

Indian

Architect

& Builder



Architecture: Charles Correa Associates
Design Trade Overseas: 'Destination ITALY'

Inspired !!

With panels that look like birds of paradise stitched together, and the golden strays of light filtering through the gaps, the Maximilian's Schell with its golden-hued mosaic on the floor is a new vortex-shaped, outdoor installation by architects Benjamin Ball and Gaston Nogues at Materials & Applications, envisioned as a tribute to Frei Otto, is an arresting exploration in design and technology.

Images & Text courtesy Benjamin Ball, Ball-Nogues Design





1. The new vortex-shaped, outdoor installation by architects Benjamin Ball and Gaston Nogues at Materials & Applications is an unique amalgamation of sculpture and architecture.
2. The tensile matrix is composed of a polygonal matrix of 504 triangles.
3. The material is constructed of mylar laminated over nylon reinforcing yarn and joined together by clear polycarbonate rivets.
4. The structure is held on to a series of cables attached to the roof.



It all started with a mutual interest in the work of Frei Otto, a pioneer of lightweight construction. When Jenna Didier, founder of Materials & Applications (M&A), a Los Angeles-based research centre for landscape and architecture, discovered that architect Benjamin Ball shared her interest in Otto's work, the pair discussed the possibility of creating an homage to him in the M&A courtyard.

The new vortex-shaped outdoor installation by architects Benjamin Ball and Gaston Nogues at Materials & Applications (M&A) in Los Angeles, warps the flow of space with a featherweight rendition of a celestial black hole; 'the deadliest force in the Universe'. Hovering over M&A's courtyard, 'Maximilian's Shell' is the size of an apartment building and a spectacle that has been stopping traffic along Silver Lake Boulevard since its unveiling.

Since the development began over a year ago, the designers have created a project which functions as architecture, sculpture, and a 'made-to-order' product. They achieved their aesthetic effects by manipulating Mylar, a transparent amber-coloured film that offers UV-resistance through a golden metallic finish, internally reinforced with bundled Nylon and Kevlar fibres, each cut using the sophisticated computer controlled cutting machine (CNC) and joined together by clear polycarbonate rivets. The aesthetic effects, materials and digital fabrication processes that make up the structure are borrowed from the high-tech sail making industry. An assembly composed of 286 unique instances of a single but parametrically variable component is what creates the canopy's extreme intricacy and repetitiveness. Assembled on the roof of M&A, the project was then lowered onto a series of cables.



5. Hovering over M&A's courtyard, 'Maximilian's Shell' is the size of an apartment building and a spectacle that has been stopping traffic along Silver Lake Boulevard since its recent unveiling.

6. The interior of this experimental installation, lined with hay bales for seating, creates a casual environment for enhanced social interaction and contemplation by changing the space, color, and sound of the M&A courtyard gallery.

7-12. The digital fabrication of the components of the structure: The polygonal matrix of 504 triangles that are interwoven and integrated to form a funnel shape installation.

13. The sectional view through the M&A courtyard, covered by the vortex-shaped installation.



Total Distance = 153.59in
 MaxHeadLength = 2.00in
 MaxHeadLength = 3.50in

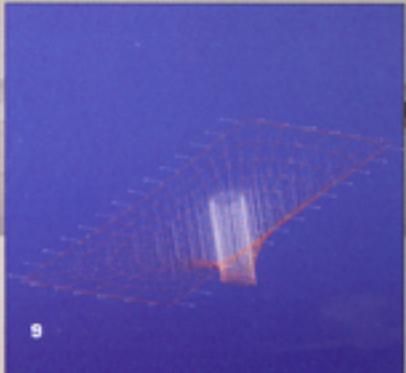


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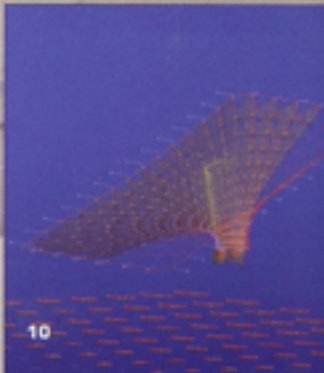
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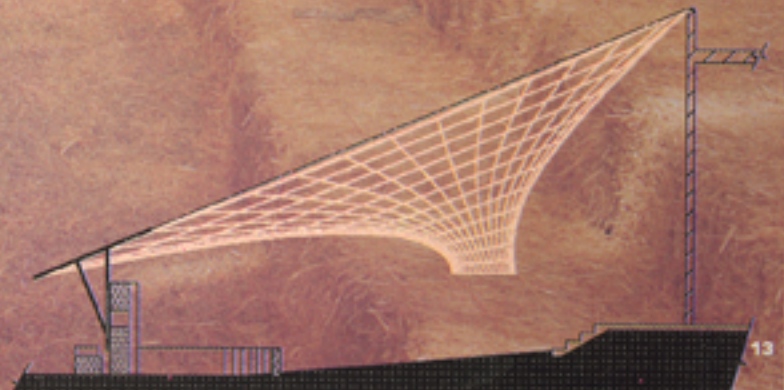
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14. During the day as the sun passes overhead, the canopy casts colored fractal light patterns onto the ground.

The result is neither a tent-type membrane, nor a cable net structure in the manner of Frei Otto, but a unique tensile matrix comprised of a polygonal matrix of triangles, which when combined form a swirling funnel.

As though warped by the force of gravity, the components continually change scale and shape as they approach the center or 'singularity' of the piece. The extreme intricacy and repetitiveness of the assembly pay homage to actor Maximilian Schell's character 'Dr. Reinhardt' in Disney Studio's classic sci-fi thriller, *The Black Hole*. Dr. Reinhardt is a tyrant whose monomaniacal quest to harness the 'power of the vortex' and possess 'the great truth of the unknown' leads to his apocalyptic demise and descent into hell. After nearly a year of the research and development phase, the project completed on June 28th, after two weeks of work from the moment the materials were received. Constructed in tinted Mylar resembling stained glass, the vortex functions as a shade structure, swirling above the outdoor gallery 24 hours a day through November 26th 2005. The interior of this impressive experimental installation creates an environment for enhanced social interaction and contemplation by changing the space, colour and sound of the M&A courtyard gallery. During the day as the sun passes overhead, the canopy casts coloured fractal light patterns onto the ground while a tranquil sub-sonic drone from an integrated ambient sound installation by composer James Lumb entitled 'Resonant Amplified Vortex Emitter', lightly rumbles below the feet of visitors.

The 'Maximilian's Shell' is an obsessive process that integrates several hundred pieces and transforms them into a whole; 504 different instances of a parametric component fused to craft an experimental installation.

Benjamin Ball is an architect and former production designer. Gaston Nogues is an architect and a product designer at Frank Gehry Partners. Together the Ball-Nogues team designs objects and environments using a combination of hand-made prototypes, advanced digital design and fabrication tools. James Lumb is a composer and technology developer who creates multi-media installations under the moniker 'Electric Skychurch'.

FACT FILE

Project : Maximilian's Shell
 Location : Silver Lake, Los Angeles, California
 Designers : Architects Benjamin Ball and Gaston Nogues
 Completion : June 2005
 Project cost : \$6000