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**...r+d**

by Julie Sinclair Eakin

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## A Gleam in the Eye

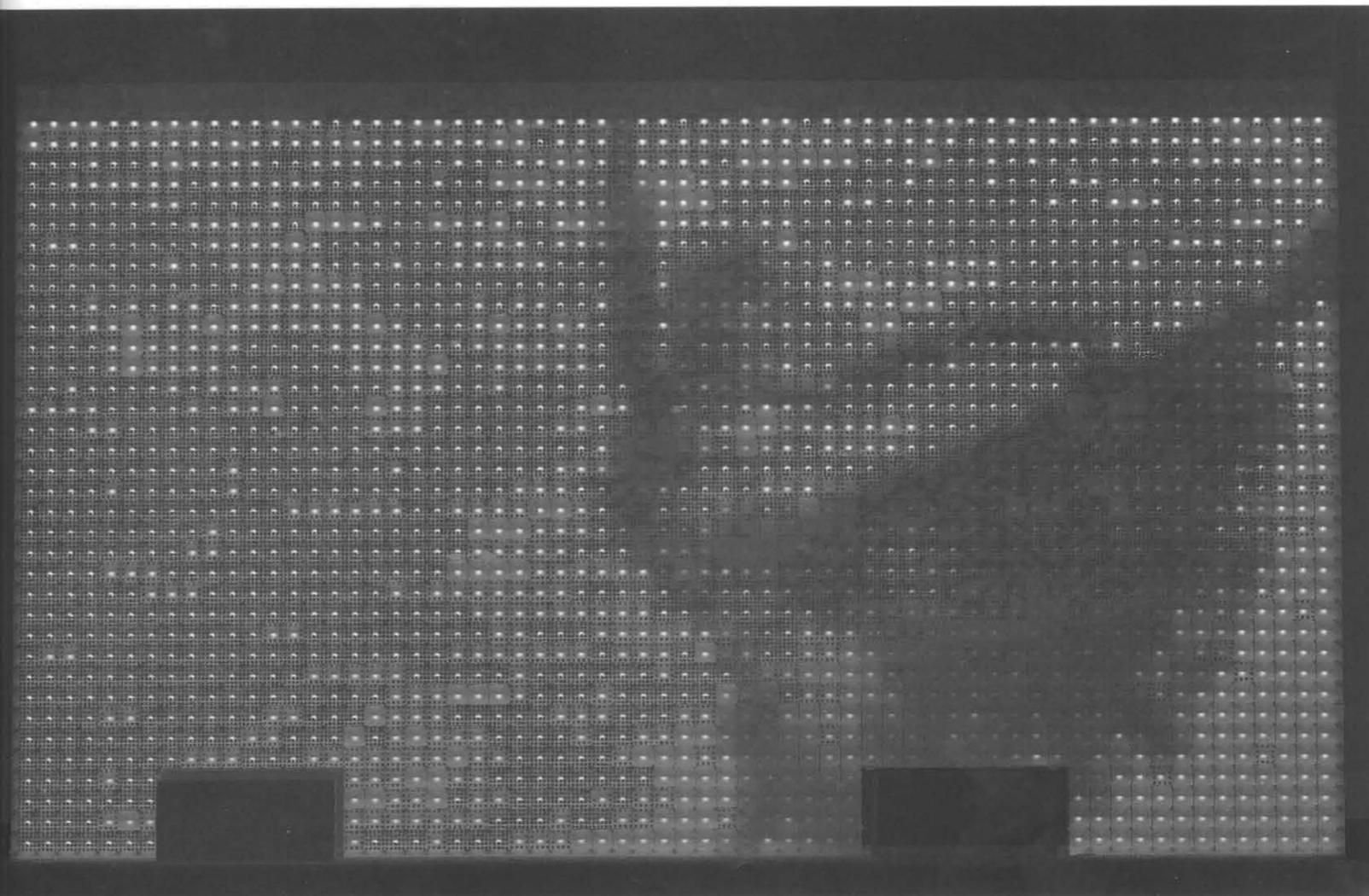
*China makes room for an energy-efficient media wall.*

Based in Brooklyn's DUMBO neighborhood, Simone Giostra has been constructing curtain walls over 15 years while working as project architect on buildings by Richard Meier, Raimund Abraham, Steven Holl, and Alvaro Siza. But never before has he designed a wall at such a scale (enormous), in such a place (China), and in such a way as to store solar energy by day and use it to generate excitement after dark. Giostra's media wall, which is currently being tested for an entertainment complex in Beijing, is a building-size canvas that employs photovoltaic and interactive media technologies to paint a changing visual experience in light.

The building, which has been occupied since August, is located in the western part of Beijing near the site for baseball and basketball games in the 2008 Olympics; it currently houses a movie theater and high-end restaurant. Giostra was charged with enlivening the opaque, box-like structure's presence and connecting it to its environs, all via a single 20,000-square-foot

facade. Because the site faces a major artery, 90 percent of those who encounter the building will see it from their cars as if approaching an enormous billboard. So the design concept grew out of the need to project information to a wide range of distances. The wall will showcase low-resolution LED imagery, both to conserve energy and to help communicate the abstract visual quality Giostra seeks (he cites artists Gerhard Richter and Jim Campbell as inspirations).

The projections on the facade will change frequently—from digital works implemented by invited artists to user-generated content, like a graphic representation of where people are located inside the building, as indicated by the heat their bodies emit. The design's essence, however, is its technological self-sufficiency. The facade will behave like an organic system, says Giostra, by mirroring a day's climatic cycle, first absorbing solar energy and storing it in batteries and then generating light from the same power that evening, without supplements. He describes



the system as self-supporting, efficient, and narrative, one that conveys an ongoing story about the surrounding light and weather conditions.

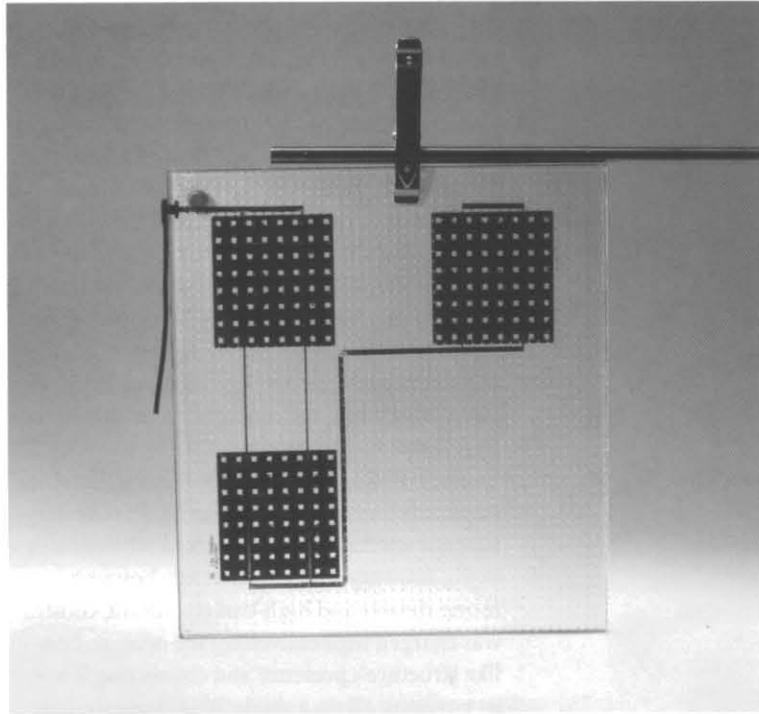
Giostra began looking at seascapes as an example of an ever-changing visual experience. (The building is surrounded by a 20-foot-wide moat-like water element.) He then translated some of the images into digital patterns to form a compositional template for his wall. Rather than communicating depth by adding physical dimension to the facade, Giostra chose to accept the characteristic flatness of a screen wall and make the media work to express its message. He broke this rule only by tilting some of the wall's meter-square panels 5 degrees to simulate the flickering light on an ocean's constantly undulating surface.

This project, scheduled for completion in June, represents the first time perforated photovoltaics laminated in glass have been used on a building in China. A combination of three different textured panels (the roughness prevents reflection) in low-, medium-, and high-transparency glass, will be employed together to create what Giostra describes as a "continuous carpet" of flowing design measuring 7 feet in depth, including space for maintenance. A layer of translucent diffusers behind the photovoltaics will blur the points of light transmittance and increase the illuminated area within each panel, heightening the abstract visual quality.

Giostra believes that fusing digital technology with environmental action and reaction represents a new way to address content in architecture. This manner of integrating media into a built form, rather than simply applying lights to a surface, will result not in static design, he foresees, but in a living system. "Twenty years ago we used two lines to represent an exterior wall on a drawing; today we like to think of curtain walls as systems of 20 lines or more," he says, indicating the increasing depth, both physical and metaphorical, of such constructions. For Giostra, the complexity is an honest way of reflecting the reality of building in a global era.

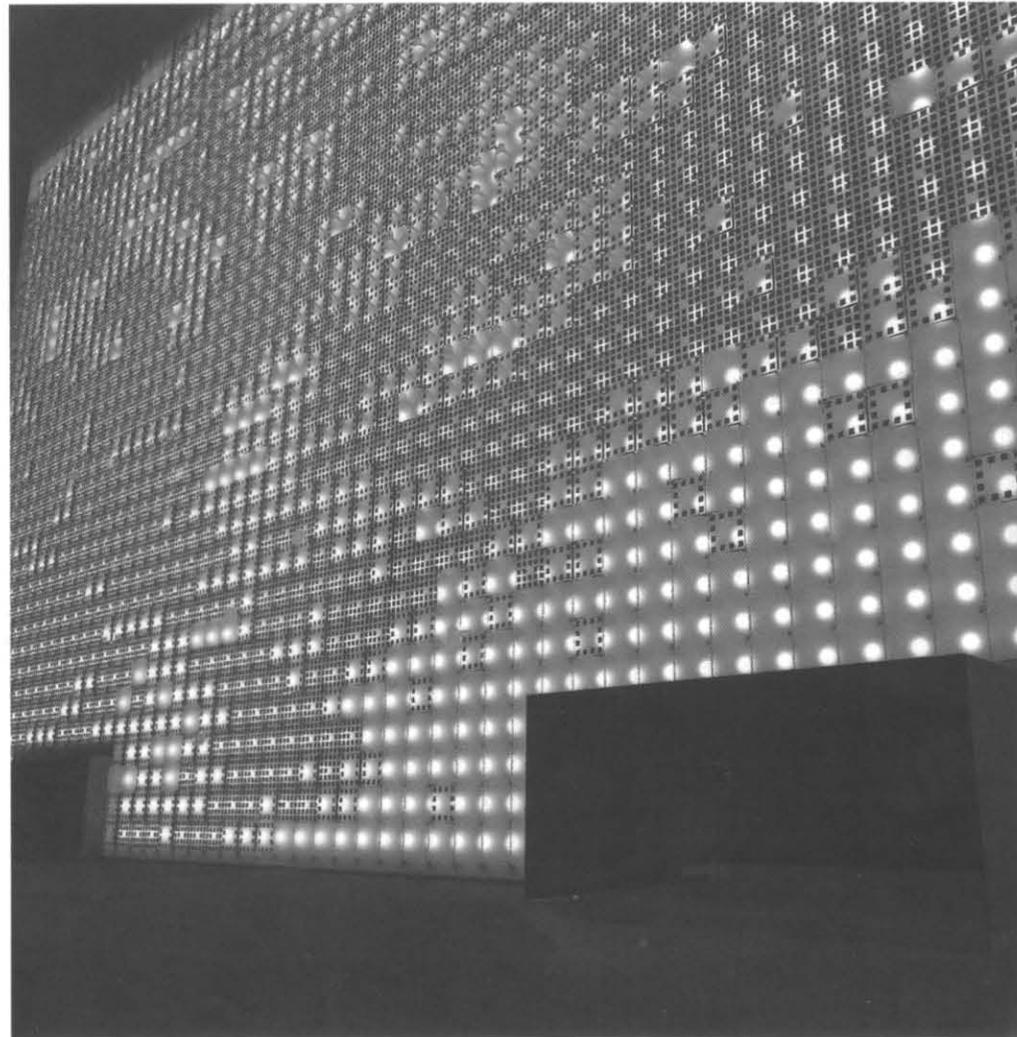
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*New York-based Julie Sinclair Eakin is a former senior editor of Architecture magazine.*



Left Photovoltaics laminated in meter-square glass panels compose the energy-efficient media wall Simone Giostra designed for an entertainment complex in Beijing.

previous page and below Solar energy is transformed into illumination at night. The wall will display commissioned digital artworks and user-generated content, such as patterns determined by the amount of heat emitted from people inside the building.



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