

**Henry Klumb, Casa Fullana, San Juan, Puerto Rico, 1953-1955,  
perspective drawing, 1953. © Henry Klumb Collection, Archivo de Arquitectura y Construcción Universidad de Puerto Rico (AACUPR).**

## ***Casa Fullana: a model for modern living in the tropics***

BY ANDRÉS MIGNUCCI

Casa Fullana [Fullana House], built in 1955 in San Juan, Puerto Rico, is an exemplary model of Henry Klumb's (1905-1984) design principles for modern living in the tropics. German architect Henry Klumb conducted a prolific architectural practice in Puerto Rico, producing some of the most iconic examples of tropical modernism in the Caribbean. His work, most notably at the University of Puerto Rico (1946-1966) (UPR) and in landmark projects like the San Martín de Porres Church (1948) in Cataño, constituted a breakthrough in Puerto Rican, Caribbean and Latin American architecture. Anchored in the principles of modern architecture, specifically of an organic architecture put forward by his mentor Frank Lloyd Wright (1867-1959), Klumb's work is deeply rooted in the specificities of the landscape, topography, and climate of Puerto Rico as a tropical island.

Casa Fullana, holds a particular place in Klumb's residential *oeuvre*. Of all his urban, suburban and rural houses, Casa Fullana, in the view of this author, best exemplifies Klumb's design philosophy, architectural language, and mastery of form. As a design strategy, Klumb juxtaposes complex stereotomic forms on the ground floor with a disciplined tectonic structure on the main floor above. On the ground level, Klumb tames the complex geometries so they do not seem forced and arbitrary, reading instead as an evident architectural response to site, topography, and climate. In the upper main floor, he infuses the simple straightforward layout in plan with a sense of habitability and comfort. For the owners, who have now lived in the house for two generations, Casa Fullana embodies the ideal of modern living in the tropics. Central to this notion, lies Klumb's design strategy of the "living spaces turned inside out." Like in his own house, the sheltered covered terrace becomes the major open space in the house and the center for day-to-day activities. The Modern Movement's precept of inside-outside continuity becomes not only visual but also real, in the form of habitable spaces for daily living connected to nature and the landscape.

### **Introduction**

Casa Fullana was designed in 1953 for engineer and contractor Pedro Fullana and his family in the Extensión San Agustín neighborhood in Río Piedras. The house is located on a large suburban lot of 5,894 square meters (m<sup>2</sup>) atop a hill with expansive views of San Juan's northern coast.

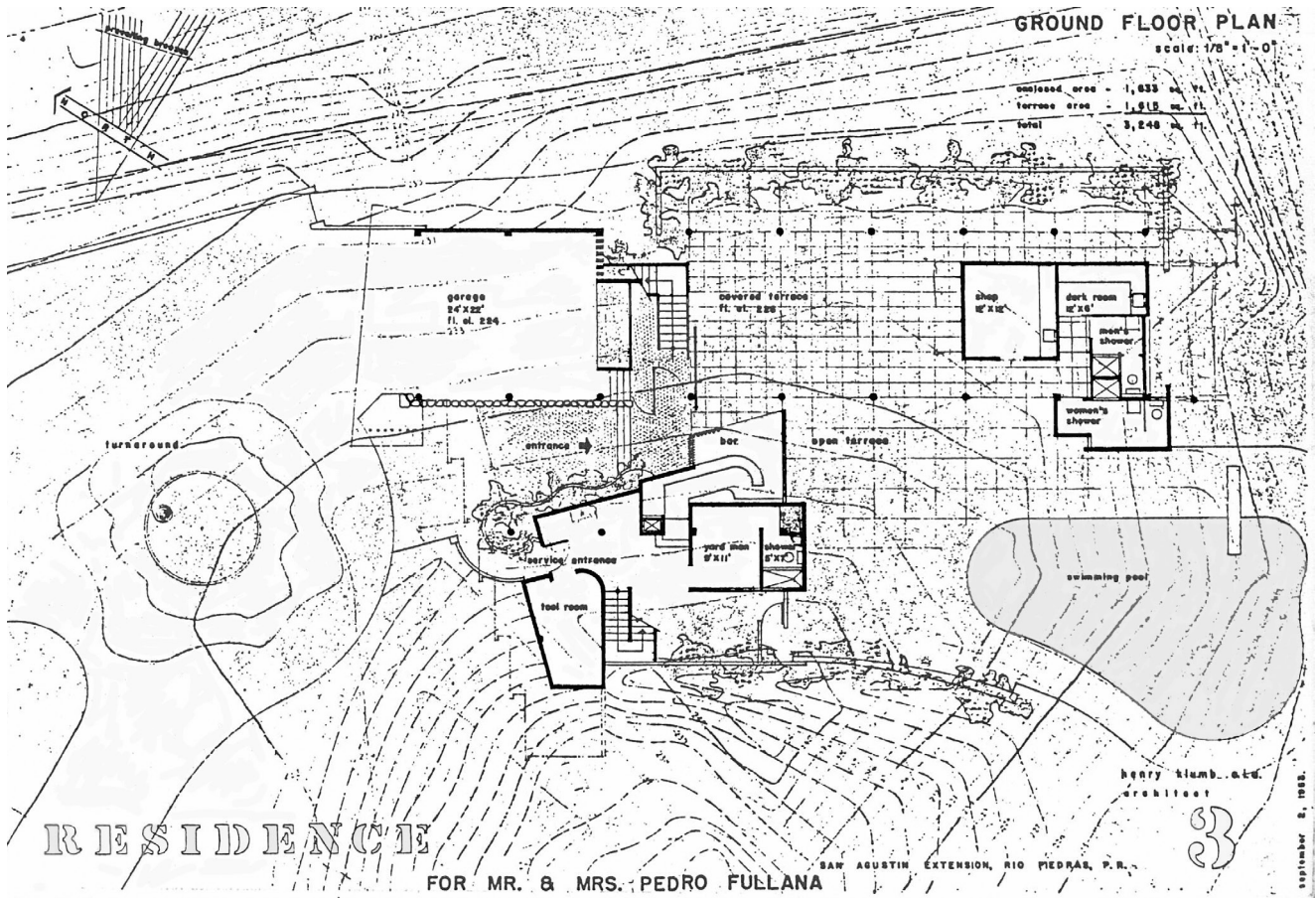
The design process began in May 1953.<sup>1</sup> The fundamentals of Klumb's design strategy for the house seem to have been arrived at an early stage in the process. A conceptual floor plan dating from 25 June 1953, already has all the elements and programmatic components of the "L" shape design in place. By the time of issue of the Preliminary Design Plans in 2 September 1953, the design for the house was all but complete. Minor revisions to the preliminary plans

included an additional structural bay to accommodate a third bedroom, changes to the configuration of the kitchen layout incorporating a sewing room, and the addition of a terrace in the bedroom wing. These revisions were petitioned by Mrs. Fullana, who played a major role in the revision of the drawings and the design.<sup>2</sup> Construction drawings were finalized in 1954 and construction completed the following year.<sup>3</sup>

Archival photos taken just after construction was completed reveal a contradiction of sorts regarding Klumb's habitual deference to the existing landscape and vegetation. Either through Klumb's direct instructions or perhaps upon request of his engineer-contractor client, all existing vegetation on site was surprisingly cleared. This, however, allowed Klumb to reshape the contours of the topography to settle the house in place, opening at the same time the possibility of planning the garden and the site's surroundings as part of a new narrative between building and landscape.

### **An architectural grammar**

In 1953, when the house was commissioned, Klumb was at work on the design of the master plan and buildings for UPR campus in Río Piedras. The amount of work was surely overwhelming. As a strategy to cope with the extraordinary work volume of projects and design commissions, Klumb developed an architectural grammar of forms elements, material use, and detailing, which allowed him to manage complex programmatic requirements while achieving an identifiable coherent architectural image. Plans would be accompanied with booklet-like sets of standard details organized by building component. This work strategy, intended to systematize production, defined the forms language that would distinguish and, to a great extent, brand his architecture. Round columns, pivoting doors, deep overhanging eaves, wood and metal screens, *brise-soleils*, jalousie windows, and concrete tile flooring, would form a distinctive palette for his buildings. These would be accompanied



with sets of design principles that would privilege cross ventilation, natural daylight, attention to the site's topography, the incorporation of natural vegetation, and the dissolution of boundaries between inside and outside.

This strategy of developing an architectural grammar is, of course, not unique to Klumb. His mentor, Frank Lloyd Wright used a similar strategy in the development of his Usonian houses. Le Corbusier (1887-1965) developed a kit of forms for his white houses in Paris during the 1920s. And closer to home in Venezuela, Carlos Raul Villanueva (1900-1975) established a form language for his buildings at the Universidad Central de Venezuela in Caracas. What is particular to Klumb, is that his architectural grammar transcends differences in building and use types. The Casa Fullana undoubtedly shares its architectural DNA, its form language and syntax, with some of Klumb's educational masterpieces at the UPR, namely the UPR Student Center. We can only speculate on the intersections and crossings between the educational buildings at the UPR and residential projects like Casa Fullana. What seems evident is that Casa Fullana and the emblematic Student Center share, alongside the common architectural grammar, two of Klumb's principal design strategies – the fluid space and the sheltered exterior.

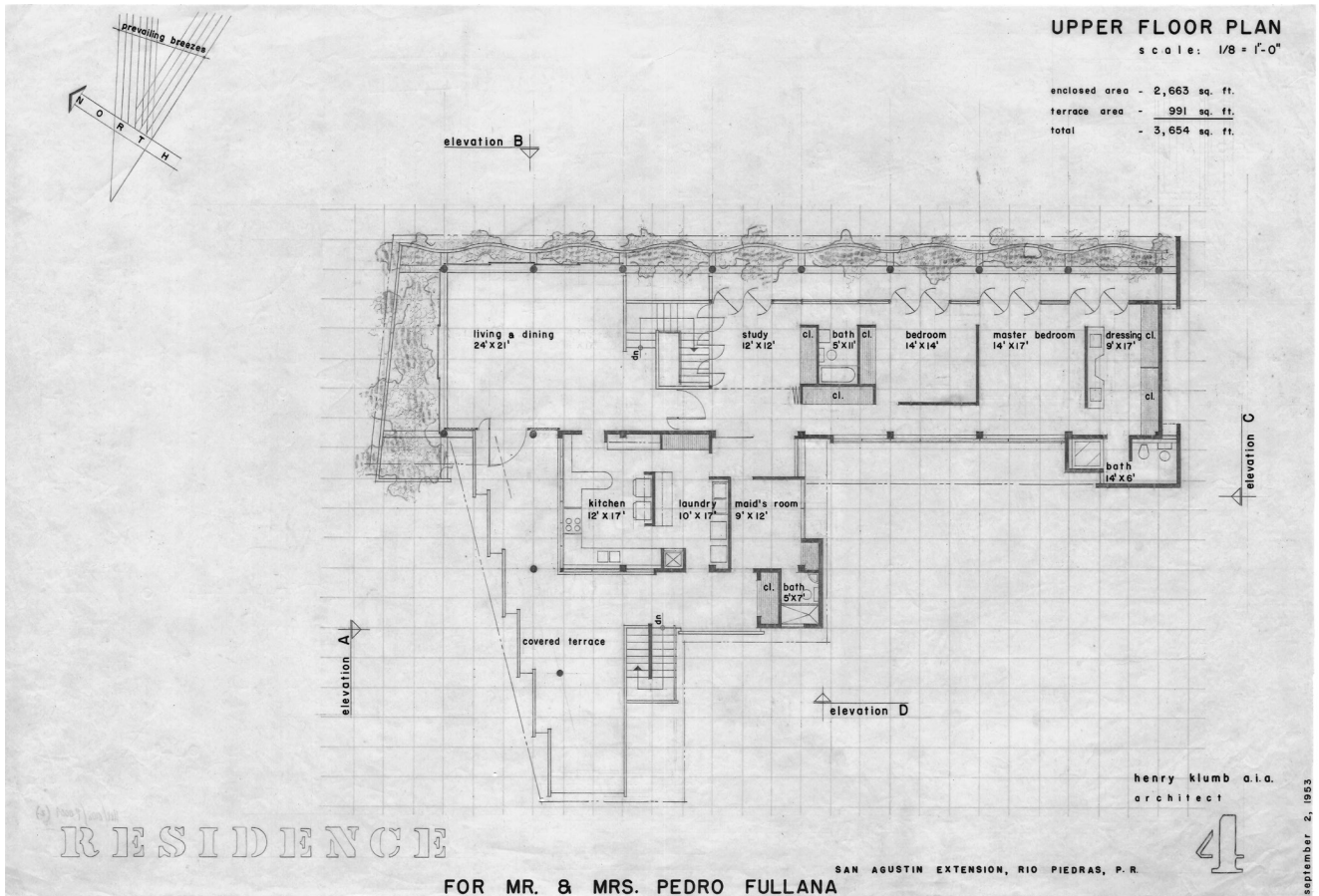
While the construction drawings for the Student Center date from 1957, its design process was developed concurrent with Casa Fullana. Like in the Student Center,

Klumb conceives the Casa Fullana as a composition of two different types of entities: the fluid space that shapes the movement through its public open space, and the enclosed programmatic “rocks” conceived as compartmentalized pods, containers that contain structured functions, uses, services and support areas. The fluid space defined by the pods, is layered with filters of light, ventilation and access/privacy controls in the form of pivoting wooden doors and screens, emphasizing the use of natural cross ventilation typical of Klumb's work.<sup>4</sup> While in a large-scale building like the Student Center, the fluid space takes the form of a covered plaza, in the smaller and more intimate residential context of the Casa Fullana, the fluid space manifests itself as covered terraces, the sheltered exterior, on both the ground and main floor. An exploration of the house's *promenade architecturale*, will help clarify these observations.

### An Architectural Promenade

The house is accessed through a cul-de-sac that organizes a cluster of four houses that form a green oasis within the smaller suburban fabric of the surrounding neighborhood. Past the entrance gate, the access road to the house climbs uphill forty feet [12.19 meters (m)] from the site boundary. Upon arrival at a circular turnaround, the house is viewed in an upward *scorzo*, closely following the perspective prepared by the architect for his clients.

02 Henry Klumb, Casa Fullana, San Juan, Puerto Rico, 1953-1955, floor plan, 1953. © Henry Klumb Collection, Archivo de Arquitectura y Construcción Universidad de Puerto Rico (AACUPR).



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Essays



03 Henry Klumb, Casa Fullana, San Juan, Puerto Rico, 1953-1955, stair, entry, and ground floor exterior terrace, 1955. © Photograph: Alexandre Georges, Henry Klumb Collection, Archivo de Arquitectura y Construcción Universidad de Puerto Rico (AACUPR).

04 Henry Klumb, Casa Fullana, San Juan, Puerto Rico, 1953-1955, exterior. © Photograph: Ivonne María Marcial Vega, courtesy of **docomomo** Puerto Rico.



05 Henry Klumb, Casa Fullana, San Juan, Puerto Rico, 1953-1955, covered terrace. © Photograph: Ivonne María Marcial Vega, courtesy of **docomomo** Puerto Rico.

The main level of the house is raised from the ground plane as a *piano nobile*. At first glance, Klumb's habitual connection with the site is traded for a perched floor plane levitating above the ground to privilege the distant views of the Atlantic to the north. In reality, the seemingly straightforward design and rather simple plan of the main floor, hides a much richer, complex, relation with the site and its surrounding landscape.

The ground floor, cave-like and stereotomic, is organized using three programmatic pods – the garage, the gardener's quarters, and the pool service area. Between these three "rocks," Klumb's fluid space, flows through structuring the spectator's experience and movement through the house.

The Japanese *rocks in the sand* design ideogram, helps us understand and describe Klumb's design strategy. This fluid space establishes the main entry sequence. The main entrance is nestled between the first two "rocks" in the form of the garage and the gardener's quarters. Klumb brings in landscape elements – a stone wall and a planting area – to reinforce the connection with the exterior landscape. Past the entrance, the vestibule with the main stair sets up the progression toward the main level above. Between the three "rocks" the fluid space opens toward the ground floor's covered terrace. In the preliminary design plans, this covered terrace connected with an open exterior terrace and pool area to the southwest and a landscaped patio to the northeast. As a diagram, this design *parti* finds echo in the covered plaza at the UPR's Student Center. The ground floor's spatial axis of the house is closely aligned with the orientation of the prevailing breezes from the northeast opening to the exterior gardens to the northeast and the southwest. As center and focal point of the ground floor, the covered terrace serves to stabilize the design's composition in plan.

Let's return to the main entrance to describe the movement from the ground floor to the main floor above. Utilizing a lowered ceiling height, the tighter width of the entrance between the stone wall and the planter, and the natural decrease in light levels when progressing from outside to inside, Klumb creates the effect of a spatial compression as the traveler moves through the entrance. As he moves up the floating stairs, there is a sharp switchblade turn at the stair landing before arriving at the main floor's living and dining area. In this first space of the main floor, with clear fenestration of glass jalousie, the traveler receives the surprise of a vast panoramic view of the city. During the day one sees the ocean and the horizon at the distance. At night, the view is pixilated into a thousand city lights with an infinite number of stars above. With a single, simple design move, Klumb connects Casa Fullana with a broad larger landscape, a long vista that anchors the house with the geography of the city.

Having raised the building as a *piano nobile*, framing the long vista toward the north is an expected reward. However, Klumb still has another twist in his constructed narrative with Casa Fullana's landscape. In the main floor, Klumb creates an "L" shaped planted area composed of a cantilevered planter fronting the living room toward the north and a continuous undulating planter that extends the whole

length of the wing. This planter places lush vegetation close to the plane of the fenestration. The result is an interior engulfed by greenery. These two tactics together – the long vista and the foreshortened landscape – create an environment with a markedly different relation to the landscape.

### **The main floor plan and the faceted facade**

The main floor, the *piano nobile*, is decidedly more tectonic in nature. The structure follows an L-shaped plan divided in a rectangular wing organized on a 4-foot (1.2 m) grid with round columns spaced at 12-foot (3.6 m) intervals. The longer wing made of nine modules, contains the living-dining room, the stairs, a study, and the private quarters of the house – three bedrooms and two bathrooms. A gallery on its eastern side and a terraced porch on the west flank this rectangular body of programmed space. Pivoting sets of doors open each room to the gallery – yet another move to reinforce the continuity between inside and outside and to facilitate the flow of cross ventilation and natural daylight.

Contrasting with the straightforward, almost institutional, design of the main wing, the house's front facade toward the north breaks the grid with subtle geometric inflections. The large cantilevered planter fronting the living and dining area, splays outward initiating a sequence of slight but effective counterpoints to the geometry of the grid. A second, more pronounced angle defines the geometry of the long eave that shelters the covered terrace. Supported only by two round columns and the central wall of the service stair, the roof above the terrace seems to float, hovering over the exterior living space below.

The kitchen is centrally placed, serving as a pivoting kernel between the two wings of the "L" plan. Its placement is inherited from Frank Lloyd Wright's design tactics for residential design. Wright referred to the kitchen as the house's "laboratory," pointedly charged with scientific-educational allusion. In Klumb's variation, he distinguished the kitchen as part of what he called the house's "life core." The kitchen/life core serves the dining room in the main wing, but spatially and functionally responds to the activity that takes place in the exterior terrace. The kitchen may be Klumb's life core, but the open terrace is the *raison d'être*, the fundamental territorial space of Klumb's plan. It is in this sheltered open space, in this exterior terrace where most of the family's day-to-day life takes place.

### **Living outside: the sheltered exterior**

This space, the end of our architectural promenade, holds the secret of Klumb's manifesto of modern life in the tropics. In his view of the tropical world, daily life does not happen inside, it takes place in a sheltered exterior. Remembering Aldo Van Eyck's (1918-1999) poetical term, it is in this *twin phenomena*, this place that is neither inside nor outside, that we inhabit in the tropics. In the Casa Fullana, this sheltered exterior is open to the breezes and the vistas, it welcomes natural daylight while offering shelter from sun and rain, and is perched above the ground so the family can feel secure without grills and metal bars. This space is connected with the immediate lush vegetation close to the

06 Henry Klumb, Casa Fullana, San Juan, Puerto Rico, 1953-1955, exterior view, 1955. © Photograph: Alexandre Georges, Henry Klumb Collection, Archivo de Arquitectura y Construcción Universidad de Puerto Rico (AACUPR).



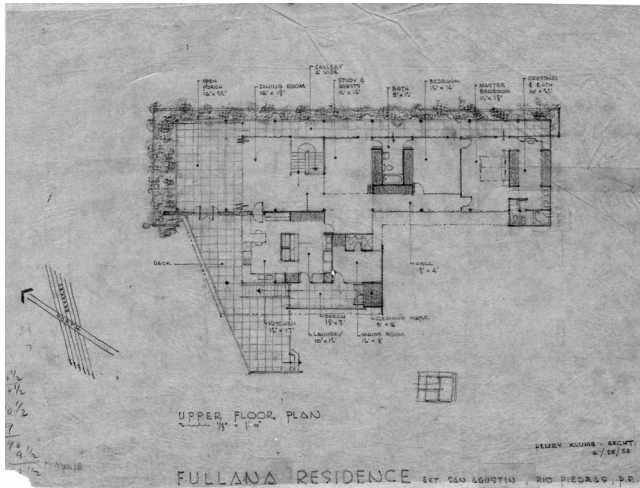
07 Henry Klumb, Casa Fullana, San Juan, Puerto Rico, 1953-1955, exterior terrace, 1955. © Photograph: Alexandre Georges, Henry Klumb Collection, Archivo de Arquitectura y Construcción Universidad de Puerto Rico (AACUPR).



08 Henry Klumb, Casa Fullana, San Juan, Puerto Rico, 1953-1955, interior view, 1955. © Photograph: Alexandre Georges, Henry Klumb Collection, Archivo de Arquitectura y Construcción Universidad de Puerto Rico (AACUPR).



09 Henry Klumb, Casa Fullana, San Juan, Puerto Rico, 1953-1955, aerial photograph. © Google Earth.



10 Henry Klumb, Casa Fullana, San Juan, Puerto Rico, 1953-1955, site plan sketch, 25 June 1953. © Archivo de Arquitectura y Construcción Universidad de Puerto Rico (AACUPR).

building's skin, as well as with the vistas of the larger landscape beyond.

He developed these ideas in the conversion of his 19<sup>th</sup> century plantation home, stripping it of most of its walls to privilege the verandah as the main living space. After Casa Fullana, he amplified and polished them in his design for the UPR's Student Center, where the fluid space takes the form of a covered plaza. His explorations suggest that the fundamental element of an architecture for the tropics is not the wall, but the roof. The basic strategy for making habitable territories is not about the disposition of walls and fenestrations – the building skin – like in northern temperate climates, but about treating the roof as the primal shelter that protects from sun and rain. Like the canopy shade of a tree, the roof of the house sets up territories for living.

This, for Klumb, is the essence of the tropics.

### Conclusion

Casa Fullana, undoubtedly represents particular sets of values of modern architecture. Some are evident – the use of reinforced concrete and its tectonics as the quintessential modern material, the continuity and transparency between interior and exterior, the mastery of form-making “in the spirit of materials.”

But Casa Fullana, this modern villa in the tropics, puts forward a broader set of lessons. Klumb certainly used modern architecture as a vehicle for his architecture with

conviction and discipline. But in his belief of the basic values of modernity, Klumb systematically explored the intimate relation between form and habitation. For him, architecture is not the finality, but a vessel to assist people in their act of inhabitation. In the Casa Fullana, Klumb put into form some of his emergent ideas on modern living in the tropics. That it centers in a space, barely without walls or fenestration, delimited fundamentally by a roof, is a testament to his masterful vision of the tropics as place.

### Notes

- 1 Drawings, plans, photographs, and correspondence associated with Casa Fullana form part of the Henry Klumb Collection at the *Archivo de Arquitectura y Construcción* of the University of Puerto Rico (AACUPR). We are grateful to the archive, in particular to Elena García, for providing material for this article.
- 2 Mary Frances Gallart, “Entre lo fundamental y el detalle: El rol de las clientas en la obra de Henry Klumb”, *Informa*, No. 2, San Juan, UPR, 2006, 56-71.
- 3 In 1960-1961, Klumb's office executed some minor programmatic changes to the interior layout without affecting the initial design.
- 4 Andrés Mignucci, María Isabel Oliver, “El Centro de Estudiantes de Henry Klumb en la Universidad de Puerto Rico. El edificio moderno y la sociedad contemporánea”, in Carolina Carrasco (Ed.), *Arquitectura y Modernidad en Contextos Regionales*, Valparaíso, USM Editorial, 2017, 20-23.

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### Andrés Mignucci

(Puerto Rico, 1957) Puerto Rican architect, urbanist, and educator. Andrés Mignucci studied architecture at the Massachusetts Institute of Technology. He is the recipient of the *National Architecture Prize* in Architecture, a *Henry Klumb Award Laureate*, and Fellow of the American Institute of Architects. In 2019, Andrés Mignucci was selected as Rockefeller Foundation Arts & Literary Arts Scholar-in-Residence at the Bellagio Center. Association of Collegiate School of Architecture (ACSA) Distinguished Professor. He is a founding member of **docomomo** Puerto Rico.