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RON ARAD'S DESIGN MUSEUM IN ISRAEL

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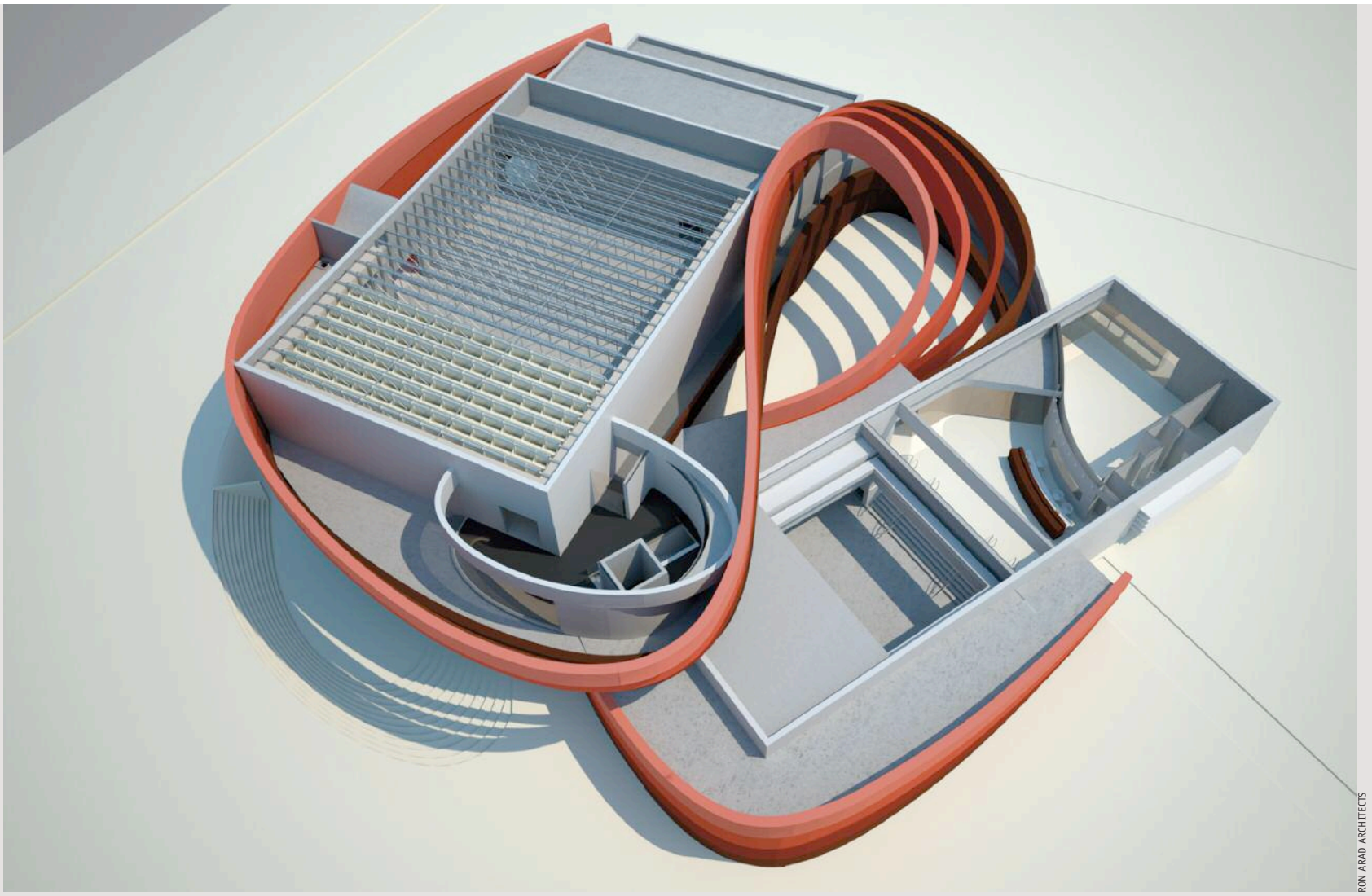
PLUS 50 OF THE BEST UK DESIGN GRADUATES

Below: Drawing showing the layout of Ron Arad Architects' Design Museum Holon in Israel, which is due to open in February 2010 (see page 26)

EDITORIAL



RON ARAD ARCHITECTS

As a prolific designer, Ron Arad is never really out of the design press. But now is his big moment, as his first US retrospective opens at MoMA and the finishing touches are made to the Design Museum Holon (see feature by Tim Abrahams, page 26), close to where he grew up in Tel Aviv. Designed by the new architectural department of Arad's office, which is headed up by Asa Bruno, it is Israel's first design museum.

Arad and Bruno have gone to great lengths: helping to develop a brief that progresses the typology of design museums, and investigating new construction techniques and materials, in particular an amazing coating for Cor-Ten steel.

A Tel Aviv hero from a different era, Bauhaus architect Munio Weinraub played a major role in shaping the modernist city. In our reviews section (page 65) Jane Czyzselska writes about the interesting relationship between his architecture and the work of his filmmaker son, Amos Gitai.

A large section of this issue is devoted to the final projects of design and architecture graduates around the UK. For an ambitious feature coordinated by Peter Kelly, we recruited a panel of experts to discover the best work in universities around the country (page 37). The results are inspiring and we wish the best of luck to all these talented graduates.

In Produce this month (page 57), it's the turn of architecture tutors Adrian Friend and Rashid Ali to tell the story of a student project from their point of view. In the January issue of Blueprint we reported on Nottingham University's aim to design and build a nursery in Jouberton, South Africa, and I must admit to being critical of the political impact of such a project. But seeing the commitment and maturity of the group of second- and fifth-year students who have constructed a gorgeous building for 120 children, it's impossible not to be full of admiration.

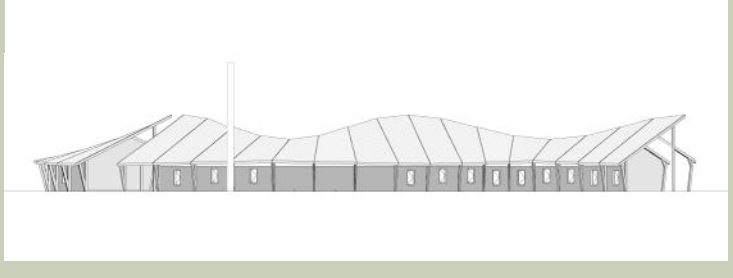
One small gripe about students though: the proliferation of projects that look at urban agriculture and eco-doom scenarios is incredibly tiresome. No doubt these are ideas being foisted on students by earnest professors, but perhaps some of them could question the brief and design architecture and products for a better (rather than worse) future world.

The modernists of Tel Aviv, may not have foretold the war their country is now embroiled in, but their hope for a new society resulted in a wonderful city.

On that note, please make sure to visit Blueprint's exhibition Paper City: Urban Utopias (generously sponsored by our brilliant printer Stephens and George) which is at the Royal Academy, 31 July to 27 October. We are pleased to publish two new contributions to our back-page project this month drawn specially for Blueprint by Javier Mariscal (page 15) and Andy Council (page 82).

Vicky Richardson, editor

This year a group of second- and fifth-year **Nottingham University architecture students**, led by their tutors Adrian Friend and Rashid Ali, designed and built a nursery in a South African township. *Adrian Friend* reports on their joint endeavours



'Proceed and be bold'. The words of Samual Mockbee, the legendary founder of Rural Studio, were ringing in my head as I left a meeting with Nottingham University's head of architecture, Professor Tim Heath, last March. Johannesburg NGO Education Africa had gifted the School of Architecture a live-build project, a new early learning centre for the Jouberton township, that would be led by me and my teaching partner Rashid Ali.

Was this going to be mission impossible? To inspire 180 second-year students to design individual projects; select a winning design; interview and skill-up the team of 40 who would then fly to South Africa in the third term to build and complete before the arrival of the visiting examining board? Combined with a need to generate sufficient funds to fuel the construction and buy the flights, preparation seemed more like that needed for a NASA Apollo moon landing, with little margin for error. The biggest fear, to be forced to leave a half-finished project and return to the fall-out in the wake of wasted monies, was unthinkable.

Students would be designing for a culture and landscape they knew little about and that they could not visit in advance. It might as well have been the moon and this did little to quell one's own first impression that the project could be a crude way of assisting a poor township; lacking in the necessary skill transfers needed for sustained development and the creation of a new 21st century third world empowerment.

Without a site visit nor a community meeting – incidentally an approach anathema to Rural Studio

Above: Courtyard view of the completed Junior Early Learning Centre in Jouberton, which opened at the end of July

Left: Elevation as seen from the street

– we began multiple design studies in volume, form and light. This creative design process that we so enjoy makes architecture an art informed more by ways of working and less about a focus on a completed building. A subtle, but ultimately empowering approach to design, it can, however, also run the risk of losing a connection to the real world. We tried to address such concerns by organising a complementary set of lectures and workshops exploring kindergarten prototypes, climatic conditions and local construction.

With our own unit of 28 students, Rashid and I took a different approach. We found that the excessive study of context and nursery typologies in similar climates was having undue influence on their ideas. There also seemed to be a pattern of projects that were overly pragmatic, with a typical double roof sheltering simple spaces, without strategies for spatial arrangement or material application. We asked them to consider adopting a more abstract and poetic approach by looking at site qualities and characteristics such as the immediate horizons, landscape, colours and material textures.

From their research and understanding of such issues they developed a spatial composition in the form of a drawing and a model that communicated ideas to do with boundary, mass, opening, enclosure, landscape, structure and their relationships. At this stage we were not interested in articulation but in formal relationships that would be further developed through models in a range of materials. We made it clear that this was not to be approached as a design exercise but rather as the starting point of a process to be explored in different scales.

Each unit put forward three schemes and in December, a panel of the school's lecturers and tutors convened to select three of the long-listed 18 projects, that would be further developed. These were by Paul Challis, Michael Ramwell and Will Gowland.

Choosing an overall winning project was a daunting task as all three were very strong ideas. We finally selected Gowland, who had taken the approach of our unit and further developed it to create a meticulously researched scheme, with the least uncertainties regarding

Above: Internal courtyard elevation. The purpose-built nursery has a capacity for 120 children

Right: The previous nursery was a simple tin shed for 80 children

its design, structure, materials, details and buildability. The six-week construction programme, within which the chosen project had to be completed, also informed our decision-making. It became clear that the scheme had to at least contain an element of pre-fabrication, instead of the masonry techniques prevalent locally, which would have proved challenging and time-consuming for unskilled builders.

In the meantime, we drew up a list of students who would develop the chosen project in the second semester and go on to build it. The project generated a great buzz within the school, with over half of the year applying to participate. Choosing suitable candidates was an impossible task as students at this stage of their education have little or no building experience. Our criterion above all other qualities was an ability to communicate with different people and to be at ease in a different cultural context. We selected a team of 36 students consisting of 28 second years and eight fifth years to detail the winning scheme, as well as to deal with fund-raising, source building materials and make travel arrangements.

Over the course of February and March we divided the team into groups, each led by two fifth year students. The groups researched and developed specific aspects of the project such as groundworks, superstructure, material sourcing, budget and so on. As well as working on an individual package, the students also coordinated their findings and decisions with their colleagues who were focusing on other areas.

Two of the five timber trusses that form the structure were built on campus and raised with ropes to test our ability to erect them without a crane. Naturally the students experienced difficulties in taking the project forward during this period as they were working with an entirely bespoke scheme in which generic details or products were inappropriate. Most of the students were unfamiliar with standard drafting packages, which made standardization and transfer of drawings between them difficult.

By the middle of March 2009 all the information was collated. We hoped to have the concrete slab ready

Left: Setting out the trusses in week three. Students on the far right fix hurricane joist clips

Right: Erecting the trusses in week four. Each truss was originally planned to be manually erected, as was the mock-up completed in Nottingham. But with heavier South African timber and limited time, the team resorted to hiring a crane

and timber trusses in production before we arrived but this was stifled because potential contractors were slow to supply quotes.

On 21 March we flew out to South Africa to be greeted at the airport by the Junior Early Learning Centre teachers who would be working in the new school. On arrival in the mining town of Klerksdorp (The City of Matlosana, about 200km west of Johannesburg) we met the Mayor of Matlosana and project stakeholders Anglo Gold Ashanti who had purchased the site for the new school and provided accommodation for the students.

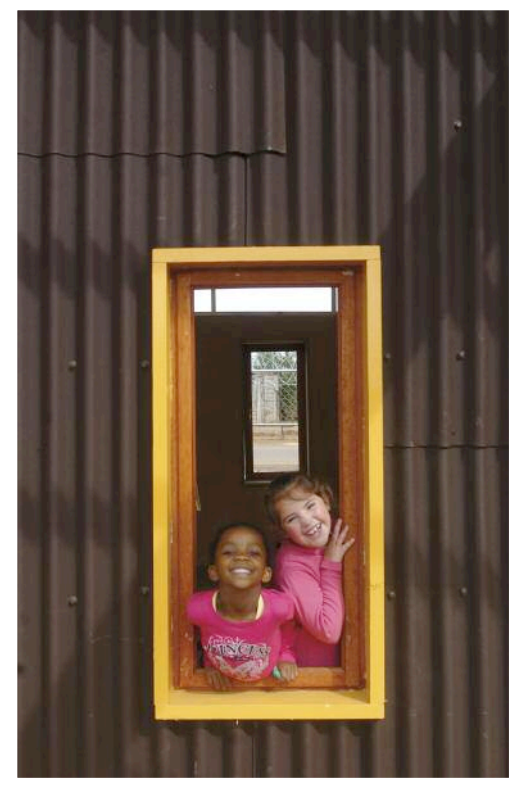
Anglo Gold Ashanti was the vital third link in our project and on the first day they put us in touch with a local builder, Vision Build, that agreed to source as much of the building material as possible from suppliers through its accounts. This was a wonderful piece of luck as we didn't have to wait around for payments to go through via Education Africa. It was simply a task of visiting building suppliers and picking up materials under the contractor's name with a builder's discount. We were now officially builders and site managers for the next seven weeks.

Our first week in Jouberton was spent clearing and levelling the site, setting out, digging trenches and forming the reinforcement cages for the foundations. In the middle of week two we dispatched a team to a local timber yard to cut the trusses while others continued to prepare the groundworks and refine the drawings.

It turned out that some of the timber sizes we had specified, such as the 200mm x 50mm for the trusses, are not cut in South Africa. Instead, we used 228mm x 50mm, which meant it was impossible to transport the resulting half tonne of assembled trusses to site. We opted to have all the pieces cut at the yard and transport them to site for assemblage. The largest component of the building was the superstructure formed by the trusses, which also accounted for half of the budget.

Most of the team spent weeks two and three manually sanding the rough-sawn timber and drilling and assembling the 27 trusses on the ground to have them ready for crane erection in three days. Once done, at the beginning of week four we focused on fabricating the timber cassettes forming the courtyard-facing wall and the purlins between the trusses. Each cassette formed a room enclosure that was then clad in black Onduline, a French cellulose-bitumen roofing product, which had recently started being manufactured in South Africa. The clerestorey 'eye-lids' that allow sunlight to flood in were going to be blocked-in with timber sheeting until we discovered an affordable way of cutting clear, acrylic templates from Ellaton Mining Supplies.

Throughout the construction process the students worked tirelessly to get as much as possible donated and sponsored. Trees for Africa



Above left: The entrance will be lined with trees from charity Trees for Africa

Above: Dark brown Onduline roofing made a quick-fix wall cladding

Left: The construction team plus volunteers from the township

donated 50 trees and South Africa Breweries donated sports drinks. In total, as much as 20 per cent of the project materials were donated or discounted.

With the seven-week deadline looming large, opportunities to be tourist for the weekend were limited and students were working from 7am to 7pm every day. Under any circumstances it is an art to complete a project on time, and there were doubts as late as week four. However, happily we did complete on the scheduled day and the school was blessed by the local minister before students shared a farewell 'brai' (barbeque) with the community.

On reflection, all who participated felt rewarded by the fact that we made a genuine difference to people's lives. Our students formed an incredible bond with volunteers and the local community and gained a priceless experience that will hold them in good stead in their own lives regardless of whether they pursue architecture as a career.

Aside from the obvious personal reward, how sustainable was what we created? In his book, State: Civil Society Relations in Post-Apartheid Africa, Adam Habib argues that since 1994, the government has been increasingly informed and influenced by various active groups that create the post-apartheid political and social culture. A distinct relationship has been built between much smaller organisations, political groups and NGOs, like Education Africa, and central government, that has resulted in longer-lasting changes to the lives of poor and marginalised citizens.

Increasingly, Education Africa is involved in Early Childhood Development and assists teachers with the implementation of the school curriculum, offering continuous on-site follow-up support. To see the Junior Early Learning Centre, now affectionately called Noah's Ark by the community, transformed from a tin shack into an inspiring place to study has allayed our initial fears associated with designing a project 11,000km away in the UK. It is clear that this project is part of a broader political effort by organisations such as Education Africa.

In addition, the students witnessed the fourth democratic general elections, won by President Zuma, encouraging the belief that the developmental state can play a central role in the economy.

Could this project inspire a similar programme within a South African school of architecture? I doubt it. The economic gearing of the first world still eclipses the third world. Even privileged South African architects could not have raised the 650,000 rand (£50,000) in six months needed to buy the building materials. If they could then the demographic of South Africa would change overnight and the unemployable (50 per cent of the unemployed) could be educated in buildings like ours that inspire and unite poor communities.

Right: External walkway showing the colourful entrances to the classrooms

Below: The finished nursery at night, viewed from the courtyard

University of Nottingham Students

James Boon
Adam Casey
Paul Challis
Michael Clarke
Amy Conneely
Samuel Critchlow
Alex Eagles
Jo Edmonds
Victoria Fabron
Mohieldin Gamal
Laura Gaskell
Simon Gomm
Will Gowland
Emma Harvey
Jon Hore
Anna Hutnik
Helen Jones
Adam Kelly
Danial Ladyman
Rachel Lee
Uma Mahendran
Jessica Morrison
Jeannine Moros-Noujaim
Tom Partridge
Harriet Pillman
Matthew Powell
Minneshpal Rai
Michael Ramwell
Selina Shah
Hayley Shepherd
Poppy Trevillion
Cassandra Tsolakis
Heather Brand-Williamson
Tom Wing
Matthew Wingrove
Wong Yuk Lan

Volunteer Architects

Ruth Cuenca-Candel
Ignacio Traver