

Puerto Rico as home and place serves as the grounding context for our work. We read the places in which we live and work as concrete entities, natural or built phenomena that we experience directly. We observe particular instances that, collectively, build our knowledge of our environments as places.



Above and right: Light and shadow articulate a street (Calle Luna) and square (La Baradilla) in Old San Juan  
Photos: Andrés Mignucci Giannoni

The cumulative reading of these systemic particulars is what allows us to generalize and learn. In understanding our place, we move from the local to the general in an attempt to make sense of our experience, especially as it translates into built work.

Through observation and practice we explore a partial reading of our home, Puerto Rico, as place. Puerto Rico must first be understood as an island, a Caribbean island — latitude 18 degrees north, longitude 66 degrees west, 3,435 square miles, a mere 100 miles by 36. We are part of the Greater Antilles, the last island before the archipelago arcs into the lower Caribbean islands. Culturally we belong to the Hispanic Caribbean with Cuba and Santo Domingo as geographical, historical and cultural siblings.

Light, sunlight, is ever-present in the tropics. The popular image of the tropical island, fostered by media and advertising, undoubtedly revolves around the sun, the light, the sea and that marvelous use of color.

However, much more central to our notion of the tropics as place, particularly as habitable place, is light's counterpart, shadow. In the tropics, we inhabit shadows.

In architectural terms, Venezuelan architectural historian Alberto Sato put it succinctly when he wrote, as a correlate to Le Corbusier's axiom, that "in the tropics the masterful manipulation of forms produces shadows."

We first experience shadows as part of our understanding of place in the way we that move through and inhabit the city. We move through narrow streets where we can walk primarily in shade. At intersections, we are exposed to the light from above. We proceed once again into the next shaded street section; then, a large pool of light is seen at the distance, and a plaza opens in our path. Within the plaza, canopies and awnings, built and natural, shelter us from the sky.

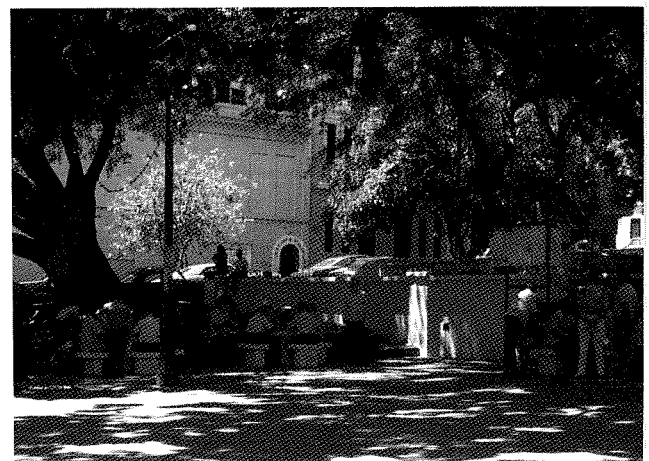
Onto the next shaded street. midblock, a glimpse through the metal grille into the *zaguán*, an open hall-

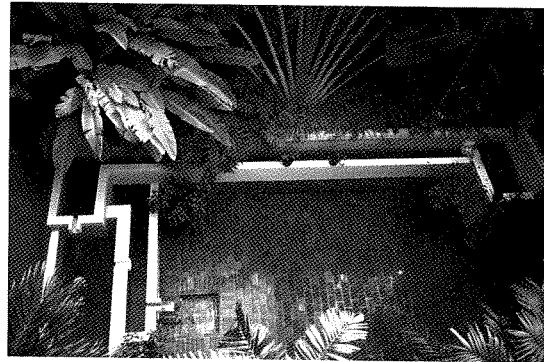
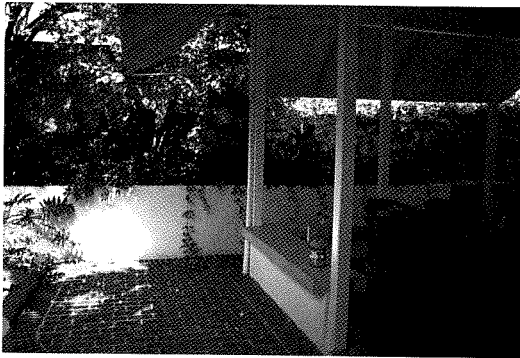
way that leads inside a building. Here the shade is darker than outside, and our eyes must adjust. At the end of the hallway there is a brighter light, a patio. Around the edge of the patio, a portico mitigates the light before we are finally inside.

This reading, the way we move through the streets of Old San Juan, is for many people a daily act. As such it is a silent act of inhabitation, not analyzed or discussed, yet it reveals clues about our understanding of place.

Public—private relationships are relative, not absolute. They are referenced by the particular level at which they operate — landscape, city, district, neighborhood, block, house, room. Alternating light and shadow create or signal thresholds between the public and the next, more private realm. Although not obvious at first glance, nor taught or recognized overtly, light-shadow relationships are charged with meaning about territorial control, supporting an implicit understanding deeply embedded in our experience of place.

Light-filled elements, the most public parts of the city — intersections, plazas and patios — appear as identifiable spatial events within the fabric. The continuity of the building fabric and the shaded street provide the reading of the larger structure. To a certain extent the street belongs more to the block than it





Above left and right:

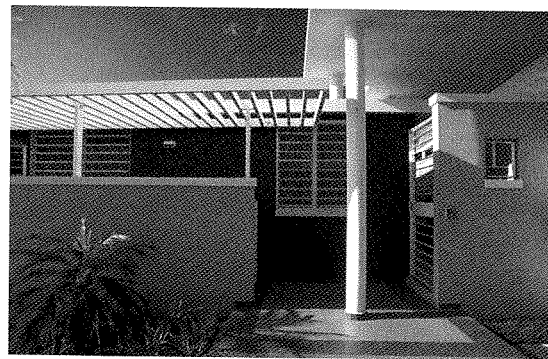
Casa Zenobia Medina

Below left and right:

Casa Vivas

Photos: Andrés Mignucci

Giannoni



The tropics, the real tropics, is a place where inside and outside are defined not by what separates but by what covers. Interior covered rooms are treated as if they were outdoors, at once continuous and contained.

In the tropics, the habitability and intimacy of open spaces, be they at city scale or house scale, require degrees of shade. Not one degree but many; plural, not singular. Here the wall between inside and outside acquires dimension, mass. In many instances the wall itself is habitable; in others it is veiled in gradients of light through the manipulation of screen elements that, like accretions in the wall, filter the fierce outside to allow (relative) coolness within.

does to the squares, plazas and patios. These are outdoor rooms; the plaza at the level of the city, the patio at the level of the house.

### Inside and Outside

In our work, the idea of the outdoor room serves to keep in check the scale, spatial definition and habitable quality of exterior spaces, both in personal projects like our own house and private projects like the house for Zenobia Medina in Santurce. The exterior yard is not the residue of the building's position on the lot but a conscious and deliberate appropriation of exterior space as living space integral to the building.

At the Casa Vivas, the original prefabricated concrete house is wrapped in trellises, screens and covers to mark the movement from the outside in. The house's original orientation to the street is transformed into a sequence of spatial thresholds through the side yard, which articulates the way we move from outside to inside and from front to back. These thresholds, which have varying ceiling heights and degrees of opaqueness and transparency, offer clues about the hierarchy of the territories that comprise the house.

Above right: Anfiteatro Estudios Generales, Universidad de Puerto Rico, Rio Piedras (Toro Ferrer, Architects).

Right: Student Center, Universidad de Puerto Rico, Rio Piedras (Henry Klumb, Architect).

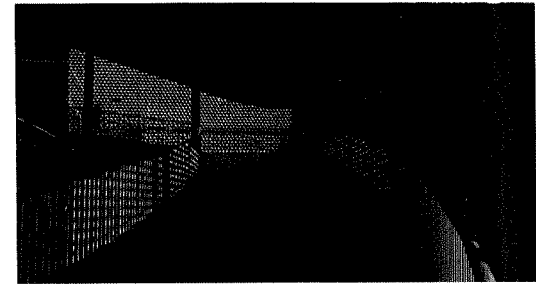
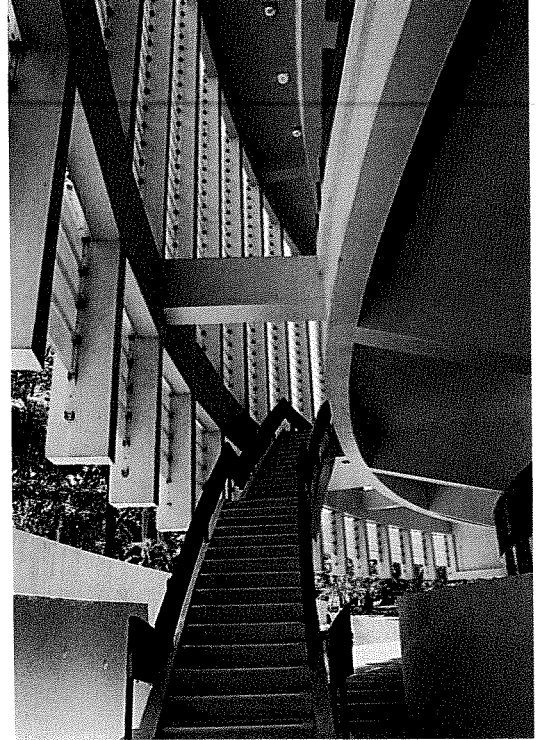
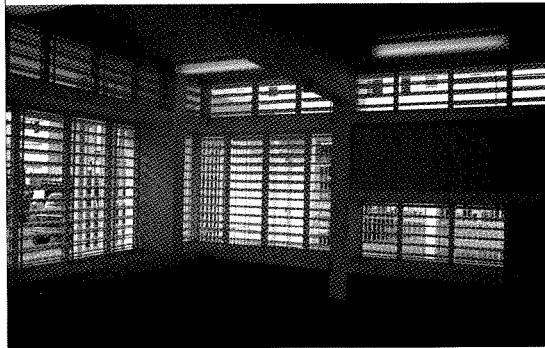
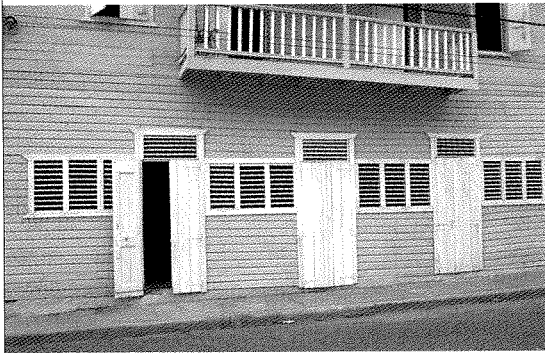
Photos: Andrés Mignucci Giannoni

### The Wall as Filter and Screen

In the tropics, the climatic balance between inside and outside has rendered the wall an element of privacy, a screen and a filter of light and air. Layers of spatial thresholds mitigate and enrich the transition between inside and outside, as in the works of master architects like Henry Klumb and Toro Ferrer in Puerto Rico and Carlos Raul Villanueva in Venezuela.

The work of these architects is based on a number of compositional strategies, such as clear articulation between the primary structure and elements of closure; transparency and continuity between inside and outside; and the use of mechanisms for cross ventila-

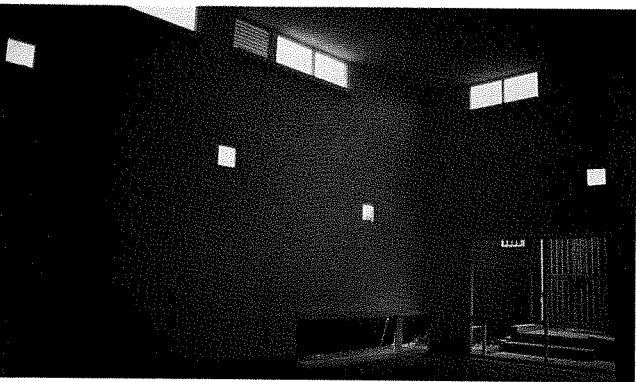
Top, bottom: Continuity of light and ventilation elements in traditional architecture, Dominican Republic. Center: Screened light in Head Start school, San Juan. Photos: Andrés Mignucci Giannoni



tion and natural light. This grammar includes the use of elements like jalousies, awnings, brise soleils and deep overhangs; form manipulations such as varying ceiling heights; the use of interior courtyards; and orientation and siting strategies to balance light and shade, convection and cross ventilation.

Most of these elements were commonplace in building construction at the turn of the century as a direct result of health and building codes. These codes, which generally remained in place until the 1940s, established design parameters as a response to population growth and the increasing density of our cities and towns. These requirements produced an extensive repertoire of mechanisms for the control of light and ventilation. This tradition, part of a shared understanding of building in the tropics for years, has been all but lost due to the importation of foreign materials and building technology, particularly from northern, temperate climates, resulting in an architecture that is primarily closed and singular.

The wall of a building can yield various qualities of light, depending on the relation between the solid mass of the skin and the elements that filter light and provide



### Architecture at the Urban Scale

There is a correlation between interventions at the building scale and the manner in which they aggregate into larger contexts. Our perception of the environment, city or landscape is dependent as much on the contribution of specific, local interventions as it is on the overall pattern of organization.

In traditional towns like Old San Juan, or in island towns like Ponce and San Germán, we read urban structure, and the rules for its constituent elements, through the continuity of the building fabric.

Beyond the original seed of Old San Juan, the city grew in a linear pattern along Ponce de León Avenue, which served as a conducting thread between contained settlements: San Juan, Puerta de Tierra, Miramar, Santurce, Hato Rey and Río Piedras.

Despite being five hundred years old, San Juan, like most Latin American capitals, consolidated as a city in the postwar years, particularly during the 1950s and '60s, years of intense development and growth.

Anchored by the ever-increasing number of cars, San Juan grew in units of self-contained suburban developments. During these years, the developer was the primary catalyst for growth, the planner was the organizer of land-use patterns, the traffic engineer was the determinant of urban structure and the civil engineer was the lead designer of the housing stock.

In these new developments the building fabric no longer reveals the urban structure; the old rules do not hold. Between suburban housing units lay unbuilt interstices, which further increase the discontinuity of the city and decrease our experience and understanding of it as a meaningful, coherent place. Shadows no longer establish thresholds.

Urban design projects like Comunidad Río Bayamón concentrate on how we can re-introduce degrees of continuity between urban components, how we can suture parts of this discontinuous city structure together. The project builds, on a large site, a new city center to serve already existing suburban developments. The new center, with living and work places, a station on the regional transit network and an ambi-

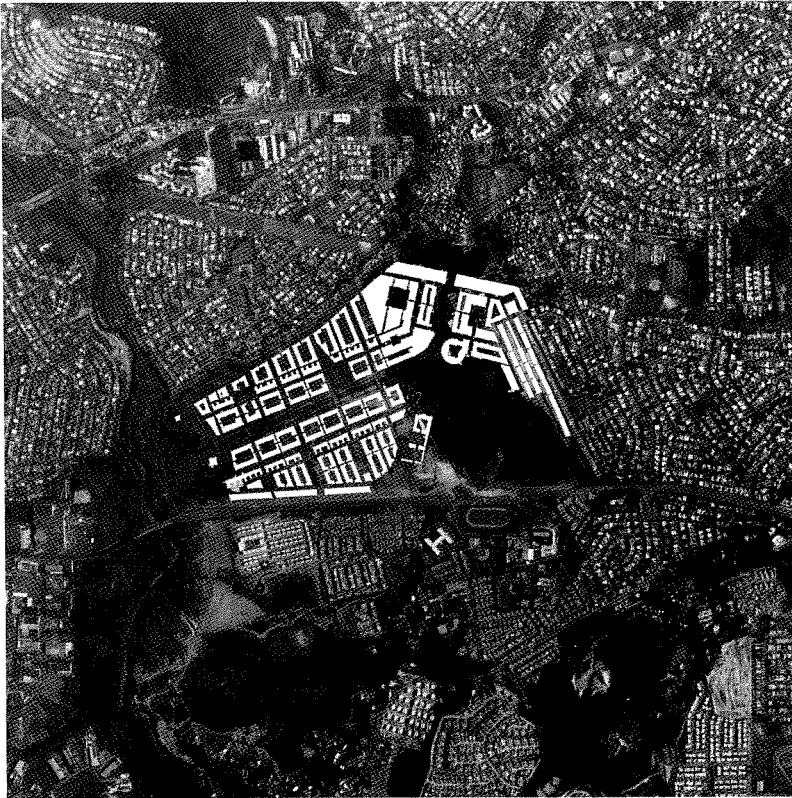
ventilation. In the works of the pioneering masters of the Modern movement in the tropics (which includes not only the Caribbean Islands but also Venezuela and Brazil), the wall is fundamentally treated as a screen that is clearly differentiated from the structural members that support the building. The light, soft and diffused, takes over as it does an open field.

In a number of traditional buildings, like the Dominican variations of the strip window, light is continuous as a band set against the wall plane. Here the window module clearly reveals the wood-frame support of the building.

These examples relate primarily to frame structures, in which columns and beams carry the structural load while the wall can be either open or closed according to requirements of privacy, security and shelter.

In contrast, in this part of the world, where walls are primarily built of a continuous surface material like concrete, the screens work as secondary or tertiary assemblies that clearly articulate the hierarchy between the primary elements of structure and closure. In other instances it is the space between elements, the calibrated gap, that filters the light and contains it as solid as though it was material. Such is the stair and the roof over the terrace in Lamar 557. Metaphorically, the light is constructed as precisely and measurably as any building element.

Above left, left: Lamar 557  
Photos: Andrés Mignucci  
Giannoni



How can we be faithful to the nature of the place in which we live and work? Our observations on the tropics, particularly Puerto Rico, serve as a point of departure from which we project an architecture that is at once new and at the same time continuous with the spirit of the place. Design strategies like the use of light and shade thresholds, the design of the wall as filter and screen, and the creation of outdoor rooms constitute instruments for translating observations and experiences of our context, as place, into a practice that builds and carries on this understanding. Our work aspires to be not a special exception but part of the ordinary fabric of our home.

#### Project Credits

Casa Zenobia Medina, Santurce, Puerto Rico  
 Architects: Andres Mignucci Giannoni, Architecto  
 Client: Zenobia Medina  
 Dates: 1991-1992

Casa Vivas, Bayamon, Puerto Rico  
 Architects: Andres Mignucci Giannoni, Architecto  
 Client: Samuel and Hilda Vivas  
 Dates: 1993-1994

Lamar 557, Hato Rey, Puerto Rico  
 Architects: Andres Mignucci Giannoni, Architecto  
 Client: Zenobia Medina  
 Dates: 1994-1995

Comunidad Rio Bayamón, Bayamón, Puerto Rico  
 Architects and Urban Designers: Andrés Mignucci Giannoni Arquitecto; Héctor Arce, Arquitecto; Miguel A. Carlo y Asociados; Agrait Betancourt Arquitectos  
 Urban Design Consultants: Koetter, Kim & Associates; Andrés Duany & Elizabeth Plater-Zyberk, Architects & Town Planners  
 Client: Departamento de la Vivienda, Commonwealth of Puerto Rico  
 Dates: 1990-1992



tionous system of public spaces, re-balances the relationships of the immediate context and acts as a binding, ordering structure.

At an urban scale we attempt to introduce shadows as an element of continuity within districts. Here the landscape is recognized as our natural awning. The green is not on the ground but above, hovering between us and the sun. Public plazas and parks, light events, are threaded once again by the more continuous world of the shadow.

The terms “shadow” and “shade,” encompassed in Spanish by a single term, *sombra*, invoke two complementary qualities intrinsic to our understanding of the tropics — quality of light and quality of comfort. Architecture, as a context for meaningful inhabitation, cannot be measured exclusively by formal aesthetic notions; one must consider how it relates to primal human needs and desires. The direct, personal experience of place as a measure of habitability, important in any context, is even more so in extreme environments. The tropics, therefore, cannot be perceived or experienced with detachment. It forces us to feel, to experience directly. The tropics pressure the senses to sense.

Top: Comunidad Rio Bayamón  
 Above: San Germán  
 Photos: Andrés Mignucci Giannoni