SPECIAL ISSUE

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Lighting

Who doesn't want a little more light in their lives? We explore the power of illumination, from a modernist skylight in Harlem to concrete-clad funnels that mitigate the harsh sun of Puerto Rico, proving that architects across the globe know myriad ways to harness the sun.

Photo by Raimund Koch
Story on page 12

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"It's like living with a light show," says Carlos Delpin of his 1940s home in Puerto Rico redesigned by architect Nataniel Fúster. "We've spent countless hours just watching the light change."

Project: Casa Delpin
Architect: Nataniel Fúster
Location: San Juan, Puerto Rico
Originally Published: October 2007
Photos by Raimund Koch

Casa Delpin

Land Locked

Built in the 1940s, Casa Delpin had little space for guests. The yard was big enough for entertaining, but it lacked privacy and could be reached only by walking through the first-floor rooms. "It was like a labyrinth; it felt very cramped," recalls resident Carlos Delpin. "We really bought the house for the location and for the future. We lived in it as is until we had money to rebuild."

Shell Game

Delpin decided to keep parts of the existing house intact—most notably the 12-foot ceilings and traditional tiles. "We liked the skeleton of the house," he says, "but we wanted to open it up so we could have one big space instead of lots of little ones." Most of all, the Delpins wanted to capitalize on natural light without exposing the interiors to the harsh tropical sun.

The couple retained the original floor tiles, which feature a local design with a muted geometric pattern, known as *isleño*, that was used for more than 200 years until a cheaper terrazzo replaced it in the 1950s. Architect Nataniel Fúster designed a new tile with complementary tones and a slightly more active pattern for the open living area and other additions, and the diagonal pattern recurs on the precast concrete panels over the living area.

Balance Beams

GRC (glass reinforced concrete) panels complement the patterns of the newly designed colored concrete tiles employed through the house. The panels were fabricated by Oscar Marty of IBS.

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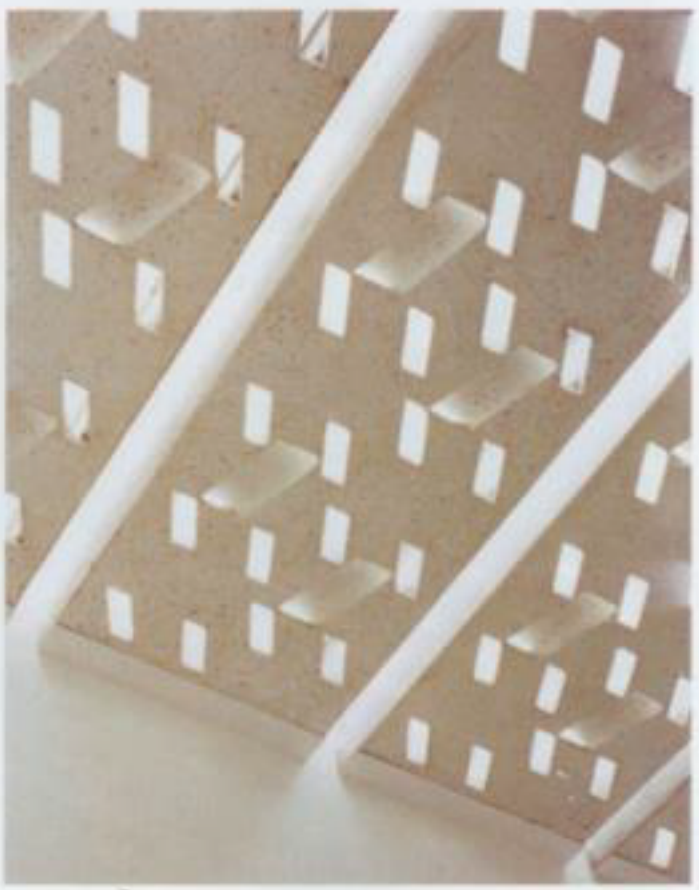
To see the rest of Casa Delpin's tranformation, head to our website.

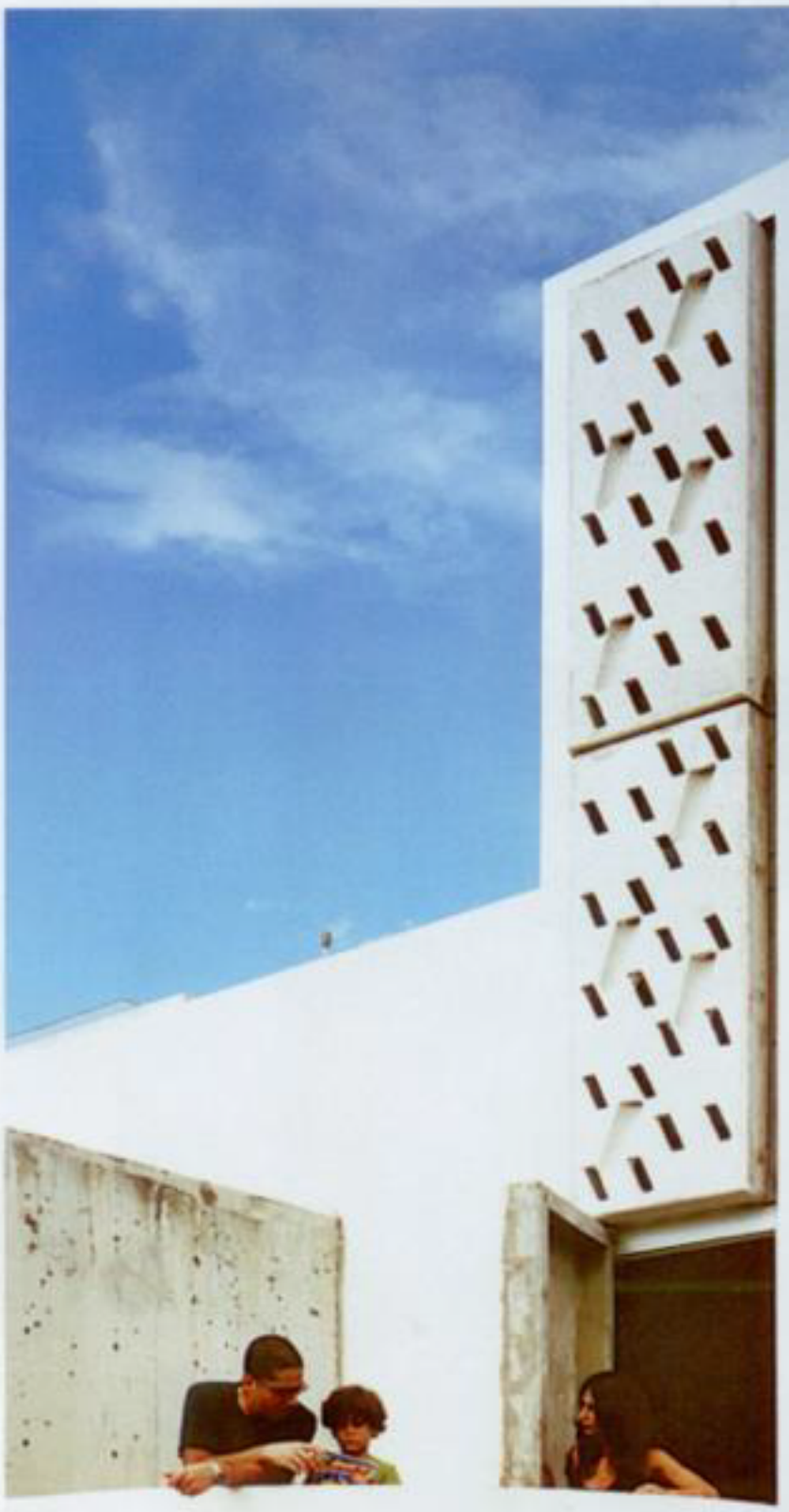
The Architect's Statement

"Central to our work is the sculpting of light through the use of skylights, light shafts, oculi, perforated panels, patios, and the manipualtion of its various reflections on different materials and textures," Fúster explains. "I believe that light reveals and gives significance to the void that we call space; it also humanizes and brings nature to architecture. In the tropics, sunlight is directly above and abundant, thus requiring fragmentation and or diffusion for comfortable use in interior spaces. The idea of playing with and celebrating natural light and the atmospheres it creates is dominant in our design interventions."



Lights Off

By adopting the wisdom of age-old tropical design, the house manages a form of energy efficiency. With cross breezes welcomed into open rooms, there is no need for air conditioning. The clever manipulation of sunlight means the artificial lights stay off until 7:30 or so in the evenings.



Words of Wisdom

"The problem was creating a balance between light and shadows," says Nathaniel Fuster. "To this end, three cylindrical light shafts were inserted above the living room space to avoid a backlighting effect (as in photography). The Spanish architect, Alberto Campo Baeza, refers to this problem using a culinary analogy: To use light is like using salt on a dish, too little will make it insipid; too much will ruin it."

Rear Windows

The panels of the facade act as a permeable membrane from the street. The ones on the pool area were installed horizontally. They allow light as well as natural ventilation and rain to enter the pool.

"We did not use any computer modeling or program to re-create these effects previous to its construction; like many wonderful things in life, it involved some element of risk," Fúster explains.