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CONGRESS CONTRIBUTION

THE UIA 2014 DURBAN CONGRESS is over. What an excellent event it was! Thousands of architects and students, an imaginative theme, fine keynote speakers, hundreds of papers, workshops and meetings, and exhibitions of everything one could imagine. A much deeper-than-usual mix of nationalities among the participants, according to those who have attended previous congresses. Perhaps the most stimulating part of it was social – rubbing shoulders and sharing ideas in the long foyer of the Inkosi Albert Luthuli International Convention Centre with architects from all over the world. I will have many lasting memories: of a group of young(ish) South African architects, thrilled with the presentation of a Brazilian speaker, ‘kidnapping’ her and dragging her around for the rest of the day to continue the conversation; of the extraordinary diversity of age and ethnicity in the groups of a Global Studio workshop, all stretching their minds about the future of architectural education; of the warm accolades at the opening of Rodney Harber’s exhibition.

The ‘Otherwhere’ theme elicited a number of outstanding architects who represented this ethos. They were articulate, expressive, profound and amusing. Diébédo Francis Kéré (Burkino Faso), Susannah Drake (USA), Rahul Mehrotra (India) and Wang Shu (China), to name a few, in really absorbing presentations, elaborated the theme through the perspective of their own work. They were intelligently balanced in the programme by equally impressive talks by architects of considerable ideological difference – which generated instant discussion and debate in the lobbies.

The ‘team’ of South Africans who introduced the main sessions created a framework that was well-prepared, thought-provoking and brimming with integrity. Nothing represented this better than the calm presence of the head of the scientific committee, Amira Osman, while the keynote address of SAIA president Sindile Ngonyama, mixing tough critique with benign warmth, was redolent with it. Indeed, the whole programme’s structure, content and presentation was a well-judged coordination of rich individual capacity and determined collective focus. Hassan Asmal, president of the organising committee, Karen Eicker, commissary general, and everyone else involved, merit full congratulations and deep thanks from the South African profession. Through managing a complex and stimulating Congress, they made a powerful contribution to the local and international discourse at a time of substantial need for re-evaluation. They did a great service to the local profession by showing architects from around the globe our work and our thinking, without ever lapsing into nationalism or nostalgia.

How appropriate it was and how synchronous that this year’s Sophia Gray Memorial Lecture and Exhibition should have been given by Mashabane Rose Associates, a firm whose participation in reframing the architectural landscape post-1994, through projects which record and memorialise the apartheid past and its downfall, has been a vital one. Of course, the firm is not unique in this respect. However, many of the projects it has completed, or tackled in competition, have been of national symbolic merit full congratulations and deep thanks from the South African profession. Through managing a complex and stimulating Congress, they made a powerful contribution to the local and international discourse at a time of substantial need for re-evaluation.

They could easily have fallen for the temptation of projecting the shift of power relations through ethnic or nationalistic imagery. Instead, in recording the pain of old divisions and celebrating the changes, the projects refer respectfully to their locality and to local traditional built form, but the ambience they create is free, dynamic and forward-looking.

The Nov/Dec issue of Architecture SA will be devoted to the UIA 2014 Durban Congress.
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EDITOR’S NOTES
01 CONGRESS CONTRIBUTION
Julian Cooke

NOTES AND NEWS
04 REBEL ARCHITECTURE – TV SERIES
MORE ACCURATE STATS, PLEASE
Baliwe Sibisi
Simone le Grange

FIELD NOTE
05 SHAFTED CITIES AND THE NEO-NOMADIC METROPOLIS
OF TOMORROW
Heidi van Eeden

THEME: SOPHIA GRAY MEMORIAL LECTURE
12 LANDSCAPE, HISTORY AND CONTEXT
Mashabane Rose Associates
Phill Mashabane and Jeremy Rose

EXHIBITION REVIEW
Mashabane Rose Associates: Designers of ‘Social Situations’
and Crafted Objects
Walter Peters

AWARD PROGRAMME
33 AFRISAM-SAIA AWARDS FOR SUSTAINABLE
ARCHITECTURE – FINALISTS
Editor and jury citations

37 HOUSE JONES
ERA Architects
Ken Stucke

39 MONAGHAN FARM
Claude Bailey Design & Architecture
Anna Claude Bailey

COMMENT
46 ARCHITECTURE IN THE LANDSCAPE
Bernard Oberholzer

TECHNICAL
51 SHADING AND FENESTRATION DETAIL
Mike Louw

PERSPECTIVE
53 NOT OPEN: NOT CLOSED
Nic Coetzer

BOOK REVIEW
53 25 SOPHIA GRAY MEMORIAL LECTURES AND
EXHIBITIONS 1989–2013
Editors: Henry Pretorius, Wanda Verster, Marga Viljoen
Publisher: University of the Free State, 2014
Reviewer: Roger Fisher

END PIECE
57 ARCHITECTS WITHOUT ARCHITECTURE: ARCHITECTS
AND THE ART OF PHOTOGRAPHY
Roger Fisher

INDUSTRY NEWS
60 THE LATEST IN INDUSTRY NEWS
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TV SERIES PROFILES ‘REBEL’ ARCHITECTS

AL JAZEERAH, the Qatar-based broadcaster, has started a major series of documentaries called Rebel Architecture, to be screened over the next few months. The series profiles architects around the world who use design as a form of activism and resistance, turning away from elite ‘starchitecture’ to design for the majority.

One of the episodes focuses on Africa. Episode 5, Working on Water, looks at the work of Nigerian architect Kunlé Adeyemi. Adeyemi is pioneering floating buildings to solve the issue of flooding and land occupation that affects hundreds of thousands in Nigeria and other African coastal cities, including the 85,000 residents of the Makoko slum in Lagos. His studio has come up with an easy-to-build, low-cost, sustainable prototype for a floating building – one of which is already coveted by an overcrowded school in the area. Despite winning numerous awards, however, Adeyemi is still struggling to get approval from the authorities to roll out the prototype.

Other episodes in the series include Guerrilla Architect, looking at Seville’s most subversive architect Santiago Cirugeda; A Traditional Future, which features Pakistani architect Yasmeen Lari, who uses traditional building techniques to rebuild villages in the flood-damaged Sindh Valley; The Architecture of Violence, in which Eyal Weizman explains architecture’s key role in the Israeli occupation of Palestine and the evolution of urban warfare. In Greening the City, architect Vo Trong Nghia attempts to return greenery to Vietnam’s choking cities and design cheap homes for those excluded from Vietnam’s rapid growth, while in The Pedreiro, and the Master Planner, Ricardo, a Brazilian pedreiro makes his living as an informal builder in Rio’s Rocinha, but it seems the government has a different plan for the future of the favelas.

ACCURATE STATS, PLEASE

Dear Editor
I am a loyal reader of the Journal of the SA Institute of Architects. In Issue 67 (May/June 2014), I came across an article by Simone le Grange about teaching architecture in South Africa. I was delighted to see that what has been bothering me has been addressed in the magazine for others to see and hopefully react to solving such a problem.

However, the information given does not appear to be accurate. I am a 2011 UCT graduate who took exactly three years to complete my BAS. I was not the only black person to do this. The diagram on page 44 does not reflect any numbers for black graduates (from 2000 to 2012). However, a percentage is given and I was wondering where it comes from.

This shocked many in our office who read the article. Why was the black-student-who-took-three-years column blank when the columns for all other races were filled in? I was also uncertain whether the ‘black’ column referred to South African black students or included foreign ones? I am grateful that this article was published, but wish that it was accompanied by more accurate information. Without the correct figures, one cannot understand the problem fully. Please enlighten.

Baliwe Sibisi, Cape Town

AUTHOR’S RESPONSE

Dear Baliwe
Thank you for your sincere and considered response to my article from Issue 67, ‘Teaching Architecture in South Africa Today’. You are absolutely correct – it is imperative that these statistics are accurate. Thank you for pointing out the mistake. I have corrected the table.

Simone le Grange

<table>
<thead>
<tr>
<th>Graduating class of</th>
<th>BLACK</th>
<th>COLOURED</th>
<th>CHINESE</th>
<th>INDIAN</th>
<th>INTERNATIONAL</th>
<th>WHITE (total, South Africans and Black)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of black enrolment</td>
<td>% of coloured enrolment</td>
<td>% of Chinese enrolment</td>
<td>% of Indian enrolment</td>
<td>% of international enrolment</td>
<td>% of white enrolment (total, South Africans and Black)</td>
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<td>2006</td>
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<td>2007</td>
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<td>2008</td>
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<td>2010</td>
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<td>2011</td>
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<td>2012</td>
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<td>3.0%</td>
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<tr>
<td>Grand total</td>
<td>60.0%</td>
<td>112.0%</td>
<td>76.0%</td>
<td>76.0%</td>
<td>76.0%</td>
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<tr>
<td>Average</td>
<td>42.0%</td>
<td>52.0%</td>
<td>100.0%</td>
<td>67.0%</td>
<td>65.0%</td>
<td>70.0%</td>
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</tbody>
</table>
IF YOU’RE READING THIS, then congratulations! You survived the apocalypse.

Now, as we bask in the aftermath of the recent Orkney non-disaster, here comes the after-shock. In the history of South Africa, there have been a total of 11 recorded earthquakes. Of these, seven have occurred within the past two years. It is believed that 95% of these earthquakes (or 10 of the 11), have been caused by, or are directly related to, mining activity. The Platinum Belt falls in the vicinity of the African Rift system, a trans-continental fissure pockmarked with volcanoes and the Great Lakes, as well as an impossibly rich trajectory of mineral resources. It also happens to be the largest seismically active rift on Earth today, and is in the process of splitting the entire continent into two separate tectonic plates. The more we mine this belt, the more unstable the rift becomes, and yes, the more frequent these earthquakes will potentially become.

Mining is not only causing geological instability, it is also yielding a global architectural reality which is as unstable and unpredictable as the ground beneath our feet. In past centuries, entire cities and informal settlements were established around the presence of mines, with migrant workers and families settling on the peripheries of these industrial chasms. Now, with many mines reaching the point of final collapse, either as a result of total resource depletion or due to some unforeseen catastrophe, mining towns are drying off at an alarming rate.

Some of these towns, however, are simply seeing this as a transition. Around 1920, the town of Hibbing, Minnesota, was forced to relocate nearly 200 structures, including several large buildings, 3km south to the nearby town of Alice, to make way for a growing iron ore open-pit mine. Alice was later renamed South Hibbing. More recently, Kiruna, a small town in northern Sweden, has also been confronted with extinction. For the past few decades, the town has increasingly been threatened by giant fissures, which are snaking their way towards its urban centre from the bordering mine. Powerless to stop the consequences of a still active mine, Kiruna is planning to shift the entire town 3km east. As the mine gradually consumes the old town, historical buildings will be meticulously disassembled and rebuilt in Kiruna’s new location, while 20 000 people will relocate to new houses. While the architects and urban designers are planning to retain the integrity of the original town, the design of the new metropolis also intends to learn from its predecessor in order to create a better, more sustainable and vibrant Kiruna.

The possibility alone should be enough to bring tears of joy to the eyes of any utopian modernist.

This stirs some archi-philosophical questions: Will this new Kiruna be the same town or is a new town created, and destroyed, every time it relocates? If it is neither the physical geography nor the buildings which define a city, what then? If it is the people, then surely cities should die with their patrons? If it is the name, then South Africa has sprouted innumerable new cities over the past two decades.

Notwithstanding, the whimsical fantasy, a modern-day neo-nomadic megalopolis which is able to rebuild itself using the stones and memories of its past to generate entirely new urban spaces and buildings, is breathtaking. As threats of global climate change and resource depletion rise along with sea levels, the concept of travelling towns like Kiruna and Hibbing may be the future of urbanism and the salvation of our cities.

In this future, not dissimilar to that proposed by Archigram in the early 1960s, cities become mobile entities – massive architectural caravans which are able to travel like the nomadic tribes of long ago – moving from place to place in search of resources or in order to avoid (un)natural disaster. Each time these transient cities rebuild themselves, they will change – in reaction to their new geographical location, to shifting demographics and to urban lessons learnt from all of their previous versions. As the hollowed landscapes beneath us shift and change, so the urban landscapes before us may shift and change and move and adapt. An apocalypse of our own making really is on its way. Acid mine water levels are rising beneath Johannesburg, the Platinum Belt is fast becoming earthquake territory and Africa is literally splitting apart at its seams. It is time to address the consequences of mining and save us from ourselves.

We may need to redefine our understanding of the poetics of tectonics first.
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**REQUIREMENTS FOR EACH CLIMATE ZONE WITH SAVINGS**

<table>
<thead>
<tr>
<th>Climate Zones</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climatic conditions</td>
<td>Cold</td>
<td>Teppe</td>
<td>Hot</td>
<td>Temperate</td>
<td>Sub-tropical</td>
<td>Arid</td>
</tr>
<tr>
<td>Minimum required Total R-Value (m²K/W) for roof solar absorption of more than 0.55</td>
<td>3.7</td>
<td>3.2</td>
<td>2.7</td>
<td>3.7</td>
<td>2.7</td>
<td>3.5</td>
</tr>
<tr>
<td>Direction of Heat Flow</td>
<td>Up</td>
<td>Up</td>
<td>Down &amp; up</td>
<td>Down</td>
<td>Down</td>
<td>Down</td>
</tr>
<tr>
<td>Total R-Value (high volume 100-135mm) with traditional membrane</td>
<td>3.67</td>
<td>3.37</td>
<td>2.39</td>
<td>3.37</td>
<td>2.99</td>
<td>3.87</td>
</tr>
<tr>
<td>Total R-Value (low volume bulk fibre 50-75mm) with Radenshield™ Double-sided or Single-sided</td>
<td>3.96</td>
<td>3.37</td>
<td>2.74</td>
<td>3.96</td>
<td>2.74</td>
<td>3.94</td>
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<tr>
<td>Estimated Cost Saving</td>
<td>25%</td>
<td>15%</td>
<td>33%</td>
<td>25%</td>
<td>33%</td>
<td>25%</td>
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</table>

Total R-Values are based on the sum of all components of the building system including indoor and outdoor air films, building materials used in the system and air spaces. Assuming 1,200m² house with roof pitch of 24 degrees. Ceiling 200m² / Roof: 131m². Roof space: 0.49. Savings may vary based on current market values and are not guaranteed.

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FORMED IN 1995, Mashabane Rose Associates Architects and Urban Designers has always been involved in projects in the heritage sector. Early in our practice, we were commissioned to do heritage reports on sites in and around Soweto that encompassed personalities and events that formed part of the liberation struggle. Some of these reports formed the basis for projects that we had to motivate funds for to become real projects. Eventually they went ahead, but it often took a few years and several presentations to move forward.

Driven by a belief that these projects would impact positively on our divided society and assist people exposed to human rights violations, we felt in some way we were engaging in the wider process of healing and reconciliation.

I remember when we completed an exhibition in Cato Manor, the cleaning staff hired to tidy up afterwards stopped work and watched the videos and later wept when they saw that the history being presented was theirs – specifically, the race riots and beer hall riots that occurred in 1949 and 1959 respectively. This seemed to make it worthwhile: we were telling their story and placing these stories firmly in the public domain. We had a similar reaction when a group of grandmothers arrived at a Hector Pieterse Museum community meeting with newspaper clippings they had kept for almost 25 years – they attended the meeting to make sure the project was telling the story of the school children and uprising. At the time, there was a commercial development proposed by Soweto business groups comprising of a hotel and shops trying to win support from the community. These community meetings and the commitment of the participants shaped the outcome of the Hector Pieterse Museum and continue to remind us of the value of this work.

Substantial research lies behind these projects. Historical, social and spatial landscapes were unpacked to begin to understand the particular moment in history being commemorated. Multi-disciplinary teams of historians, filmmakers, picture researchers, architects and curators were assembled. It was better to have a deeper understanding of the event – this understanding often gave the project stronger meaning in its context.

As architects, the context in which we build matters more than just the architectural context – there exists too a narrative to reinforce in these unique historic settings. This special significance is at the centre of our concerns when considering how to act as architects on the design of the interior and exterior, and how we engage with the urban precinct and all its dynamics. Powerful visual forms of history are required where these narratives have been previously overlooked in favour of the English and Afrikaans histories of colonialism and industrialisation.

Phill Mashabane has served on several public bodies, including the National Monuments Council (NMC) and the South African Heritage Resource Agency (SAHRA). More recently, he served a term as the president of SACAP. His work and time spent in these sectors has contributed to our practice’s substantive understanding of the value of history and memorialisation.

COMPETITIONS
Another unique aspect of our work over the past 18 years is our passion for entering competitions. We have entered all of the
large-scale competitions in South Africa and many international competitions. Much of our built work has come out of a significant number of these winning entries. Not all of the projects we won, however, progressed to the next stage, but this does seem to happen in a politically-charged decision-making environment.

Some of our more sculptural work has been developed in competitions and has taught us a lot about the making of form and the generation of a conceptual architectural idea that is new and interesting. There is no doubt the competitions impacted on our later built work. We see this in projects like the Canadian Museum for Human Rights, for which we were shortlisted as one of eight, having conceptual similarities with the Freedom Park Museum project and the Golden Gate project.

We always have very talented young architects working with us to help make some of these works – they are passionate and immensely hard-working. Days and nights are given up for the making of a significant piece of architecture which may only remain in drawings and models, but it always seems worth it as we are originating something new. Fortunately, we have often been shortlisted for our entries and have been able to recover some of the enormous costs of handmade wooden models and beautiful drawings.

Our approach to competitions has been to work on a narrative idea or construct that is suggested by the brief and to find spatial concepts that reinforce this. Hand sketches are made to capture these ideas as they evolve. We have also made some very beautiful plans and site-plan drawings to capture the spirit of the idea as best we could.

We make use of handmade models to explore some of the ideas and find this medium powerful even if the ideas morph or are abandoned – they are a necessary part of the process. A conversation in the office develops around the scheme which is constantly updated as we think through the idea – we keep talking about it as it has a way of evolving into a clearer narrative with a single expressed idea. Word pictures are remarkably powerful for the visually and spatially literate, especially among a group of passionate and dynamic designers.

The lecture is titled ‘Landscape, History and Context’ as these words are recurrent in our work at different intensities. In some instances, landscape may refer to the social, political or physical landscape. The word is used more openly and metaphorically. History is intertwined with memory and context refers to the importance of the contextual architectural landscape, which in our view should always be considered, reinforced and improved.

THE NATION-BUILDING PROJECTS

This refers to the group of projects that contribute to transitional justice, national healing and reconciliation, and lead to a deeper understanding of our complex history.

1 Hector Pietersen Museum, SOWETO

The site for this project was at a point of convergence of a road system and the historic marches that took place in June 1976 when students set out for Orlando Stadium.

With the closure of one road, we were able to form a building fronted by a public open space in the centre of Orlando West, that is unfenced and today is still undamaged by vandalism. It is heavily used by locals criss-crossing it on their way to work and transport points, and visitors wandering around the commemorative space.

Having learned from extensive research into the events of June 16, the movement of students along the roads and the clash with police that lead to the death of Hector Pietersen, we were able to develop the building as a device to unpack the event itself by framing portions of it with windows and viewpoints to clearly articulate spatially what occurred. The building slowly ramps up over three metres to second-floor level: it frames views and writes text on the glass that refers to the significant moments on that fateful day. The effect is popular with visitors who have an elevated view of Soweto.

The old ‘red brick and sheeting’ houses built in 1948 that surround the building are used as a finish on the inside and outside of the building. The subtleties on the black and white films were also done in red, as were several other architectural elements.

The use of the red brick is particularly noteworthy when seen in the aerial photograph, where the scheme appears to fit easily into the texture of Orlando West. Indeed, from many distant vantage points, the memorial sits quietly and comfortably.
in its surroundings.

The building is imagined as a large block of sculpted brick. The public space is edged with a line of black-slate walls to screen the road activity and calm the commemorative space down. A water feature enhances the original memorial stone, which is represented lifted and held, much like the lifeless body of Hector in the well-known photograph. Etched quotes in granite-topped benches complete the narrative elements of the project.

The central void or courtyard of the building is filled with the names of the approximately 700 students who died as a consequence of the uprising, etched on brick-size blocks. School groups wander through these names, looking for the ones they remember and locating the more famous names.

The red-brick interior architectural details make use of bent steel-plate balustrade panels and angle-iron frames bolted together, cobra-waxed to a dull finish as a harsh reminder of the weapons used to confront the school children. Blue police lights recall the vehicles and a bridge is built to take the visitor up to a window that frames the police station across the valley, marking the point from which the police launched their offensive.

2 Apartheid Museum, GAUTENG

The Apartheid Museum had its early conceptual development in a site visit that took place where a large mound of soil allowed for an elevated view of Johannesburg from the south west, across a wasteland of abandoned mine dumps on the horizon. The importance of land and landscape to a building that needed to respond to the African landscape was discussed by the design team, along with the mining detritus and the special vantage point that the site offered. Early on, the idea emerged of a building partly covered in landscaping that engages with its surroundings in a new and powerful way. From this point, the project began to unfold as a building that was an extension of the landscape, partly concealed, partly revealed.

Patrick Watson, the project’s landscaper, intuitively saw the opportunity for shaping the large soil mounds to screen the unsightly and underline the more extraordinary by raising and lowering the line of the mounds on the site. In addition, he brought the idea of the ‘slimes dam’ water body to mark the edge of the site. The long, ramped arrival walkway is walled in with a tall gabion basket wall and rusty steel structure to refer to the disused mines near the site and to screen road and neighbouring buildings that undermine the spirit of the place – a museum on the rise and fall of apartheid as it played out in Johannesburg following the discovery of gold.

The idea was to create a narrative journey that would take you from the entrance up...
to the vantage point to look at Johannesburg before entering the ‘belly of the beast’, where the story of apartheid unfolds, in its powerful theatrical manner. Part of the building is planted to camouflage its bulk with indigenous planting typical of the Highveld. The new building is placed along the perimeter of the site to allow a more generous garden and form a hard outer edge to the roadsides. Since the building was completed, it has had some new additions, including the restaurant and shop on either side of a courtyard, which provides a welcome break for a hard-hitting visual story.

As with all museums, the work continues as new devices and storylines are introduced to the exhibition. We continue to engage with these projects to keep the spirit and feel of the architecture intact. The next addition is a large space for temporary exhibitions and events that make better use of the garden space, which is beginning to host artworks – most recently, one by William Kentridge.

The details of the building were developed to express the idea of racial separation. The steel frame covered in wire mesh separates people and creates show cases without using glass. The steel also forms an armature to suspend audio-visual monitors and objects. These frames separate the visitors from each other at the entrance. The floor too stops short of the wall to form a moat with cable-management systems concealed in this gap. Externally rusted steel elements are used to form a frame with galvanised units bolted on to express a similar duality.

The concrete interior elements were left as they were when the shutters were released, showing the rough and incomplete alongside the smooth concrete. This decision made on site gives the concrete a more emotive surface which appears bruised and damaged, which helps re-awaken a sense of spaces associated with incarceration and detention.

The drama is heightened by placing a large Casspir police vehicle used in the 80s and 90s inside the museum and running...
film tracks inside this crowd-control vehicle.

The latest space to be developed is the TRC space, which has a white-coloured sculpture of the torture described in the hearings. The room is finished in black-punched steel plate to complete the drama of the space.

3 Mandela House, SOWETO
This small corner-site house built in red brick was the first house Mandela bought to live in, when he was married to Evelyn. Winnie moved in later and the house was the focus of several political activities over the time Mandela was incarcerated at Robben Island. The house needed to accommodate visitor groups flowing through and represent the history of the house and the family who stayed here.

The house itself had been marked by fire bombing and bullet holes – these marks were kept and are woven into the story of the house. Press-button audio-visual devices are used both inside and outside the house.

The new building is a free-standing off-shutter concrete structure formed in stacked red brick and concrete and is sympathetic to the neighbourhood’s red-brick houses in terms of scale and colour. This structure provides bathrooms, a ticket office, a shop and a small office to manage the site. The fence is formed out of slender steel tubes filled with sand and capped off with concrete.

The red-painted roof is formed by two sheets of corrugated iron with insulation concealed in between to keep the corrugated iron visible from the inside and to provide less heat in the tin-roofed house. The pavement and walkways are formed in stack-brick bonds. The project is heavily visited all year round.

4 Liliesleaf Liberation Centre, RIVONIA
The police aerial photos were used by the National Museum archaeologists to find the actual remains of the old farm structures. This was a long process of careful demolition work to uncover the actual walls and footings that had been incorporated into houses as the farm portion was broken up into suburban lots. In addition, the archaeologists were looking for the gun given to Mandela on one of his trips to Africa, which he buried somewhere on the plot.

After a year, we managed to find the several existing elements of the house and farm outbuildings at the time of the police raid. These structures were then added to, using concrete walls to replace
the missing elements to form a sense of the volume of these structures.

The main house was used by the white family of Communist Party member Arthur Goldreich, while the outbuilding was where the activists largely worked and stayed, with Mandela posing as the gardener David Motsamai. The raid was devastating for the leadership of the ANC and SACP at the time, as most of the leaders were arrested (Nelson Mandela was later apprehended at a roadblock near Howick).

These stories and the work that took place on site is discussed extensively in the exhibition, and is continuously researched and added to. Two new buildings were placed on the perimeter of the site, a visitor centre with an auditorium sized for a bus group, an exhibition space, a tea garden and a shop, while the second building comprises offices, a library and the archives for the Liliesleaf Trust.

The concrete entrance canopy is formed around existing tall trees that splits the building into two elements and forms a comfortable under-shade arrival. The roofs are planted slabs using indigenous grass typical of the farm at the time. The roofs are accessible with ramps and stairs to allow visitors to have an overview of the existing buildings where this unique history played out. The planting of the roofs camouflages the new buildings in relation to the historic buildings, making the old distinct from the new.

Red-brick stairs and ramps allow visitors to comfortably navigate around the old structures and large panels of shaped lawn calm the environment down visually, making the visitor more acutely aware of the exhibits in each of the outbuildings. The old steel window openings are filled with brick to symbolically silence these openings and mark their previous presence.

10 Plan of apartheid Museum.
11-12 Concrete is used for its association with spaces of incarceration in the Apartheid Museum. Poorly formed concrete work was kept during construction for its emotive qualities as it suggested damage.
13 The new structures at Mandela House are confined to the perimeter, leaving the historic house freestanding.
14 Clear view into visitor arrival space.
15 The fire-bombing damage is noticeable at the windows, and bullet holes were kept. Two layers of roof sheeting with insulation between were added to improve visitor comfort.
16 Liliesleaf Liberation Centre: the new structures on the north and south boundaries are on the perimeter, existing structures are freestanding with green panels comfortably separating the old from the new.
17 The entrance court is formed around two large existing trees.
18 Exhibition interior - glass plate to expose foundation line and discovered objects.
19 Indigenous garden of a typical Rivonia farm was taken onto the roof and visitors centre.
20 Wide panels of lawn separate the new from the old, and the narrative from the operational.
Three firms of architects were appointed in a joint venture (JV) to design Freedom Park, namely Mashabane Rose Associates, GAPP Architects and Urban Designers and MMA Architects.

The symbolic final resting place for fallen freedom fighters was designed considering concepts arising from Indigenous Knowledge Systems (IKS), with the input of traditional healers. The circle of boulders forming the centrepiece of the Isivivane, with its evocative misting spray, creates a sense of a spiritual presence on the eastern slope of the Salvokop Hill. The undulating rock walls, boulders and rock gardens established an architectural language that informed the architecture of the subsequent structures of the Freedom Park project. The spirituality that is evoked here is felt at the Sikhumbutho too, which provides a ‘wall of names’ of the fallen freedom fighters.

Placing a memorial, the Sikhumbutho, on top of the hill was inevitable in this landscape dominated by large politically-charged buildings of the capital city on the surrounding hills – the Voortrekker Monument, the UNISA campus and across the CBD, the Union Buildings. The presence of this new national symbol within the capital needed to be significant. What is unique to Freedom Park in this setting is the relationship that the Park has with the landscape and the shape of the hill. The project sets out to integrate architectural elements and sculpture with the landscape to create a unique place.

The Voortrekker Monument, associated strongly with the Nationalist regime, and the Union Buildings are part of the dialogue and experience of Freedom Park. This relationship forms a narrative journey through the landscape. Framed views of significant places are marked on the spiral path and storyboards unpack the history of this site for the visitor.

The primary elements of Freedom Park are connected in a sequence as you rise up the hill from the entrance at the base. The /hlapo (museum) defines the main entrance and connects the site with Salvokop Village and the city via a public arrival square. Groups assemble in the square before and after visiting Freedom Park.

As part of a broader narrative of reconciliation, a road was built to connect the Voortrekker Monument to Freedom Park – connecting the histories and allowing visitors to tangibly appreciate the divisions of the past and to promote social cohesion in the present and future. The project needed to encompass many voices, identities and communities that make up
South Africa. It needed to be a place that is timeless and that encompasses all South Africans, reflecting an open relationship with its citizens in the post-1994 landscape – a place of reconciliation and nation-building.

The design process occurred over a long period as a consequence of the extent and depth of the consultative process and the ongoing research into IKS. The process of compiling the Wall of Names at the top of the hill required a lengthy verification process. The project is significant in its effort to consult widely with traditional healers, political leaders, traditional structures and rural communities, probably the first time this was done in the country. It produced a unique storyline and helped define the architecture.

The team of architects was encouraged to encompass ideas that arose from rural architecture, traditional homestead design and IKS, to consider the unique architectural structures and urban formations from sites across Southern Africa, including Mapangubwe, Great Zimbabwe and the mountains in the Free State. The conversation challenged the architectural team to search for essential and universal qualities in architecture to answer the complex process of a large client body with a range of opinions.

The Freedom Park Trust (FPT) leadership encouraged creativity in the midst of the ongoing conversation about what is African architecture and what symbols are appropriate to the project. The FPT arranged a significant fact-finding visit to a traditional healer’s homestead in Kuruman to develop and unpack some of the architectural questions that arose – these visits were a turning point in the design of //hapo in particular, which is discussed later in more detail.

Essential architectural elements were discussed and used – stone, water, fire and indigenous trees and plants. A tangible respect for the cultural, historical and natural landscape of the hill-top site needed to be expressed. IKS offered clues to the form
and spaces of the project as the process unfolded.

Dr Harriet Ngubane, a respected sociologist and adviser to the FPT, related several stories that were consistent with Southern African indigenous culture. The concept of the reeds, which gave the hill-top site its vertical elements, arose from these evocative stories that she shared with the team. In particular, the African story of creation suggested that the reed was a conduit to life and could be used as a sculptural element within Sikhumbutho to express a connection between the earth and the sky. Visually, it answered the problem of not having a heavy visual weight and was an expression which was lyrical and significant.

The ephemeral stainless-steel ‘reeds’ evoke a sense of the spiritual present in the Isicicame completed earlier and metaphorically connected the earth to the heavens above. It became a trademark of Freedom Park that the ongoing conversation around the site’s architectural elements had their root in a uniquely African story or symbol.

The Sikhumbutho served as a counterpoint to the dominating hill-top structures of the Voortrekker Monument and UNISA campus surrounding it, emerging from the landscape as if carved out of it, blurring the line between landscape and architecture. The idea of the spiral path that leads visitors up to the top of the hill created a pilgrimage route up to the names of fallen freedom fighters at the apex.

This concept was expanded by the FPT to include earlier conflicts, including acts of genocide against the San, the Frontier Wars, significant battles, South Africa’s involvement in both World Wars, leading up to the liberation struggle against apartheid. Former President Thabo Mbeki had a substantial influence in seeing that the project encompassed this broad history of South Africa.

The Wall of Names leads you round to a chapel-like chamber formed in the depth of the wall for ceremonies and memorial services. A flame burns permanently as a continual reminder of the ultimate sacrifice individuals made to achieve freedom.

The landscape-covered and rock-packed roofs that curve around the hill also include an indoor, walk-through hall that is designed to accommodate and remember leaders who assisted South Africa during the liberation struggle. The space is dramatically shaped and curved around the west side of the hill top and has tilted concrete columns that conspicuously hold up the heavy concrete roof, lending emotive strength to the curved interior.
The word ‘museum’ was replaced with a Khoi word referring to ‘dream’ – //hapo. The //hapo spatial strategy consists of a series of spaces arranged along a timeline to encourage a dialogue between core exhibition and temporary exhibition subjects. The project has a library, seminar rooms, administration offices, archives and other visitor facilities, such as a coffee shop and book shop. These facilities are separately accessible for events and can be approached from the public square.

The brief promoted exhibition space that uses storytelling and storytellers. It was felt that this device would make the museum uniquely African because oral histories are passed on over the years from one generation to the next. The first drawn concepts of the museum were based on the idea of forming cracks and crevices similar to those found in the rock outcrops on the hill.

A more sinuous wall concept emerged in the second scheme design, which was based on a long winding wall line that leads you through the different storytelling spaces around a courtyard carved into the hill with planted roofs. A feeling of the building being carved into the hill was explored.

The process of developing the design further paused for a while as the client engaged in a more detailed brief-writing process and ultimately produced a document that addressed many of the issues that were important to the FPT. Part of this process involved a visit to the Zulu sangoma Vusamazulu Credo Mutwa in Kuruman to discuss several issues, including architecture in rural communities. The visit was held in his circular-roomed rondavel with a bench along the perimeter.

The garden at Mutwa’s homestead is filled with plants gathered and grown for their healing properties. The small garden has large boulders that are surrounded by the plants. The garden and its boulders had a profound effect on the design concept; the
drawing that followed (drawn on the bumpy plane ride back from Kuruman) became the image which drove the design process forward.

The idea of a series of large rocks or boulders surrounded by healing plants became the primary idea of the //hapo scheme. It worked at many levels. The similarity with the Isivivane rocks found on the hill further made this concept workable.

The building was seen as a multi-faceted, boulder-shaped form, where the cracks and crevices were developed to allow light into the tall cave-like volumes inside, with limited natural light breaking the surface and illuminating the volumes. The exhibition spaces inside these boulders were linked with low compressed spaces, attempting to spatially capture the notion that a series of historical epochs were distinguished from each other by some qualitative shift. The idea, which was rooted in the African landscape, is sympathetic to IKS and had a memorable and unique image. It quickly became known as the 'boulder' scheme.

The idea needed to move into being a building and not just an idea and work began on how to achieve the appearance of boulders with their cracks and discolouration. The rock on site is a continuous, multi-faceted surface and a pliable metal surface was proposed that could be both a roof and wall surface, which would best express this continuous amorphous rock surface. Copper sheeting was favoured as it is an African material that is mined locally and when exposed to the elements, changes colour. It seemed poetically in sync with the process of history being recorded and documented at //hapo.

The little red-brick houses of the Salvokop Village backed onto the site and public square, and the red brick found here was pulled across the square and folded up to form the plinth on which the boulders were set. The monochromatic surface has the effect of binding the //hapo to its hilly landscape. The boulders are set at several levels and the journey through the exhibition slowly rises as you walk through. The garden in the centre of the boulders is viewed from several vantage points and reminds you of the plants that grow through the crevices of the rocks on the hill.

6 Mandela Cell, NIROX
The cell project has arisen out of several projects that encompass the life of Nelson Mandela in the form of exhibitions. In 2013, the exhibition opened at the Hôtel de Ville and was called Mandela – from Prisoner to President.

A steel version of the precise dimensions of Mandela’s Robben Island prison cell was placed outside the Hôtel de Ville...
to give visitors a clear sense of the level of confinement. At NIROX Sculpture Park near Johannesburg, the project was presented in concrete and had a more sculptured mass and weight. It is now being exhibited in Sweden at a sculpture park called WANAS, alongside artists such as Maya Lin, Yoko Ono and Maria Abramowich.

The project has gone forward into new environments as a sculpture. It is the most powerful and smallest project we have been involved in. The cell is formed in concrete and the windows are filled in – the roof is removed to express a connection with the sky and a sense of freedom. The concrete shutters on release are often not vibrated smooth and the texture reflects surfaces that are damaged, which contributes to the emotive intent of the project.

7 Mandela Capture Site, HOWICK

The sculpture of Mandela by Marco Cianfanelli has become an iconic marker on the landscape. We placed it in the landscape by cutting into the slope, creating a gentle ramp to the point from which the best vantage point is found. The 50 pieces of steel then line up to form the famous image. The effect is quite surprising and the interactivity a welcome relief from the bronze statues that are starting to be placed around the country.

The new space will be developed as a narrative history exhibition focused on Mandela and will begin to engage with the history of KwaZulu-Natal too. The exhibition space is a walk-through exhibit that is linked to a loop route that takes you to the sculpture and back to the parking and visitor facilities. It is likely this loop will later be animated with text panels and sculptural interventions. The building is wrapped entirely in Rheinzink, adding a dark charcoal colour to the walls and roof, which contrasts with the white interior. The polished concrete floor and windows frame significant landscape features and the route to the sculpture.

The finish of vertical lines of 300mm, 400mm and 500mm sheet widths respond
to the vertical sculpture from the side and the tall trees of the forests beyond. Currently under construction, the building is scheduled for completion at the end of 2014. It will be left in a landscape of grass to frame it as a minimal sculptural piece.

CURRENT WORK AND SELECTED COMPETITIONS

Dino Park Visitor Centre, GOLDEN GATE

This project has fascinated us since we first won the competition. It is likely to start on site in 2015. The project was initiated by SANParks and is designed to have a minimal impact on the beautiful landscape of Golden Gate. It will be built on the only disturbed ground in the valley next to the campsites and will be a visitor centre that tells the story of the dinosaur eggs discovered recently when the road was cut through the valley. These are the oldest known dinosaur nests in the world, found at the same park where scientists previously unearthed the oldest known dinosaur embryo. The area is filled with fossils of large dinosaurs in the sandstone rock and is likely to become a busy holiday stop in the Golden Gate Highlands National Park.

The design draws on the idea that the Drakensberg was a dune-scape which went through three extinction events that slowly solidified the mountains into sandstone cliffs which are so beautifully formed today. Central to the design is the way in which the building is camouflaged by being grassed over so that hikers in the area don’t have to look down on roofing or air-conditioning equipment. The gentle outline of the landscaped roof which curves around a central space looking up at the cliff face will be a dramatic moment. The cars and buses are planned to park under the trees that exist to reduce the visual impact of these areas for the hikers too. The building is a walk-through exhibition space, with the exit adjacent to the visitor tea garden and gift shop. Areas for research, fossil cleaning and study are planned as an extension of the current work being done by Wits University. The shaping of the existing landscape to form a building, which is more a minimalist surface relief using the existing landscape, is the strength of this concept.

Taung World Heritage Site VISITOR CENTRE

Taung is a dry and harsh environment: limestone quarries, large rock piles and the remains of mining structures, including housing with concrete bunks for workers, stone buildings and concreted-filled, steel-framed structures are found on the site, giving it its physical character. The existing structures, particularly the workers’ housing, will be adapted into hostels for student groups and into boutique hotel-type accommodation. Not
all the structures are suitable for adaptive re-use into accommodation and these are approached more poetically.

The new intervention comprises several elements to build up multiple, linked visitor experiences across the extensive site at each significant feature. Architecturally, the project engages with the existing ruins in a Scarpa manner and leaves them as they are found, adding new architecture that is distinct from the old. The sun is harsh and deep shade is formed to make places that are comfortable in this environment. The sun lights the exterior architecture and the shade forms the interior architecture.

Stand-alone new structures, including a water tower, washrooms, security facilities and interpretation pavilions at the caves are built entirely of concrete, with stone from site packed on the concrete roofs. The concrete is textured using horizontal timber planks fixed to steel-shutter plates, similar to the existing structures. All finishes are selected for their highly durable quality to avoid vandalism and theft in this remote setting. Sunlight is in places allowed through as a single beam to track though some of these spaces to introduce a sense of time to this ancient site.

Canadian Museum for Human Rights Competition (Finalist), WINNIPEG, CANADA

The site of this project in a park where two rivers meet was used for one hundred years as a meeting place to resolve issues between different tribes of the First Nations people. This special significance of the land itself gave rise to the concept for the museum. It is designed as a series of converging volumes that slowly emerge from the park and converge toward the city. The idea was to give expression to this unique power of site next to a city that developed long afterwards. A pedestrian route is then formed that meanders through these forms to connect the city with the park. The building appears like landscaped slopes from the park side and vertical building

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forms from the city side. The project has been developed as a surface relief on the landscape to give expression to its cultural significance.

**Spier Architectural Competition (finalist), STELLENBOSCH**

The jagged mountains of Stellenbosch form the backdrop to this project. The design developed from a desire to mimic the mountain outline and to merge the site with the hillscape. The building was excavated into the hill to create arrival courtyards like deep crevices. We elected to bundle all of the programme together into one building to create a dynamic and active art space in one project. This was partly due to the fact that the rights to develop housing (required by the brief) would not be granted as the city was aiming to preserve the winelands from housing developments.

The scheme is a concrete shell with a sleeve of vineyard cables wrapping it to encourage vine growth to slowly merge the building into the winelands landscape. The project was designed with a ramped walkway to connect the Spier side to the mountainside to allow walks beyond the building and to connect the project with later phases.

**Millennium Structure (winner), ROBBEN ISLAND**

The Robben Island scheme conceptually appeared like a wedge of light formed from the lighthouse beam pointed at Cape Town. The scheme was designed below the base of the lighthouse and using the gentle slope of the ground, spaces were developed that slowly step down toward the ocean and give expression to ‘release’.

The building was designed as being clad entirely in Robben Island slate, with a planted roof to have very little impact on the island’s surroundings. The primary narrative and auditorium spaces are designed into the wedge form, while the coffee shop and other visitor facilities are discreetly concealed under a stepped amphitheatre alongside the primary form. The conference rooms are placed adjacent to the coffee shop for ease of function. At night, the end glass wall will become visible below the lighthouse beam from a largely dark island.

**Anglo American Head Office Competition (winner), JOBURG**

The concept comprised linking five existing buildings in the Main Street precinct below ground to make one shared arrival concourse with sunken gardens and light wells. This was done to resolve the problems of legibility for visitors and security issues for the client when staff move from one building to the next in the precinct. Equally important was to avoid...
impacting negatively on the historic 44 and 45 Main Street buildings that were the signature buildings of Anglo American. The below-grade concourse assured us of this limited impact.

The additional space requirements had to be added in a sensitive manner. The new additions to the sandstone-block buildings were designed as glass buildings that carefully maintained the line of the existing buildings and fitted a glass-block structure into the sandstone structure like a puzzle piece. This idea is based on the heritage concept that if you add a new structure, you should be able to remove it later and still find the historic structure intact.

The other design driver was to bring the mining imagery of steel headgear into the design. This idea was applied at the line lifts formed in plate-joined I-beams, which was the structural mining system of the time. A viewing box formed in glass with a steel inner frame was added to the south to overlook the sunken gardens and the historic 44 Main Street elevation. The scheme is understated and historically sensitive, given the nature of this important architectural precinct.

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Collaborators

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Spier: the forms are planted over with vines on cabled net. The idea is to slowly disappear the form into the winelands landscape.

Robben Island: the building is designed as a solid ‘beam of light’ from the lighthouse, partly submerged with spaces slowly decanting down the slope toward the beach.

The plan of the proposed development.

Anglo American: the section shows how the buildings are linked below ground or street level to make one arrival hall for all buildings with sunken gardens and lightwells, linking the parking lot across the road to all four main buildings.

The lifts take the architecture of the composite steel of the typical turn-of-century mining headgear to form the new set of lifts which occupy the central court.
Mashabane Rose Associates (MRA) has made a name for itself with museums and commemorative architecture conceived as landscapes. On hearing that MRA was chosen as the 26th Sophia Gray laureate, I was expecting the concomitant exhibition held in Oliewenhuis Art Museum in Bloemfontein from August to September, to be dominated by works of high profile. I was prejudiced. This is a very professional exhibition and MRA acknowledges the input of Christopher Till, Apartheid Museum director. On entry, at left, all contributors and collaborators to the works are listed, including the builders of the exquisite models on display and, at right, is a plan of the layout with leaflets setting out their works and concurrent socio-political events in chronological order. Clearly, MRA would like the works at right, what they’ve termed ‘nation-building projects’, to be explored first, before visiting other works of theirs, built or not, and competition entries, including those not successful.

MRA came into being almost two decades ago in 1995. Phill Mashabane has an unusual collection of degrees, one in architecture and another in law, both obtained in Paris. He subsequently earned a diploma in project management and a certificate in arbitration and, interestingly, he remains a student. However, with his first two credentials, it is not surprising that Phill has served terms as chairperson of the council of the SA Heritage Resources Agency (SAHRA) and as president of the SA Council for the Architectural Profession (SACAP). Jeremy Rose is a Wits graduate of 1988 who, in the wake of the country’s first democratic elections, repatriated.

Winning the Robben Island competition in 2000 from 250 entries was a huge boost and springboard, but the idea unfortunately has not yet been developed. Not so the collaboration on the Apartheid Museum of 2001, the first work of theirs I visited, when I was taken by the novel approach to integrating bunkers with indigenous, if man-made, landscapes, and which rightly won an SAIA Award of Excellence in 2004. That was followed by the Hector Pieterson Museum in Soweto. More recently I had the opportunity to visit Liliesleaf and Freedom Park, and again, I was taken with the balance of contemporary architecture, a thorough understanding of our socio-political history, responsible custodianship of museum pieces, as well as a resonance with the context. MRA deserves credit for both the intellectual insight and the careful crafting of the objects in the design of what I would like to term ‘social situations’. Rightly, /hapa Freedom Park Museum landed MRA, together with GAPP and MMA Architects, a 2013/14 Corobrik-SAIA Award for Excellence, the second for MRA.

Another was the wide range of project types to which they apply their skills: University of Johannesburg Arts and Culture Centre (2006) alongside the magnum opus of Willie Meyer and Jan van Wijk, distanced and placed in a landscape setting involving artist Marco Cianfanelli, who was also responsible for the sculpture cluster of steel bars at the Mandela capture site near Howick (2012). But there are also commercial projects like the Anglo American ‘reinvention’, a commission won in competition in what they term ‘contemporary conservation’, and the heritage conservation of Newtown. In fact, MRA has works in all major South African cities and in some natural landscapes like Golden Gate.

After a 20-year journey, it’s time to look into the proverbial rearview mirror, which the Sophia Gray honour provides. In the case of MRA, it shows a road well-travelled, with many more highs than lows, and a collection of ‘tickets’ for the right reasons, like scrupulousness. This is an inspiring exhibition waiting to be recast as a book.

Walter Peters is a professor of architecture at the University of the Free State.
Some see nothing more than a building.
We see timeless aesthetic appeal.

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Building our Future Together
EDITOR’S NOTE
The 15 finalists for this award have been named. Below are short synopses of each project with an illustration where appropriate, followed by two of the finalist projects more fully illustrated.

We applaud the award programme for its initiative in stimulating excellence and also the finalists for their achievement. However, a cursory look at the finalists all together does raise questions.

The first of two broad questions is: how is sustainability conceived by the panellists who make the awards? The dominant criterion would appear to be technical. The projects all seem to demonstrate considerable engagement with and proficiency in achieving a technical sustainability. One or two go further – in terms of generating local employment, for example, and in energising a local ecosystem. However, it is difficult to imagine how many of the projects would stand up to an evaluation in terms of placemaking, of their contribution to a broader environment which enables positive urban living and with which people will be able to identify over a long time cycle. Secondly, surely economic issues are of considerable importance in assessing sustainability? How would the finalists’ schemes perform in a long-term cost-benefit analysis?

A second set of questions that comes to mind is about architectural meaning. Really good architecture embodies the whole spectrum of our being, from our values to our history to our everyday existence. It raises elements and spaces derived from ordinary purpose, rational construction and environmental control to a symbolic level. One would expect excellent examples of sustainable architecture to show that quality, as many vernacular buildings do, such as the windcatcher houses of Iran. Some of the illustrated projects achieve this. However, others do not have any sign of the new rigours they have been subjected to. Their meaning comes not from their inner nature as organisms, but from somewhere else.

ANNOUNCING THE 2014 FINALISTS

SYNOPSISES OF NOMINATED PROJECTS

BUILDING CATEGORY

44 on Grand Central, Midrand
TC Design Architects

A ‘whole-systems approach’ was adopted for the green office development at 44 on Grand Central, opposite the Gautrain Midrand Station. It was important to the developers that at the outset all facets of the project were integrated and connected – from the site itself to energy, buildings, transport, ecosystems, people, water and waste. Recyclable steel as well as a fly-ash concrete mix was used in construction. The building makes use of daylight harvesting, with daylight sensors as well as energy-efficient lighting both inside and out. It also deploys energy-efficient motors, pumps and fans. Temperature is regulated with external shading, roof insulation and air-conditioning zoning. It also features drought-resistant landscaping with rainwater harvesting for irrigation, low volatile organic compound (VOC) paint and carpets, as well as a waste management plan. The building is designed to GBCSA Four-Star Green Star rating specifications.

Alexander Forbes, 115 West Street, Sandton
Paragon Architects

With 2 400 employees using this building every day, it has been designed for transparency and a healthy, stimulating working environment. The office component consists of eight large floor plates, a central core and two enclosed atriums connected by link bridges spanning across the atrium. Skylights draw natural light into the office areas. Work stations generally have a view of the outdoor environment and the internal atrium, encouraging staff productivity and wellbeing. The design of the building utilises the site to its full extent and incorporates lush xeriscaped landscaping and indigenous low-water consumption plants. The building provides a wide variety of staff amenities. It makes use of rain and grey-water recycling, passive heating and cooling and an engineered façade design. It was awarded the best overall development at the 2013 SAPOA (South African Property Owners Association) Innovative Excellence in Property Development Awards. It has also achieved a Four-star Green Star rating from the GBCSA.

This building was mentioned briefly in Architecture SA, Issue 60.
The initial brief called for renovations to the existing community centre. However, it soon became apparent that the full potential of the site could only be achieved through demolition and a new build. One of the chief challenges was finding a balance between providing the best quality building materials and meeting the tight budget provided by the Nelson Mandela Bay Municipality.

Key to the design of this new complex is the creation of a community plaza, intended to complement a proposed adjacent urban park. From this plaza, the public are ferried into an enclosed community street which houses community offices, a multi-use sports hall and sub-divisible community hall. The inclusion of environmentally-friendly characteristics, such as automatic electric light management, heat pumps, rainwater harvesting and wall and roof super-insulation added to the sustainability of this project and play an integral role in the design. It received an award for outstanding design from the Eastern Cape Institute of Architects (ECIA).

House Jones – residential property in Hurlingham, Johannesburg
ERA Architects
See article ‘House Jones’ on page 37.

Koidu Mine, Sierra Leone
Collis & Associates
The upgrade of an old diamond mine in Sierra Leone posed both a dilemma and a challenge for Collis & Associates. Often little thought is given to the environment or the communities who will be affected by the building of supporting infrastructure at mining sites. Collis & Associates decided to keep as much as possible to their principles of sustainability when they undertook the project, which included designing houses for mine employees, a clinic, a police station, other community infrastructure and workshops. Solar-thermal control was achieved by correct site placement of the various buildings. Collis & Associates minimised the importation of materials, while maximising the use of local materials and labour, and recycling mine waste materials wherever possible. Kimberlite rock from the mine was used in the making of concrete, bricks, blocks, tiles and as base material for roads and building platforms. Sourcing of local labour and materials redistributed resources back into Sierra Leone’s economy. This project was published and illustrated in Architecture SA, Issue 62.

Lakeside 3, Centurion
AMA Architects
Lakeside 3 is the first existing building in South Africa that has been redeveloped with the intention to obtain a GBCSA Four-Star green rating. Directly opposite the Centurion Gautrain Station, the refurbished building intelligently re-uses original building structures, transforming it into innovative A-grade office space that embodies the principles of environmental preservation and liveability. It has given new life to a tired building, while creating a healthy, working environment. The renovated building encloses its core space through a glazed atrium from which there are views over Centurion Lake. The façade was extensively replaced in order to lighten the face-brick façades of the original building and a light-weight walling structure has become the new envelope. This has enhanced thermal efficiencies, while the redesign of the windows has enhanced the internal light quality. It incorporates numerous sustainable features, such as energy-efficient air conditioning, heat pumps and lighting, water-saving fixtures, a waste-recycling facility, low VOC paints and adhesives, recycled and locally-sourced building materials and cyclist facilities. It won the overall green award at the 2013 SAPOA Innovative Excellence Awards for Green Development.

Monaghan Farm – residential property in Lanseria
Claude Bailey Design & Architecture
See article ‘Monaghan Farm – House Kavuma’ on page 39.
This is the Tshwane University of Technology’s first green building. The new architectural department consists of three sections: a sculptural auditorium situated on the western side, a southern wing with offices and studio spaces, and a northern wing with a material lab, model-building facilities and studio space. The wings run in thin, multi-levelled halls from east to west, allowing for maximum exposure to the northern sun. Windows make up the walls along the northern side, which is enclosed by removable louvres. The louvres also act as light shells that reflect light into the building without using power. The south and western sides of the building are fitted with a mist system to cool the air, creating a microclimate. The sprayers are fuelled by rainwater collected in reservoirs from the roof of the building and pumped by a motor that runs off solar panels. The exterior northern side of the building encloses a paved courtyard, an area designed to collect heat from the sun. The true gem in the building’s crown is its auditorium, the only one in the country that has no HVAC system installed.

The SAPS Radio Control Centre is designed to be efficient and self-sufficient. The building’s face-brick edges and galvanised steel frame exude resilience, while expansive glass windows offer SAPS personnel 360-degree views. Behind the pavilion, a 50m-tall white-and-red communications tower connects the centre to other SAPS units around the country. This pioneering building is made to house 187 people at full capacity. At its core is a 10111 call centre. From the outset, project architect Neil Fisher pushed to include sustainability elements in the design. A central building management system (BMS) controls and monitors electricity and water consumption along with the air conditioning. The west side of the building features a double-glazed façade fitted with low-emissivity glass to reduce solar-heat gain and glare. It was engineered to be self-sustaining and to continue its functionality in the event of municipal power or water outages. Additionally, the roof hosts a syphonic rainwater collection system for irrigation purposes. It received an award for outstanding design from the ECIA.

This building was published in Architecture SA, Issue 60.

This SEED (Supplementary Extended Education Device) is a semi-permanent building in the courtyard of a school in Alexandra which re-thinks the traditional library model. The design uses two shipping containers stacked perpendicularly to form a cross-shaped plan. The ground floor houses the books, while the upper floor makes accommodation for reading and study rooms, as well as outdoor reading spaces via a deck, which is also used as a stage for school assemblies. The bright, bold colours and visual construction methods make for an aesthetic that is exciting. The shipping containers were chosen for their ease of transportation, as well as for their sustainable green benefits. Retro-fitted insulation, cross ventilation and passive cooling extend the architecture’s success to a level of technical, functional and aesthetic resolution. This modular construction method meant that the library could be put up in four months, which also means that the SEED can be planted in other locations with ease.
This project followed a design approach that was responsible and environmentally aware. Conservation of natural resources, material selection, natural lighting and ventilation informed the design from inception to completion. Designed with expansive double-glazing, classrooms maximise natural daylight and reduce lighting energy consumption. Rainwater is harvested in storage tanks which provide water for the flushing of toilets. Landscaped rainwater retention ponds slowly filter water down into the subterranean aquifer, minimising wastage to the municipal drainage. The building has significantly improved the appearance and social spaces of the campus and creates a harmonious learning environment for students.

The building was published in Architecture SA, Issue 65.

RESEARCH CATEGORY

The GCIS Façade Solar Research Project, Solar Research for Innovative Technologists
SNA Architects

The GCIS Façade Solar Research Project – a partnership between the University of Johannesburg and the University of Edith Cowan in Australia – looked at solutions to technical challenges faced when trying to reduce energy costs. The findings could become a strategic model for the future implementation of cost-effective PV panels in Southern Africa. A six-storey office building, which houses Government Communication and Information Systems (GCIS) and is located in the historic precinct of Hatfield in Pretoria, is the first building in Africa to use a solar façade to generate electricity, thanks to solar photovoltaic cells within the building’s laminated glass façades. The external skin is a combination of high-performance glazing with PV panels incorporated on the east, north and west façades. Although the technology has been used in Asia, Europe and the US, this particular type of PV is a first for a South African building.

Promoting the Use of Sustainably Grown Plantation Timber in South Africa
Collis & Associates

Wood is one of the most environmentally sustainable building materials in the world. Building with renewable timber is an effective way for the construction industry to play a positive part in the reduction of atmospheric carbon, resource depletion and environmental degradation. South Africa currently has a concrete, steel-and-brick building culture, but a shift to products from well-managed timber plantations would be better for the environment. Vernon Collis’s research promotes best practice and aims to help develop a timber culture in the construction industry, ranging from investigations of how and why timber structures and elements fail, to transferable timber technologies for economic housing, while at the same time challenging government on its impending forest-reduction programme.

Use of Recycled Construction Waste in Concrete
Collis & Associates

Recycling reduces environmental damage, landfill pressure, resource depletion, damage to roads and CO₂ emissions, while also creating employment. However, less than half of Cape Town’s construction waste is recycled. This is due in part to the fact that there is no inclusive best practice on how to evaluate, deconstruct, test and specify construction waste. Without this, architects and engineers are limited when informing clients or projects where recycling is possible. For the past 20 years, Collis & Associates has sought solutions to this problem, investigating a cradle-to-cradle process using construction waste and maximising on labour. The research provides a sustainable approach to conserving concrete aggregates through the use of excavated sand, recycled bricks and concrete.

Vukuzakhe, Durban
Koop Design

The Vukuzakhe research aims to develop systems for the delivery of an alternative building typology in the eThekwini Municipality. It is hoped that this will accelerate the delivery of public buildings – including community halls, libraries and resource centres, as well as sports, educational and health facilities – with an environmentally-responsible design, while stimulating local economic development. The system can be replicated and installed with ease in remote and varied locations and integrates architecture, site, foundations, structure and services.
SITE ANALYSIS – THERMAL CONSIDERATIONS

This Sandton home, completed in 2012, was designed around the principles of climate responsive design. It is nevertheless still guided by the traditional architectural ideas of composition, symmetry, hierarchy and progression, and aims to offer a new green aesthetic.

The first step in sustainable design is to develop a high-performance envelope for the building that is able to reduce both the heating and cooling loads. Insulated cavity walls, insulated floor slab and double glazing are all components that make up that envelope. Johannesburg has a benign climate for nine months and very cold winter nights for three months. Winter days are dry and reasonably warm, while thunderstorms are characteristic in summer. The climate was extensively studied and a performance specification was calculated using an adapted form of Szokolay’s method for determining comfort levels.

DESIGN CONSIDERATIONS

The main form-generating concept used in the design was the idea of creating ‘bubbles’ of tempered micro-climates wherever the living areas open up onto the outside. These protected pockets are contained by planted steel screens that mimic the way a forest works; they remain cooler on hot summer days and warmer on cold winter nights. The idea of climatic response and comfort performance create a unique aesthetic for the building that changes with the seasons. In House Jones, all the living areas open up completely onto the protected bubbles, which act as a mediation space, moderating the transition between indoors and outdoors and tempering the prevailing climate.

The form of the building was broken up and fragmented into separate volumes that become structurally efficient with small spans and simple trusses. These volumes step along their northern façade to allow morning sun. Similarly, one single wall with small openings protects the whole western side of the house from the afternoon sun.

The main entrance and stairwell was always the pivotal space that allowed a generosity of light and air into the dwelling. This space meets the client’s requirements of spatial effect upon entering and allows for the main circulation in the house to be achieved without any corridors; the living spaces flow from this entrance hall on both levels.

ENERGY EFFICIENCY

Passive systems and low-energy active components are used to achieve thermal comfort in winter.

The structure of the building is a high-thermal resistance envelope which has been carefully detailed to allow minimal exfiltration. The green bubbles create warmer pockets during winter by protecting the spaces from cold night sky radiation.

Solar thermal-heated water (up to 90°C) is circulated through a 1 000-litre storage tank that acts as a heat battery. The lower temperature water from the bottom of the tank heats the underfloor heating system. A solar-powered system delivers hot water all year round. The higher temperature water from the top of the heat storage tank heats domestic water supply. The hot water supply runs in a well-insulated ring main, circulated by a pump on a timer to keep the hot water available at any point in the house in a matter of seconds.

The house is cooled by both passive and active ventilation strategies. Generally, the home can operate on simple cross ventilation, but on extremely hot days, evaporative coolers on top of the chimneys deliver cool air through the stone towers to the interior spaces as required.

Sun angles were used to position planted façades that shade the internal spaces during summer. The green bubbles on the northern façade of the house shade the internal spaces and temper the outside air. Adjacent to the stone chimneys are green planted chimneys that use atomised sprayers to evaporatively cool the surrounding air, enhancing the cooling effect of the green bubbles, while irrigating the plants.

During the night, the stone-ventilation chimneys invert their operation and extract warm air from the building. Replacement cool night air is drawn through the windows on the southern side of the building and cools the thermal mass of the structure.

The building is designed to maximise natural daylight and reduce the need for artificial lighting.

All light fittings are low-energy LED and all ovens and stoves use gas instead of electricity to reduce power consumption. All domestic water heating uses solar thermal energy with a heat pump as back-up. During winter, the house is heated...
by an underfloor heating system that uses solar thermal energy. A photovoltaic system meets the house’s needs during the daytime; any excess energy is fed into the national grid.

Intelligent inverters control the power drawn from and fed into the national grid. The inverters shut off power in the event of the national feed being interrupted as a safety measure. An automatic start-up generator was installed to supply the house in the event of a power outage.

A UPS provides clean, uninterrupted power to carry the various intelligence systems built into the house (that control space heating and cooling, irrigation and lighting systems) over the period between a power outage and the back-up generator coming online, which is about 20 seconds.

The house was wired with three different circuit types: non-essential services that do not operate in the event of a power outage, essential services fed by the generator in the event of a power outage, and critical services fed by the UPS that operate without interruption in the event of a power outage.

RAINWATER COLLECTION AND WASTEWATER TREATMENT SYSTEM

Our aim is to reduce water consumption. Rainwater harvesting is achieved in two stages. Firstly, roof-level rainwater is collected for non-potable use in the house and secondly, paving run-off and sub-soil drainage is collected directly in the storage dam and used for irrigation.

Collected rainwater is stored in 40 000 litres of surface storage tanks on site. The collected rainwater is filtered and used for non-potable purposes in the house. Council water is filtered separately and delivered to three ‘potable’ taps in the house. A borehole was sunk and the water tested. The borehole is intended to be used as sparingly as possible and only tops up the minimum amount possible, while waiting for the rain to fill the storage systems.

All waste water generated in the house is treated on site in a three-phase anaerobic tank and an aerobic digester system. Clarified water is then fed through a wetland to further polish the water before being stored in a dam and used for irrigation. Nutrients from the wastewater are used as fertigation in the irrigation system.

All the recycled water and collected ground-level rainwater is collected in a 60 000-litre storage dam to be used during the dry season. The dam is designed to have its level vary from dry to wet season as the water is stored and used as required.

BIODIVERSITY AND LANDSCAPING

The landscaping was designed as a natural ecosystem. The water strategy on the site calls for wetlands and cascading rock waterfalls to oxygenate the water while it is being treated and recycled. A circulation pump powers the oxygenation strategy; indigenous plants and fish were introduced to kickstart the ecology. Frogs and birds began discovering the natural system and colonising it immediately. The planting has been designed to create many areas where various animals, birds and insects can make a home.

The variety of environments in terms of plant species and climatic factors make for many different characteristics of ecosystems and micro-climates where much biodiversity can flourish. The planted screens around the house create their own individual micro-climates.

Planted screen landscaping species were chosen for solar shading requirements as well as shape, form and scent. Garden landscaping species were chosen for water treatment, low maintenance and...
encouraging biodiversity by providing plants that either attract insects, provide nesting materials or produce fruit and seeds.

**SITE PRESERVATION, BUILDING MATERIALS AND FINISHES**

The top soil under the new house footprint was removed and carefully preserved during house construction. All existing trees and vegetation were identified and protected during construction. The stored top soil and existing vegetation was then re-used in the new landscaping design. The site was sub-divided which assists urban densification.

Building materials were chosen based on longevity, low maintenance, low-embodied energy, high recyclability and minimal transport distances to site. All paints, solvents and adhesives contained low levels of volatile organic compounds (VOCs). A major concern in choosing finishes was the environmental difficulties with VOCs and solvents, as well as the low-maintenance requirement. Because of this, a cementitious finish was used externally over the plastered walls. This was done in a burnt orange colour to offset the greens of the planted screens. The shading elements are done in a brown recycled plastic and timber compound material and the windows and doors in a dark-tone aluminium to create definition against the walls. The roof was coated in a solar-reflective index coating that is off-white, while the eaves are clad in white cementitious fibre board.

**CONCLUSION**

This building has environmental issues at its heart. The consideration of sun protection, solar radiation, energy and water consumption, landscaping and sustainable systems have all been considered and carefully integrated into an architectural aesthetic. The result is a home that is comfortable, efficient, sustainable and most of all unique. Just like its environment, the house changes with every season, from golden autumn to colourful summer.
ecosystems, allowing the habitat of resident hedgehogs, shrews, lapwings, warthog and karakal to remain intact.

The Jukskei River meanders for more than 3km, providing several kilometres of common river frontage. Roughly 10 acres are dedicated to the farming of organic, pesticide-free vegetables, herbs and cut flowers, underpinned by Monaghan’s BCS Certification. Much of the fertiliser comes from a small-scale earthworm farm, transforming households’ biodegradable waste into fine, dark vermicast. In addition, a healthy herd of Nguni cattle provides manure and keeps the veld cropped.

The overriding ethos of Monaghan Farm is based on incorporating the environment into a model of partial self-sustainability. The entire farm has highly-rated security. However, this not only relies on fences and alarm systems, but comes from the positive relationship with its immediate surrounds. Approximately 1 200 jobs have being created through the construction, management and residents of the farm. A portion of residents’ levies are used to subsidise bursaried school children. Monaghan has arranged for five of these children to achieve full bursaries all the way to matric at Curro Monaghan. The Monaghan Montessori School is sister to the Cradle Pre-School, which serves about 40 farm labourers’ children in the Cradle of Humankind. While Monaghan Farm is primarily aimed at high-income earners, there are approximately 60 more affordable, smaller stands for purchase on the site.

Single-storey, staggered buildings offer uninterrupted views. Houses are cut into the ground to minimise visual prominence and light pollution. The design aesthetic on Monaghan ranges from the contemporary interpretation of a Transvaal farmhouse to crisp, mid-century Pretoria modern, to the expressiveness of a free-form, turfed roof structure. There are no street lamps, lighting has to be low voltage, low level and directed back at the house, and signage is minimal and subtle. Some of the many green-energy technologies used on Monaghan include solar, PV panels, geothermal and heat pumps. Alternative, low-carbon building techniques include light steel-frame construction, bricks made on site and rammed earth. A minimum of 20 000 litres of rainwater harvesting is mandatory on the farm. The volume of water required is on a sliding scale relative to the roofed area of the house.

Houses are primarily orientated north, integrating inside and outside living.
with passive solar design, natural light and cross ventilation – air conditioning is not allowed! Despite some residents having installed electric underfloor heating, in most cases a closed wood-burning fireplace and winter sun penetration onto a concrete screed floor (which serves as a heat store), have rendered electric heating redundant. In other cases, solar water-born underfloor heating more than suffices. Photovoltaic panels provide power for many houses on Monaghan. A number of homes are now feeding electricity back into the national grid.

One example of a sustainable home on Monaghan, nestled gently into the earth and literally made of the ground from the site where it stands, is House Kavuma. Designed for a client with an international background, who wanted a warm yet sophisticated African feel to her home, House Kavuma was one of those rare projects which strengthened an already close friendship.

**HOUSE KAVUMA**

The house is 50m long, 5m high and has a low-carbon, rammed-earth wall, which is 350mm-thick and has been strengthened with 16% AfriSam eco-cement. Its low-lying building platform incorporates subtle level changes – the house was cut into the ground to minimise visual prominence and light pollution.

North-facing with a concrete floor heat store, House Kavuma features a free-flow circulation route which seamlessly integrates inside-outside living. There is no wasted space and the use of natural air and light reduces the need for electricity. The cupboard doors are made out of recycled timber, while the timber used for the decks and verandah is FSC accredited. Bamboo cladding was used for the kitchen units.

Throughout the house, low-VOC, lead-free paint was used, while raw, untreated alien-eradication poplar was converted into bookshelves, skirtings, stairs and other details. The house boasts recycling bins in the kitchen and yard and can store 40 000 litres of harvested rainwater. The indigenous garden, which is low maintenance and contains water-wise plants, has flourished and serves to enhance the house’s privacy, adding attractive green pockets between the rooms.

1 Looking north towards Rhenosterkop
2 Organic vegetable and herb garden
3 The ruin that became a restaurant
4 The restaurant
5 Low-maintenance indigenous garden
6 Low lying location in the Highveld
7 Living area
8 Kitchen showing rammed earth walls
ADVERTORIAL

ALEXANDER FORBES HEADQUARTERS TAKES THE AFRISAM-SAIA AWARD FOR SUSTAINABLE ARCHITECTURE 2014

The Alexander Forbes Headquarters at 115 West Street in Sandton, Johannesburg, designed by Paragon Architects and Paragon Interface, took top honours in the built work category at the 2014 AfriSam-South African Institute of Architects Award for Sustainable Architecture, announced on 9 October at Johannesburg City Library.

Commendations in this category went to a further four projects; UNISA Phase 2 in Parow, Cape Town, designed by Michele Sandilands Architects; the Seed Library in Alexandra Township, Johannesburg, designed by Architects of Justice; Monaghan Farm near Lanseria, Gauteng, submitted by Claude Bailey Architecture & Design on behalf of Clewer Development Trust, and House Jones in Hurlingham, Johannesburg, designed by ERA Architects.

Employing a total of 2 500 people, the Alexander Forbes Headquarters has already been confirmed as a Four Star Rated Green Building. Occupied for two years, the accommodation impact was designed to reduce any negative impact on water, energy and waste. Reduced power consumption, reuse of water and recycling initiatives have contributed to lower water consumption by 70%, waste generation by 50% and energy consumption by 40%.

The role of louvres, skylights, glazing and scallops assists with light whilst reducing the impact of heat and, at street level, the building edge is softened with xeriscaping, indigenous trees and plants.

‘In acknowledging this building as the recipient of the AfriSam-SAIA Award for Sustainable Architecture for 2014 in the built category, it is hoped that the Alexander Forbes Headquarters will provide a beacon of inspiration, not only as a place to work, but also as a worthwhile contribution to the urban fabric of Johannesburg and human experience in the area,’ said Stephan Olivier, AfriSam’s CEO.

Further details, plus short films on all 15 finalists in the 2014 Award can be seen at www.4tmrw.co.za
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I HAVE INTENTIONALLY borrowed the phrase ‘architecture in the landscape’ from the cover of a recent issue of Architecture SA (Issue 67, May/June 2014). It was here that Simone le Grange, writing about the education of architectural students, lamented: ‘We find ourselves in a precarious design milieu where there is a poverty of grounded design ideas, of environmentally and socially responsible work and where form for the sake of form dominates.’

I identify with this sentiment based partly on my time at the UCT School of Architecture, where on one occasion I came across a crit session for fifth-year architecture students. Perusing through the graphically accomplished projects, I soon realised that hardly any had a north point (apparently unfashionable), so I did not know where the sun rose or set. Nor were there contours, so I did not know if the site was flat or sloping. There was no indication of the surroundings, and needless to say, none of trees, either existing or proposed. I could only conclude that architecture students were being taught to design in an environmental vacuum.

In the same issue of Architecture SA there were articles on a number of houses, well crafted and poetically described, that caught my attention. One was located in what seemed to be a dynamic zone of the coastal dunes and another in the mountains. Without any personal knowledge of these sites and with only photographs of their settings, I was nevertheless intrigued to know whether the siting of these houses fully grasped the prevailing natural forces, such as the mobile sand dunes and cobble-strewn beach, usually an indication of a high-energy coastline. Mountain fynbos environments, on the other hand, are prone to veld fires in regular and necessary cyclical intervals.

My concern is that in the Western Cape, where I live and work, I regularly come across buildings which are sited in environmentally hazardous or climatically uncomfortable landscapes. Many are skilfully designed, but too many are damaged by coastal storm action, flooded by rivers, gutted by veld fires or subjected to rock falls, a few of which are illustrated here. And I often wonder who is liable for this litany of disasters – the planner who prepared the land-use plan, the developer who made a profit from unsuitable land, the owner who dictated the brief, the architect who developed the design or the municipality that rubber-stamped the plans?

1 Macassar
2 Hout Bay
3 Bettys Bay
4 Flooding
THE LOGIC OF LANDSCAPE

On the other hand, there are many lessons to be learned from the siting of old farmhouses and settlements that have evolved over more than 300 years. The farmer, who once lived close to the land, avoided the windswept hilltop or the frosty valley bottom, choosing instead to snuggle his abode into the warm north-facing slope, with trees for shade and wind shelter. Villages and towns arose in similar situations, close to sources of water and well-drained arable soils, so that there was a pleasing logic to these settlements, often revered today for their heritage value.

With increasing population, technology and mobility, and the corresponding loss of connection with the land, the siting of settlements and houses has become more indiscriminate, often with adverse consequences. Added to this, as practitioners we often don't have enough time to become familiar with site conditions or have to deal with environments with which we are not familiar. This places more emphasis on obtaining insights and sometimes outside expertise – input that we may not even realise we need.

If one accepts the premise that so-called disasters are not ‘acts of God’, but are largely predictable, it follows that most natural hazards can be identified and even mapped. For example, a geotechnical study has been made for the entire Cape Peninsula indicating areas prone to rockfalls, landslides, erosion and heaving clays, intended to inform the ‘urban edge’. Hydrologists can prepare maps indicating floodlines, soil scientists prepare maps indicating soils suitable (or unsuitable) for a range of land uses, while ecologists can advise on vegetation types prone to veld fire hazard.

It is now generally acknowledged that climate change and sea-level rise are major environmental considerations requiring a wide range of adaptive planning measures, particularly along coastlines. The City of Cape Town has, as a consequence, commissioned several studies to pre-empt threats to settlements in the coastal zone, while the Department of Environmental Affairs has prescribed coastal setbacks in the Integrated Coastal Management Act.

READING THE LANDSCAPE

Landscape architects are generally trained to ‘read’ the landscape, to understand the pulses and cycles forming part of the natural processes – sometimes called the ‘flux of nature’ by ecologists. Having said that, it is easy to make errors in the siting of housing estates, resorts, parking and other infrastructure, even for landscape architects, myself included, because either the site has already been selected or the analysis is inadequate. Experience teaches one to respect the unforgiving forces of nature and to adopt what is known as the ‘precautionary principle’. Even seemingly small interventions in the environment can have unexpected chain effects, often placing property and human lives at risk, as shown in the illustrations.

Based on these experiences, and on teaching a terrain-analysis course to landscape architecture students, I compiled a basic outline on ‘Reading the Landscape’, with practical guidelines for planning and design in a range of environmental settings. The publication is intended as a primer that will be expanded over time and although primarily aimed at landscape students, it also has relevance for architects, urban designers and town planners, including those in local authorities.

THE HEMEL EN AARDE EXPERIENCE

A project involving the siting of a new farmhouse in the Hemel en Aarde area of the Overberg illustrates some of the factors that need to be taken into account as part of reading the landscape. Although it at first appears to be overkill in terms of analysis for the siting of a farmhouse, the process is valuable for the understanding and planning of the farm as a whole. The cost of such an analysis is offset in the long term by locating buildings, roads and crops in suitable areas, avoiding potentially costly damage to structures, as well as minimising impacts on natural resources.

Although the owner had a particular site in mind – on the crest of a hill, he was persuaded to follow a site selection process based on an analysis of a wide range of informants, such as soil types, site hydrology, vegetation patterns, fire hazard, micro-climate and views, some of which are illustrated here. His preferred site was compared with a number of other identified sites to determine the optimal location for the farmhouse. The study revealed that there were more suitable sites, which resulted in the architect having to re-do the sketch plans. However, all agreed that the outcome was a much better fit with the landscape.
LANDSCAPE ARCHITECTURAL EDUCATION

Returning to the topic of education (for both architects and landscape architects), I listed the following pedagogical imperatives in a recent paper:

The importance of knowing the land. This involves looking at not only the site, but also the broader context, to understand the ‘story’ of the landscape.

Learning to diagnose the landscape. This involves understanding ‘cause and effect’, where land forms are not accidental, but the result of geological and biological processes over long periods of time.

The need to combine theory with practice, so that the one informs the other. This involves integrating theory coursework with practical design studio projects, making the applied process as seamless as possible.

The importance of values. The need to develop a personal ethic that informs one’s philosophy to life, to work and to design, ranging from the wise use of resources, recycling and seeing one’s projects as a way of not merely exploiting, but healing the landscape.

In the African context, it is paramount that environmental factors are adequately taken into account in the planning for poorer communities, as it is these who are the most vulnerable, it is here where food security is most fragile and where natural life-support systems are reaching precarious thresholds. Given the large investment in townships and infrastructure, and the need to avoid natural hazards, to conserve energy in the siting of buildings and to protect scarce resources such as water, it is clearly essential for architects, planners and engineers to give more serious consideration to rigorous site assessments and to have a greater awareness of the interrelatedness of natural processes.

REFERENCES


 Bernard Oberholzer is a consulting landscape architect and environmental planner, and was formerly a convenor and lecturer in the Master of Landscape Architecture Programme at UCT.
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An inventor, designer, entrepreneur, architect and past president of the South African Institute of Architects, Al holds a number of design inventions, patents and SABS design awards over the years – starting in the early 1980’s with the original Winblok, and then following with the Winstep and Windeck. Al most recently won the 2013 Design Indaba Innovation award for his pioneering StratFlex furniture.
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NOT OPEN: NOT CLOSED

BY NIC COETZER

ONCE IN A WHILE, a new piece of technology comes along and rewrites social mores. I’m not talking about high-tech shifts such as elevators or glass windows, although their impact can be felt in the most embarrassing ways to the uninitiated. One of the best films about Modernism and its awkward reconfiguring of everyday practice is called Playtime (1967), directed by Jacques Tati. The protagonist, Monsieur Hulot, arrives to a new kind of Paris whose smooth glass surfaces and abundant translucencies cause endless confusion for the hapless Hulot. His dismay at finding himself without warning in an elevator ‘going up’ is a reflection – one of many – that Hulot brings to our otherwise easy acceptance of the physical world we so glibly reconfigure with this strange stuff called steel and glass. A sequence of disembodied dancing feet set at play on a chair with wheels – how strange! a chair with wheels! – might be one of the funniest sequences in cinema involving a sales clerk. Playtime, with its extended deadpan shots where the action walks across and in and out of a still screen might be agonisingly slow for our current cinematic tastes of jump-cuts and panning cameras in search for action and excess, but it is still the funniest and sharpest critique of Modernism I have ever seen.

Equally funny (but for other reasons) is an old radio advert that is forever lodged in my brain to frightening effect. Here I’m talking about a 1950s cigarette brand which is unfortunately not yet defunct. The ad makes me laugh (and it’s not just the narrator’s haughty English accent): ‘When confronted by a revolving door, I never know whether to precede or follow my lady friend. But I do know which cigarettes to hand out afterwards...’ Imagine the unintended stress that this strange new technology created around the world (a door that rotates!) and what this meant for etiquette and manners – although, it should be noted that the inventor of the revolving door, Theophilus Van Kannel, supposedly came to his brainwave after agonising over the silly dance of etiquette and politesse that befuddles door opening: his invention was supposed to make all equal before the door. It’s funny to think then of the amount of anxiety that must have swirled around this endlessly rotating door if the cigarette ad is anything to go by. And it’s surprising that the British Empire survived as long as it did – I have a sneaky suspicion that the revolving door might have been instrumental in causing the country to start going nowhere in circles and to lose its confidence to lead.

Recently, a new piece of technology has challenged gender etiquette. Here I’m talking about the ‘soft-close’ toilet seat – the latest accoutrement of the bourgeoisie (that’s me). Somewhere in a high-tech lab (in Germany? In Italy? In Switzerland?) engineers were tasked with making toilet seats move unassisted and ever so slowly, making their way from the up or open position, to the down or closed position. And unlike the abundance of soft-close mechanisms in cupboards and drawers where things move quickly and then suddenly slow down in the last satisfying moment of finesse as the drawer or door gets sucked into position, the soft-close toilet seat fights the effects of gravity excruciatingly slowly (like Tati’s Playtime) from the get-go. And please note, you aren’t allowed to force them down in hurried irritation for fear of compromising the complex mechanism that allows a swift lift and controls a slow descent. As a result, the soft-close toilet seat often enough resembles Marcel Duchamp’s Door, 11 rue Larrey – neither open nor closed, but seemingly endlessly caught between two compromising positions that ‘R.Mutt’ himself would have been proud of.

In the recent old days of gender struggle, men knew how to close the toilet seat – the trained ones, at least. A firm close and the business was done. Like a firm handshake. Polite. Emphatic. Categorical. No need to think about it. Now, with the soft-close you can do your business and start the closing process and just walk away. As a result, a new anxiety swirls around the toilet seat of masculine manners, bringing forth one of the most vexing philosophical conundrums of our time: in the darkness of the night, with no one in the bathroom to witness it or hear it close, can you be sure that the soft-close toilet seat is really down?
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THE RECENT CONGRESS of the UIA held in Durban saw a welcome number of additions to the bibliography of South African architecture, this being one of them. Appropriately, the book is introduced by Professor Paul Kotze, director of the architecture programme at Wits University. He conceived of the original idea for a lecture series, and when presented in a staff meeting to the School of Architecture at the then University of the Orange Free State, received enthusiastic support, particularly from Jan Ras and Gert Swart. What started as a modest assembly, inaugurated by the doyenne of South African architecture, Mira Fassler Kamstra, as the first Sophia Gray laureate, in a one-night lecture and exhibition to an audience of 50, has burgeoned over the past 25 years to an event that hosts the family of architects across the country and creates a forum for engagement, attended by some 700 people.

The manner of selecting the laureates is informal and somewhat ad hoc, the only principle being that they have standing as architectural practitioners in South Africa and, one presumes, that they offer something to learn, particularly since the initial audience was intended to be the students of architecture at UFS, and the choice still has a didactic purpose. Hence laureates are from the high-streets of commercialism, through the reflective and critical practitioners to the backrooms of academia. Work of the Sophia Gray laureates is deliberately included in the third-year history syllabus there. Students also assisted in building models for a fine display accompanying the release of the book held in the adjacent exhibition hall to the Inkosi Albert Luthuli International Convention Centre, another useful aid to learning and understanding.

What has been missing is a record of these events. This book is an endeavour to fill that gap. As a synoptic catalogue, it achieves this end admirably. As one expects from architects, the graphics and photographic layout are balanced and unfussed, the pages crisp and clear. While synoptic, the photographed projects and associated drawings give insight into the character of the laureate, while the short biographies and chronology of representative works provide a deeper understanding of that particular architect’s oeuvre.

Kotze laments that the other residue envisaged from this enterprise has not yet been achieved, namely a national architecture archive as well as a published corpus of critical reflections on the works and persons exhibited. The latter may be easier to achieve and we are promised that this book, of which a mere 200 have been published, rendering them instant Africana, is to be followed by a compendium of critical essays, where the material and works of the Sophia Gray laureates will serve as exemplars for engagement across a range of themes and topics. If this promise is met, it will add to the legacy of those who have gone to the trouble of compiling lectures and exhibits – no mean feat.
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ARCHITECTS WITHOUT ARCHITECTURE – ARCHITECTS AND THE ART OF PHOTOGRAPHY

BY ROGER C FISHER

I WAS RECENTLY ASKED to write a postlude of Carla Crafford’s (née Hartman) forthcoming limited edition retrospective monograph. That got me thinking about the role of photography in architecture.

It may come as a surprise to discover that architects were among the early photography entrepreneurs in South Africa. Carl Otto Hager (1813–1898), the German émigré recognised by Radford as the architect who introduced the Neo-Gothic style for church buildings into South Africa, switched to being a ‘daguerrotypist’ for a while. In 1858 he opened a photographic studio in Cape Town, specialising in daguerrotype portraiture, one of its earliest exponents in the Cape. He returned, however, to Stellenbosch in about 1860, where by 1861 he had ‘portrait rooms’. He retained his interest in photographic portraiture throughout his career. The extant portrait photograph we have of him may well be his own work of that time and certainly one of the earliest examples of a photographed SA architect.

The precursor to the modern camera is the camera obscura, an optical device that projects an image of its surroundings onto a screen. Henry Carter Galpin (1820–1886), a near contemporary of Hager, while not recorded as a photographer (although it would not be a surprise if he was), is remembered for his various optic devices incorporated into his home in Grahamstown, amongst these a wall-placed oculus which helped circumscribe the analemma of the annual transit of the earth around the sun on the floor of the room, and a camera obscura located in a roof-top tower. Galpin arrived in South Africa in 1848. He was born in Charmouth, Dorset and trained in England as an architect, civil engineer and a clockmaker. He won the competition to design the hothouse in the Cape Town Gardens. By 1849 he was living in Grahamstown, having become a surveyor, retiring prematurely for reasons of health, and working instead as a clockmaker. He was instrumental in identifying for science the first diamond as being such (I am respectful of the fact that the San also knew of them) in South Africa. His house in Grahamstown has become a landmark, including as it did, the observatory and the camera obscura which has been restored, is still functional and works as part of a public museum.

We may look to our sister (or stepchild) profession – that of civil engineering – to discover how a rapidly developing technology gave rise to a new form of documentation. In a well-researched and recently published monograph
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Bridging the Eastern Cape. Dennis Walters, himself a civil engineer, relates how Joseph Newey (1846–1907), when in 1881 appointed as chief inspector of the Department of Public Works of the Cape Colony, was furnished with photographs of the prefabricated steel Kei Bridge before delivery and shipment by the London works of Westwood Baillie & Co prior to dispatchment. This heralded a new era in project monitoring, one still with us today – iPad apps make it possible to photograph, mark up and post instructions for immediate turnaround of documentation and issued within hours!

Although not an architect, the appreciation the profession has for the work of Arthur Elliott (1870–1938) gives him a deserved place here. He was from New York, an orphan from the age of 12, although he earned his living in Scotland before coming to South Africa, aged nearly 20. He tried various odd jobs in Johannesburg, including that of scene painter and theatre production manager. He brought the first phonograph to the Transvaal and played it to President Kruger. He, having arrived in Cape Town as an Anglo-Boer War refugee in 1900, took to his life-long profession, photography. Initially he made money taking portrait photographs of Boer internees at Green Point being readied for exile through the Cape Town Harbour, to send to their families as momentos. It is said that it was the doughty Alys Fane Trotter (née Keatinge, 1863–1961) who suggested that he document in photographs what she was doing on her bicycle with pencil – the rapidly deteriorating rural Cape Dutch houses of the peninsula. This fired his intense love of South African history and its Cape Dutch architecture, expressed in his 10 000 photographs, which form an unrivalled pictorial record of the early 20th Century at the Cape. During his lifetime, only a portfolio of his photographs for the use of schools was published, but 1969 saw the publication of 162 of his best pictures of farmsteads and historic buildings, with text by Hans Fransen. Shortly before Elliott’s death, he offered his collection to the government for £5 000, but this was turned down. Eventually in 1946, the Historical Monuments Commission six years before by means of contributions totalling a mere £2 525, was presented to the Cape Archives by the government, where it now resides.

For the sake of space, I have chosen the following architects purely out of personal preference. Robert Cole Bowen was a Leica cameraman. He published rarely in the local architectural magazines since he demanded full control of language, illustrations and layout! His published oeuvre is thus limited. He also produced a tome, 15 Essays in Half-Tone. It was a classic of its time and remains so. In the same league is Gawie Fagan; his black-and-white photographs for his book Brakdak are also timeless memorials to a rural past.

He tells me that then he used a 6x9 Linhof to photograph these records.

Today in the digital era, we have Leon Krige producing high-resolution frozen records of urban skylines, meticulous in detail, like opening the advent boxes of a Christmas calendar.

If I may return to the postlude I composed for Carla Crafford – although specific, I have edited it into a general observation on the art of photography since I hold that its art reveals some universal truths:

As humans we share our senses, through vision our visions and envisioning. Seeing is a democratic act. Yet we each have our individual way of seeing, which varies in acuity and ability. As recompense, we have the artist see for us. The artist is our tour guide, taking us, through our eyes, to worlds familiar made strange, and unfamiliar known, all etched to memory. Yet, by adding a corrective lens, our introductions are as they meet them. We are privileged, through the science of vision, to read the geochronology of site and archaeology of those artefacts chosen as subject. Each time we come to the end of our travels with a photographer as artist, we have been introduced to all that they have met. We are taken on journeys into worlds recovered and uncovered. All subjects photographed, if chaotic, are subjected to an equality by being ordered, through the lens, into a cohesive and democratic realm. And we are guided in envisioning the spaces, places and faces of things discovered. We are inspired to retain our sense of awe as tourists through life.

A mysterious and glorious art indeed!

Roger C Fisher is emeritus professor in the Department of Architecture at the University of Pretoria.

1 The photograph of Hager
2 15 Essays in half tone by Cole Bowen
3 Brakdak by Gawie Fagan
CAESARSTONE STUDENT DESIGNER COMPETITION WINNERS

Caesarstone announced the top three winners of the Caesarstone Student Designer 2014 competition on 18 September in Cape Town. At the official World Design Capital 2014 event, the nine finalists’ designs were on display, allowing guests to engage with their responses to the ‘Re_Charge’ brief, conceptualised by Cape Town architect and competition judge, Greg Wright. “The brief was a difficult one and some students struggled to interpret it, but on the whole we were pleased with the level of design we saw across the competition finalists’ entries,’ said Wright.

The overall winner was James Mayer of Tshwane University of Technology, whose lecturer was Rene van der Merwe. In second place was Ian Winfield of Nelson Mandela Metropolitan University, while third place was awarded to Dayle Wener of BHC School of Design. The winning student and his lecturer will enjoy a trip to an international design fair of their choice worth R80 000, courtesy of Caesarstone. The runner-up wins R10 000 in cash, while the second runner-up wins R5 000.

The Caesarstone Student Designer 2015 brief was released on the evening and is available for download at www.caesarstone.co.za. All the competition videos, including the judges’ discussions on the top three designs, as well as the 2015 promotional video can be viewed at www.youtube.com/MyCaesarstoneSA.

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According to designers, Bam Architects, the choice of three colours was an aesthetic one, but the raised curved profiles in the sidewalls are walled with translucent sheeting in the return sections, which allows a degree of natural light to enter the warehouse.

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