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NIKOLAS WEINSTEIN: FLEXIBLE SYSTEMS

by Kim Harty

Nikolas Weinstein's studio in San Francisco, California is known for its serpentine, undulating sculptures that twist and wind through architectural spaces. If one knows the material limitations of glass, the scale and formal complexities of his projects are even more impressive. Weinstein will be presenting a lecture at the 2015 GAS conference in San Jose to discuss how his design process has evolved over the course of his career.

Weinstein became interested in glass during his last semester studying comparative literature at Brown University, when he took a glass class with Michael Scheiner at the neighboring Rhode Island School of Design. Weinstein loved the material, and kept making glass after he graduated and moved to San Francisco to work for a graphic designer. Inspired by one of Scheiner's projects to make something organic, Weinstein started making glass "pods" that were sold at swanky design stores and upscale retail shops. Since his first introduction to glass, forms in nature have inspired Weinstein and he is "interested in the architecture of natural forms, and how they are built on a cellular level."

When asked how his comp lit degree translated to his practice, Weinstein was adamant, "One can never underestimate, or adequately emphasize how important it is to communicate well. If you are trying



Although the sculpture is made of colorless glass, it integrates into its location by reflecting the colors that surround it. From this vantage, the predominant tones are the greens of the lush Malaysian jungle and the blues of the pool.

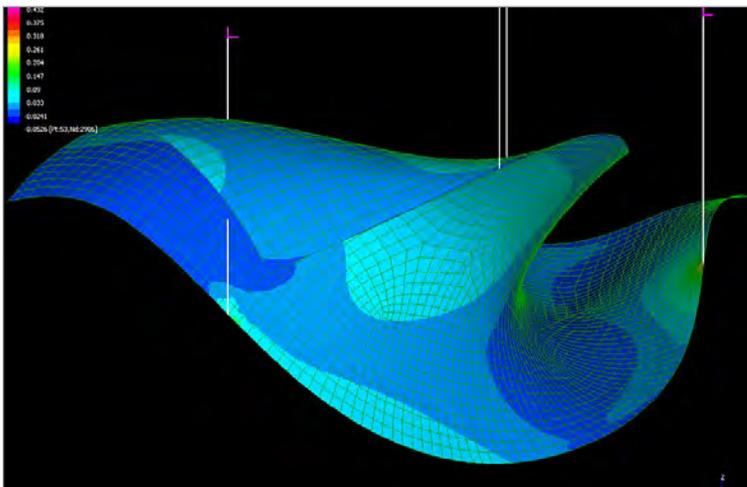
to do something different, or convince people that you are capable of handling resources, money, or complicated issues, it's important that you give them confidence, and it's important that you can communicate your ideas."

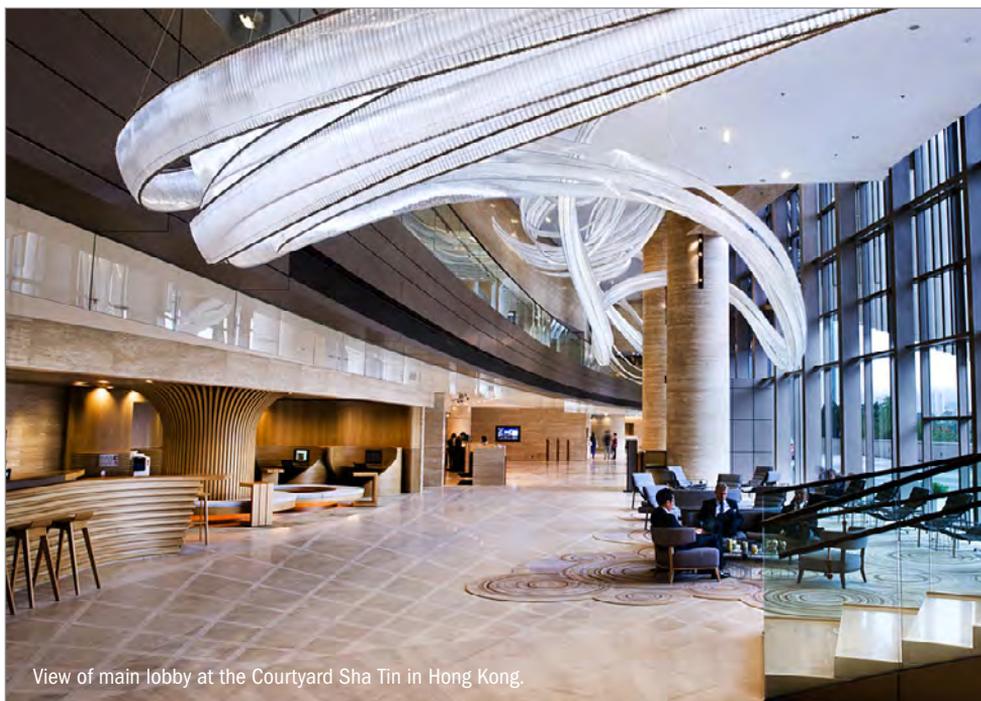
Perhaps it was a combination of his glass skills and virtuosic communication that landed him a commission from DZ Bank in Berlin, in a building designed by Frank Gehry. Weinstein was commissioned to design a piece that would hang in the central atrium, covered by a glass dome ceiling. He imagined large curved

hanging glass pieces that would echo Gehry's sensuous architecture and diffuse the natural light coming in through the ceiling. The challenge was to create large pieces of glass that would both complement and have an impact on the architecture. According to Weinstein, "most glass is small, to make it bigger you need industry. There are flat sheet and there are tubes in the world, because that's where the momentum of industry is." For this commission, Weinstein chose to work with long borosilicate tubes that he fused and slumped into large curved forms. To slump the glass, Weinstein designed a pin mold kiln with a modular floor. The bottom of the kiln is a matrix and each piece could be set to a different height, so that the kiln itself was the mold for the glass. The tubes allowed the pieces to be light, massive, and strong, and he has been working on an architectural scale ever since.

Weinstein sees designing for architectural space as a conversation between the piece and the building. His father was an architect and predisposed him to be "inclined to think that space is something worth talking to... you pay attention to

It's not obvious how these tightly curved panels carry their loads. To prove their integrity before fabrication, we sent digital models to Arup's London office for stress analysis.





View of main lobby at the Courtyard Sha Tin in Hong Kong.

what is around you and do a kind of call and response.” But he notes, “whatever you build has to be reasonably big in order to hold its voice in the conversation – and that is where technology comes in.” Technology plays a large role in the fabrication process at Weinstein’s studio, but it is always a means to an end. Weinstein says his staff is integral in finding solutions to problems, which often depends on the competencies of the particular staff members. “We are a pretty geek-heavy outfit, but it changes from year to year. A couple of years ago we had a bunch of coders on staff and between the three of them, a lot of solutions were programmatic, statistical, or analytical; other times we’ve found more traditional solutions.”

In one instance, the studio created a system of acrylic joints to act as a type of cartilage and keep the glass pieces from grinding against on another. His team ultimately abandoned this solution, but reintroduced the acrylic joints into another project that had curved glass tubes that wouldn’t stay in place. The acrylic “cartilage” worked well for the application – but then they needed 30,000 of them, each to an incredible tolerance – so the studio started getting into injection molding. This is one of the many examples of how technology evolves

though the making process. “When you begin with problems you don’t know how to solve, you go all these places you never anticipated going.”

When he is beginning a project, he admits that he doesn’t look into his tool box to see what the studio is capable of and despises “calculating the efficiencies of what you already know how to do.” If he doesn’t know how to make an idea, that doesn’t stop him from presenting it, and this fosters innovation in the work. Over the course of his career the process of constant innovation has evolved flexible systems for glass construction, weaving tubes together to make undulating textile-like constructions.

The diaphanous beauty of Weinstein’s installations is undeniable. They are incredibly simple propositions, created on a massive scale, that make a physical impact on both the space and the viewer. As the size multiplies, so does the engineering know-how required to manage the pieces. Weinstein’s lecture is sure to be inspiring and informative for any artist who is interested in how technology can inform the scale of the glassmaking process.

Kim Harty is an assistant professor of glass at the College for Creative Studies in Detroit, MI.