



# Sheer Kahn

29.08.14



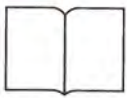
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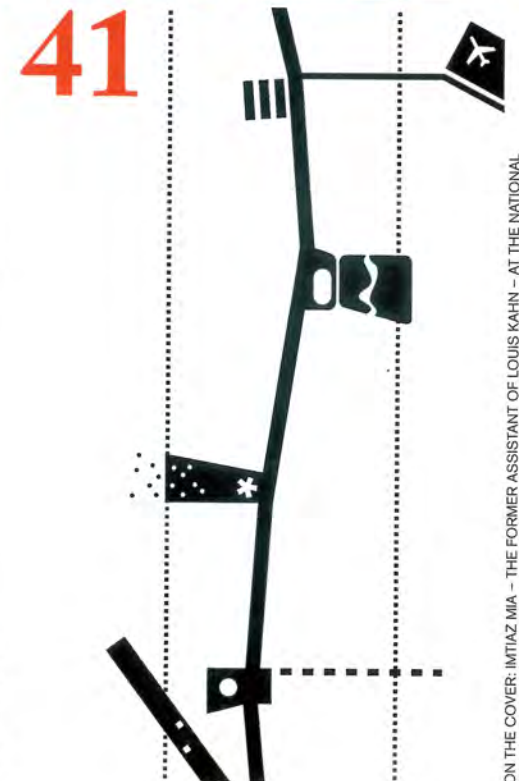
WHITE ARKITEKTER



HEATHERWICK STUDIO



IWAN BAAH



ON THE COVER: IMTIAZ MIA - THE FORMER ASSISTANT OF LOUIS KAHN - AT THE NATIONAL ASSEMBLY BUILDING OF BANGLADESH IN DHAKA. PHOTOGRAPH BY ROBERT RICHMAN

# Natal's other arena

Herzog & de Meuron's simple and elegant pro bono gymnasium strengthens the social fabric of the Brazilian favela of Mãe Luíza, writes *Hattie Hartman*  
Photography by *Iwan Baan*

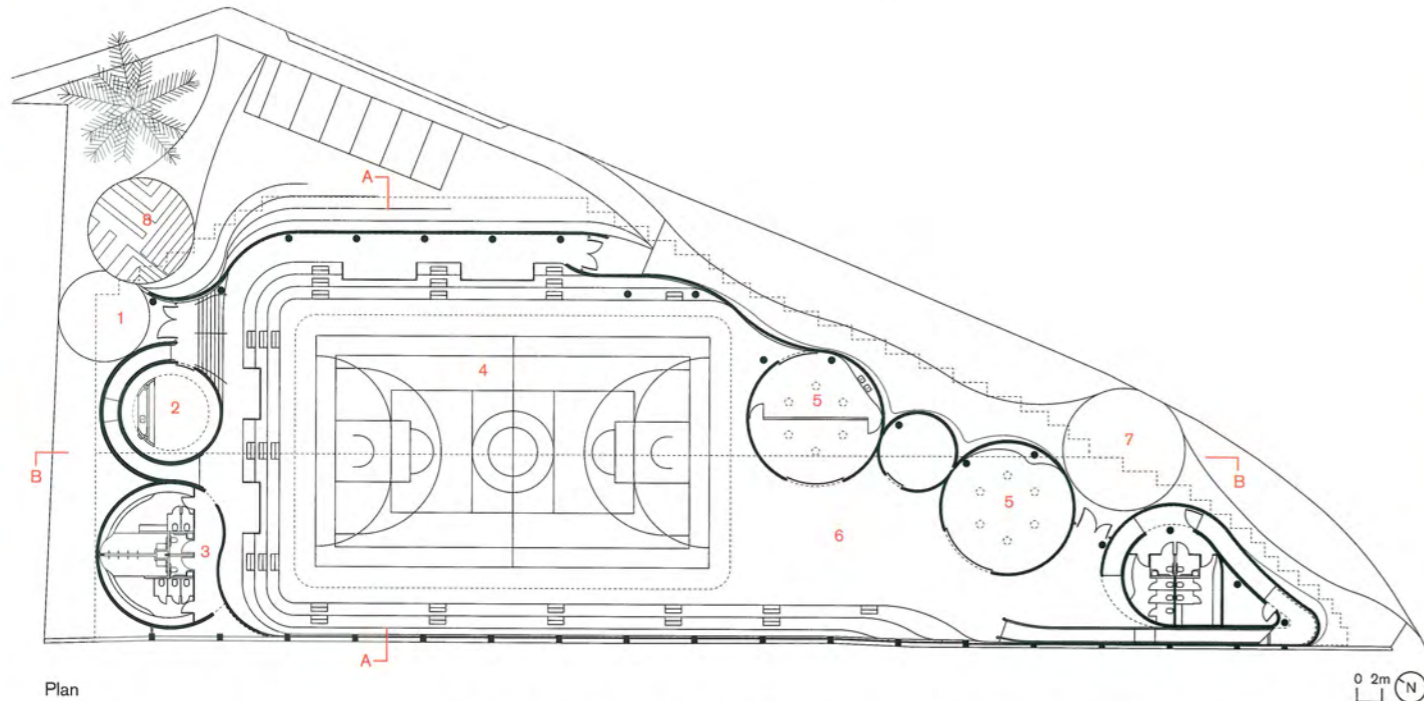


Location plan



**T**he day before I visited Herzog and de Meuron's Arena do Morro gymnasium in Natal, Brazil, a nearby landslide left more than 80 families without shelter in Mãe Luíza, the urbanised favela where the project is located. My meeting was at the local church, also the collection point for donations for the evacuated families, and my guide was Ion Andrade, a paediatrician and vice-president of the Centro Sócio-Pastoral (CSP), a church-based community organisation with more than three decades of involvement in Mãe Luíza and part-client for the gymnasium. We filled the car with bottled water for local residents and set off.

Situated on Brazil's north-eastern coast and capital of the state of Rio Grande do Norte, the Natal metropolitan area has more than 1.3 million inhabitants. As one of the country's 12 World Cup host cities, Natal now boasts a Populous-designed stadium as well as an international airport, reflecting the government's desire to attract European and North American tourists to the region's spectacular beaches. Natal is unique among Brazilian coastal cities >>



Plan

because a state park created in 1977 protects a linear dune along the coast and has kept the city's development at bay from the beachfront.

The tourist maps printed for World Cup visitors make no mention of Mãe Luíza. This neighbourhood of more than 17,000 people occupies one of the map's blank spaces at the city's edge, abutting a stretch of dunes that is not protected as part of the park. Only the Mãe Luíza lighthouse, a prominent landmark, appears on the map.

As we drive down one of the favela's crowded shopping streets, Andrade describes the community work which has culminated in the construction of the Arena do Morro gymnasium. A school, an old people's home, and a healthcare initiative that reduced infant mortality from 65 per 1,000 to 14 per 1,000 over a five-year period are among recent projects, many supported by the Ameropa Foundation, the other client (and funder) for the project. The foundation is the philanthropic arm of Swiss grain and fertiliser company

**The maps printed for World Cup visitors make no mention of Mãe Luíza**

1. School entrance
2. Staff lounge
3. Changing rooms
4. Sports field and stands
5. Multipurpose rooms
6. Lobby and circulation
7. Public entrance
8. Artwork by Flavio Freitas

**Previous page**  
Exterior view of the Arena do Morro with curving walls of bespoke concrete blocks, a reinterpretation of a building material found in every local DIY  
**Opposite** Aerial view of the gymnasium, looking north-west; dunes at lower right

Ameropa, a third-generation family business which has been active in Rio Grande do Norte for over half a century. Herzog & de Meuron designed Ameropa's headquarters near Basel, completed in 2001.

'We could have chosen a cheap structure but I wanted something beautiful, because Mãe Luíza is a special community. I asked Jacques [Herzog] and Pierre [de Meuron] if they would do it for free,' explains Nicole Miescher, president of the Ameropa Foundation's board. Herzog & de Meuron senior partner Ascan Mergenthaler recalls Miescher's appeal: 'You've designed beautiful stadia all over the world and it would be the greatest thing for the kids of Mãe Luíza if they could have a stadium designed by you.'

The architects agreed, on the proviso that they undertake background research on Mãe Luíza first. The result was *A Vision for Mãe Luíza*, a 200-page report prepared in collaboration with the local university, which sets out a plan for strengthening the physical fabric of the community. A key proposal is improved access from the heart of Mãe Luíza to the beach (on which it currently turns its back) and creation of a public park to protect the adjacent dune, following original

proposals by landscape architect Roberto Burle Marx.

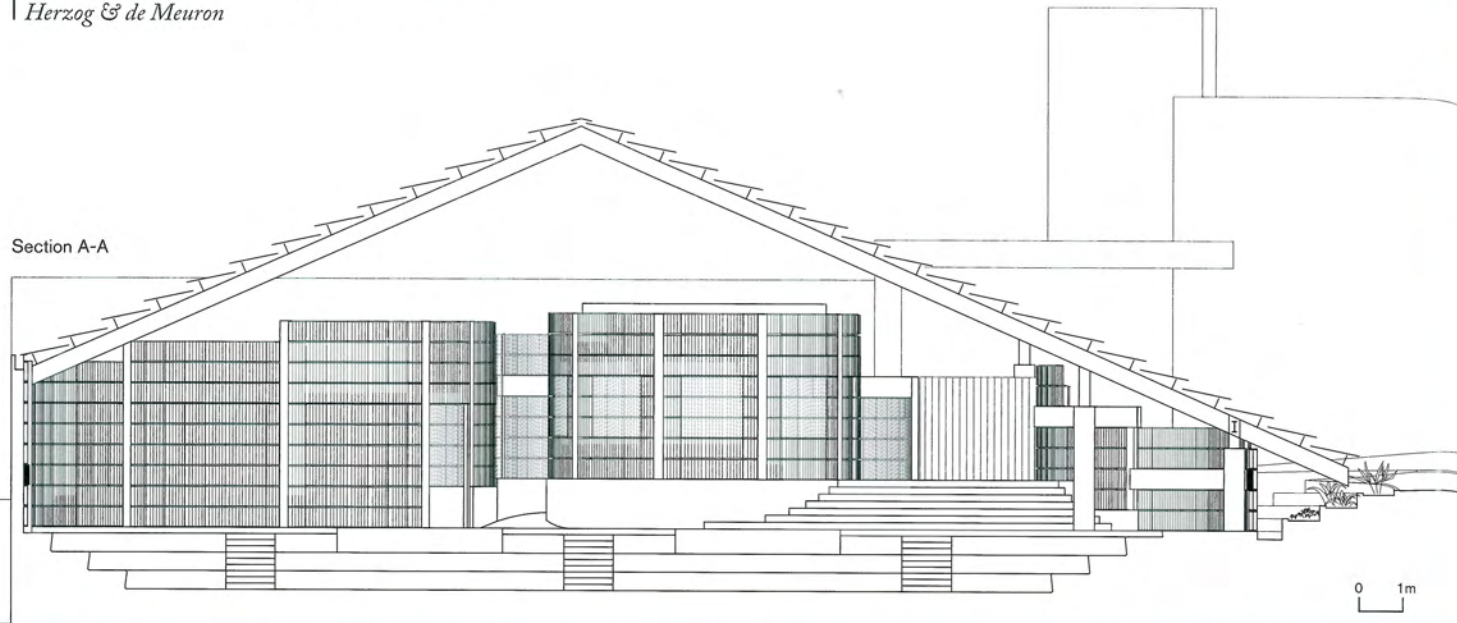
As we pull up to the gymnasium, I am surprised to see a strip of perfectly manicured lawn and wonder if this will turn out to be yet another overblown project parachuted in by international architects. Immediately adjacent is an unrefurbished state school. Once inside, my scepticism dissipates as I take in the play of dappled light through the white aluminium roof and the louvred concrete block walls. The interior is a calming haven from the intense tropical sun and heat outdoors.

The hangar-like building is an exercise in simplicity. Robust materials, sourced or manufactured locally, have been cleverly reinterpreted. Subtly curved exterior walls, circular room enclosures and an irregular eave line complete what is essentially an extruded shed. The whole ensemble appears effortless.

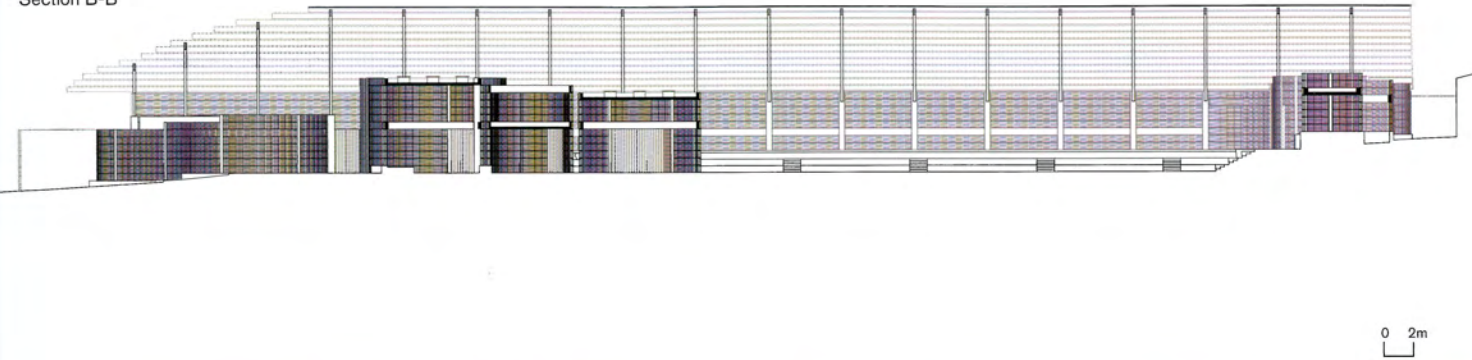
Mergenthaler links the genesis of the project to the roof structure of a former gym on the site. 'It was a very precise line of thinking conceptually from beginning to end. The remainder of the former roof covering the sports field defined the zoning envelope, and it was a straightforward move to extend it virtually over the entire site. We felt that the curvy walls were >>



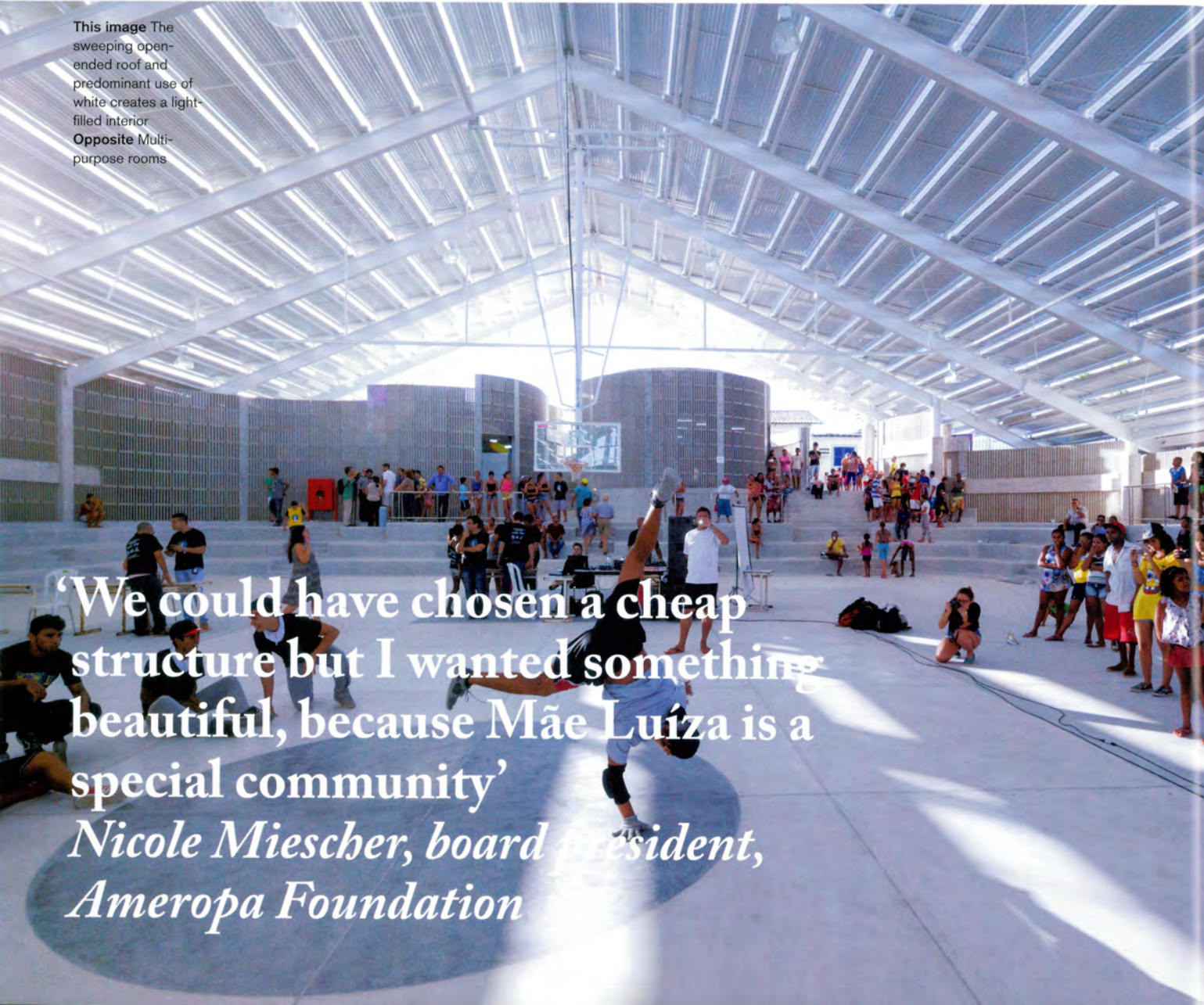
Section A-A



Section B-B



This image The sweeping open-ended roof and predominant use of white creates a light-filled interior  
Opposite Multi-purpose rooms



‘We could have chosen a cheap structure but I wanted something beautiful, because Mãe Luíza is a special community’  
*Nicole Miescher, board president, Ameropa Foundation*





important because the building would be more like a playful landscape: the facade would not be an architectural barrier but more like a membrane, bulging inside and out.'

Large hangars – for industry, sport or festivity – are common in Brazil's north-east. Shelter from sun and tropical downpours is what's needed, and no environmental conditioning is required, particularly if prevailing winds can be captured. What's exceptional here is the quality of light. It shimmers through the gaps between the roof's white corrugated aluminium sandwich panels and steel structure and reflects off the white granilite floor and off the bespoke white concrete blocks of the envelope (see page 38).

The gap between the roof panels was the 'fundamental trick', says Mergenthaler. 'If you build a normal roof, it's pitch black and heat cannot escape; we had the idea of adjusting the steel structure to leave a gap between the panels. It's a normal panel with a standard format and size, which you can buy everywhere. It hasn't been

cut. We played around a lot with these gaps until we reached an ideal overlap, so that you have enough light coming in, but you still cut out enough rain.' Heat that collects under the roof is removed by the breeze.

The impression is a delicacy which contrasts markedly with Oscar Niemeyer's soaring curvilinear forms and with Brazil's Brutalist school, exemplified by Vilanova Artigas and Paulo Mendes da Rocha's work in São Paulo. I'm reminded of Niemeyer's precast Integrated Centres of Public Education, rolled out in Rio de Janeiro in the '90s and wonder if this more modest Lego-like approach could be replicated elsewhere.

It's too early to judge what impact the gleaming gymnasium will have on Mãe Luíza. Miescher and Andrade both recount an incident of favela youngsters who arrived with guns on their first visit to the building and now participate in weekly sports sessions – without their weapons.

In *Radical Cities: Across Latin America in Search of a New Architecture*

**Above** The slotted aluminium roof creates a play of dappled light across the built-in stands  
**Opposite** Concrete blocks form a robust exterior open to curious eyes and the prevailing winds

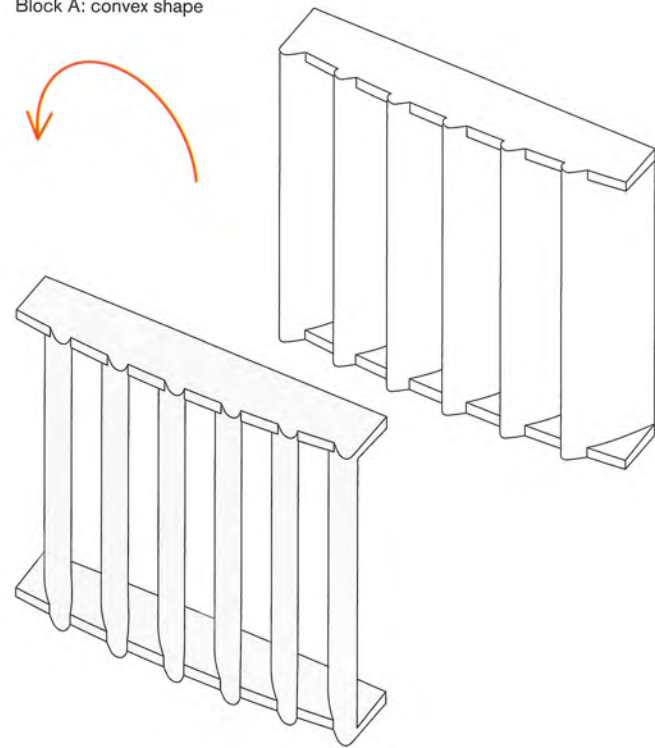
(2014), Justin McGuirk damns the profligate contribution of global starchitects, favouring instead the nimbleness of a new generation of activist architects who perform 'urban acupuncture': small strategic interventions which kick-start communities. In Mãe Luíza, with the guidance of an informed client with deep local roots in the community, Swiss precision has performed elegant acupuncture indeed. ■

#### Project data

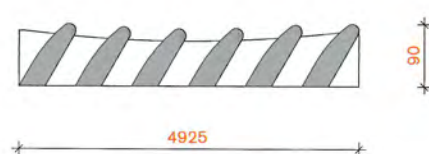
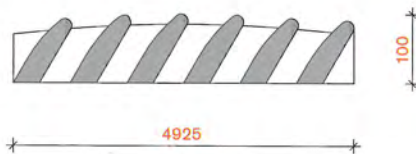
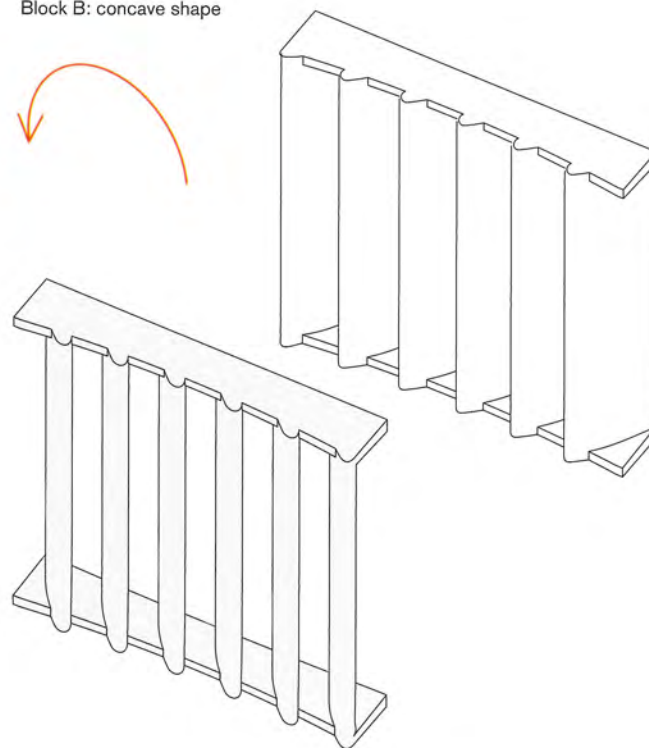
START ON SITE November 2012  
COMPLETION April 2014  
GROSS INTERNAL FLOOR AREA 1,964m<sup>2</sup>  
CONSTRUCTION COST Undisclosed  
ARCHITECT Herzog & de Meuron  
EXECUTIVE ARCHITECT, STRUCTURAL ENGINEER, M&E, LANDSCAPE DESIGN AND SUSTAINABILITY CONSULTANT PLANTAE, Natal-RN, Brazil  
CLIENT Ameropa Foundation and Centro Sócio-Pastoral Nossa Senhora da Conceição  
LIGHTING CONSULTANT Luminárias Projeto  
TRAFFIC CONSULTANT RITUR, Natal-RN, Brazil  
MAIN CONTRACTOR AR Construções  
CONCRETE BLOCK SUPPLIER Pavbloco Comércio e Indústria de Premoldados  
CAD SOFTWARE USED (FOR CONCRETE BLOCKS) AutoCAD and Rhino



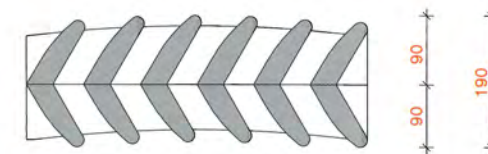
Block A: convex shape



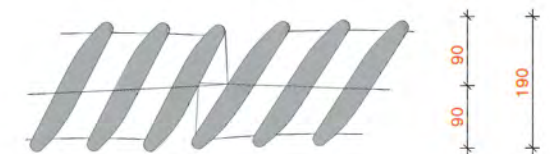
Block B: concave shape



Assembled block A+B (visual privacy)



Assembled block B+A (visual permeability)



## Arena do Morro, Mãe Luíza, Natal, Brazil

Herzog & de Meuron

Prefabricated concrete blocks

The gymnasium's curvilinear walls had to let air in to naturally ventilate the building, while protecting the interior from rain and strong winds. They had to let light in, while providing visual privacy in selected areas.

We met this brief with prefabricated concrete blocks, specifically developed

and manufactured locally for this project. When we visited a firm where off-the-shelf blocks were made, we understood that it's straightforward to make a new mould from stainless steel sheet, which can be welded together in a couple of days.

Each block is slightly curved on one side, either convex or concave, which enabled us to create curving facade surfaces without facets. The two different types of blocks are placed back-to-back to form the walls.

Each block has diagonal vertical fins with smooth edges. These protrude from the block frame to provide

uninterrupted vertical lines when mounted, giving a soft and continuous geometry to the facade surfaces.

The orientation of the blocks and their fins defines the levels of transparency and privacy in the building – from fully open to closed – while allowing indirect light and air in.

Fabrication is like building a sand castle. You fill the forms with wet sand, cement and water, and compact it with a shovel. You immediately turn it around, release the form, and remove the mould. Then it just dries in the sun. *Ascan Mergenthaler, partner, Herzog & de Meuron*

Right First prototype concrete block  
Far right Concrete block wall construction

