensive process, the Insta-llator 1 saves countless hours of manual labour.

For the Shenzhen Hong Kong Biennale of Urbanism, held in 2009, the studio constructed a dragonlike ceiling treatment from 10,000 items of clothing donated by American Apparel.

Ball-Nogues' most successful projects are almost spectral, shying away from architectural labels even as they fill and shape space

Expanding on Frank Gehry's line of cardboard furniture, Ball-Nogues constructed a massive undulating landscape out of the same material by laminating die-cut sheets over a wooden frame.

The pair first developed the Insta-llator 1 for Echoes Converge and then refined it specifically for Feathered Edge. It has since become a valuable tool for them to bridge the gap between the Maya digital software they use to model environments and the labour-intensive production needed to craft the resulting data. The 3,604 lengths of string that comprise Feathered Edge were produced using the machine. While the final piece required hand-sewing each string onto a digitally mapped canvas using carpet needles, Insta-llator 1's ability to measure, paint and trim eliminated thousands of hours of manual labour.

Tools serve as a lingua franca for Nogues, a self-proclaimed gearhead who used to build custom vintage cars on the side. He envisioned the Insta-llator 1 as an entire system linked as much to the digital model as to the environmental effects it produces. "Craft tends to be tied to tradition, viewed as a lower art form and tied to the process of making rather than to ideas," says Ball. "With computation, we're able to open up the process to interpretation, explaining the continual experiments in automation."

Most of what Ball-Nogues has built has been explorative rather than functional, but that's beginning to shift. Last May, the studio created a cardboard reception desk for Edward Cella Art + Architecture, the L.A. gallery that represents the partners and helped them land the Venice Biennale invite. The desk resembles a desert mesa and is made from layers of cardboard precut using computational software and stacked by hand. At the L.A. County Building and Safety Permit Office, they installed an art piece made from 2,000 lengths of brass- and nickel-plated bead chains attached to perforated aluminum panels and fitted into the existing acoustical ceiling grid. The result is a diaphanous geography; soft waves of chain hang overhead like the roof of a metallic cave.

Teepee, a wildlife observation pavilion on the drawing board for a client in New York state, is the closest they have come to simply enclosing space and creating a permanent structure. The plan is to connect triangular stainless steel tiles to form a teepee-shaped porous membrane, which will then be wrapped around long wooden poles, a design based on the tents they constructed for the P.S. 1 pavilion three years ago.

But their most successful projects tend to be almost spectral, shying away from architectural labels even as they fill and shape space. The designers are happy to be charting out new paths between architecture and art, machinery and craftsmanship, and to remain unhindered by such obstacles as permanence. "In architecture and design, we often take the tools we have for granted," reflects Ball. "People think you can do anything with Maya and a CNC router. You can't. When you only have a hammer, everything looks like a nail. We're trying to invent another hammer." **AZ**