

## Cathedral Church of the Holy Nativity, Pietermaritzburg (1983)

Architects - H Kammeyer, N Rozendal, G Carter-Brown

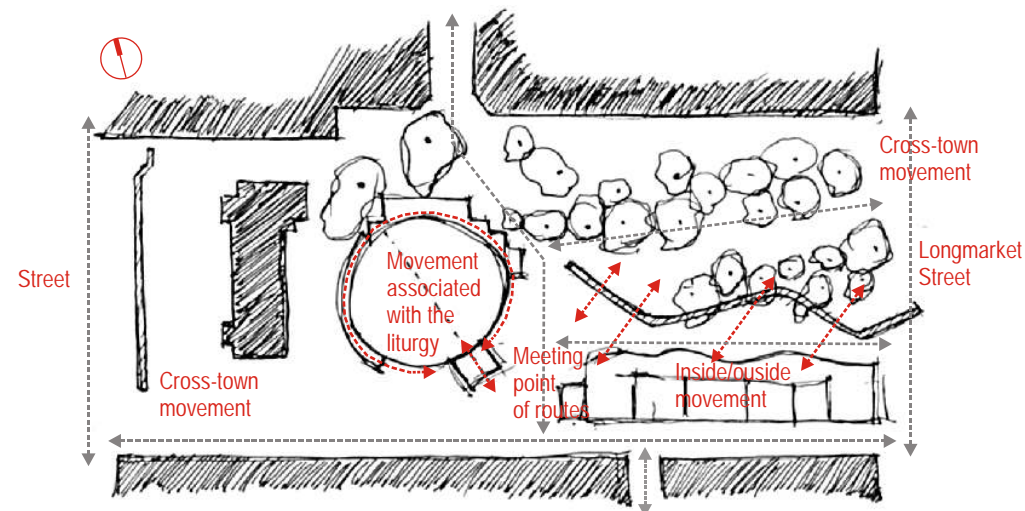
Quantity surveyors - W Slingsby, Campbell and Partners

Electrical mechanical and structural engineers - O Arup and Partners

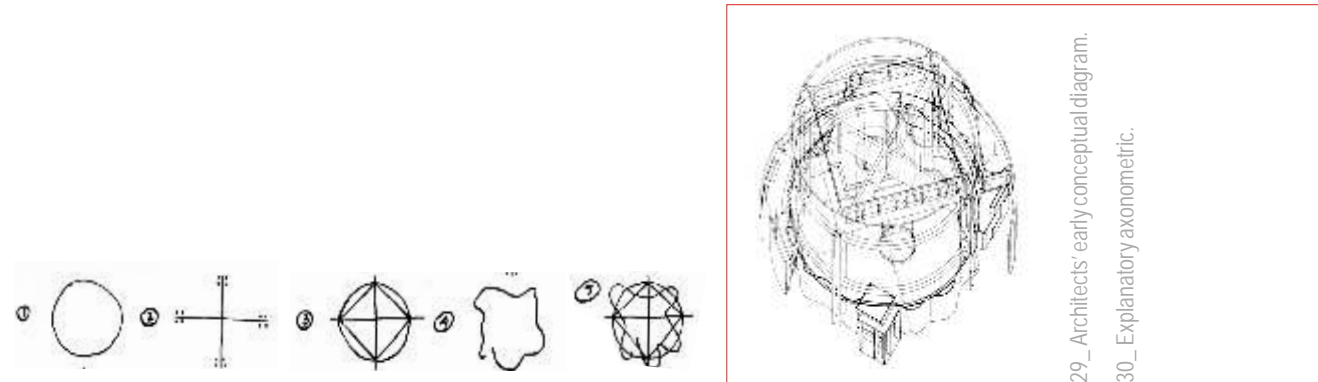
Acoustical consultant - A Jongens

Main contractor - G Black and Son

The site is on the fringe of the CBD of Pietermaritzburg and contains the 120 year old St. Peter's Church. Behind the church is a grove of yellow-wood trees planted by the bishops of Natal. At the time when the design competition was organised for the project, a pedestrianization scheme for the adjacent sites had just been approved and competitors were asked to co-ordinate this into their proposals for the site. This meant that a pattern of movement already existed on the site and together with the shaded shelter, already established the site as a place [Wale, 1983; 5]. The location of the site within the CBD was seen as an opportunity for the Church to integrate with and to open up its functions to the public life of the city. Free movement is allowed in all directions across the site, corresponding to different degrees of involvement and definition (SEE FIG. 28).



28\_ Diagram indicating patterns of movement.



29\_ Architects' early conceptual diagram.

30\_ Explanatory axonometric.

The sanctuary itself is a primary form, wrapped within an outer wall and forming residual urban spaces around it. The architects describe the cathedral as a building built up of layers of ideas, superimposed and interacting. (1) The first conceptual diagram shows a simple, enclosing circular space, unifying a previously divided Anglican community. (2) A cross placed over this space becomes the main support for the roof, in turn supported on four clusters of four columns. (3) The two geometries are reconciled by a complementing square within the circle, which becomes the means of allowing light to penetrate into the upper reaches of the space (SEE FIG. 34). (4) The drum is lifted up from ground level and below its perfect geometry, the geometry of the building becomes free in form and organic in its implications. This is done to accommodate use and to relate its scale to its surroundings. The shape of this shell is furthermore tailored to provide the best possible acoustics for the human voice from the sanctuary area. (5) The layers superimposed on one another form the end result (SEE FIG. 29) [Wale, 1983; 8].

The liturgy associated with the Anglican Church demands free movement between the interior and exterior of the cathedral. At events like Palm Sunday, the whole congregation would exit the church at a side entrance, following a procession that leads them around the Church and eventually back to the main entrance. On rainy days the same procession can be followed by entering and exiting the circulation space at the back of the church (SEE FIG. 28) [Kammeyer, 2003].

The Fellowship Building houses mainly administrative, recreational and educational functions. The edges on the ground floor have been designed to make small spaces along the external public route. The building opens itself out, inviting involvement and participation (SEE FIG. 28) [Wale, 1983; 9]. The seminar rooms, library and lecture theatre have been structured around a circulation route on the first floor, relating to the trees and the outside terrace. A strong inside/outside connection is established.

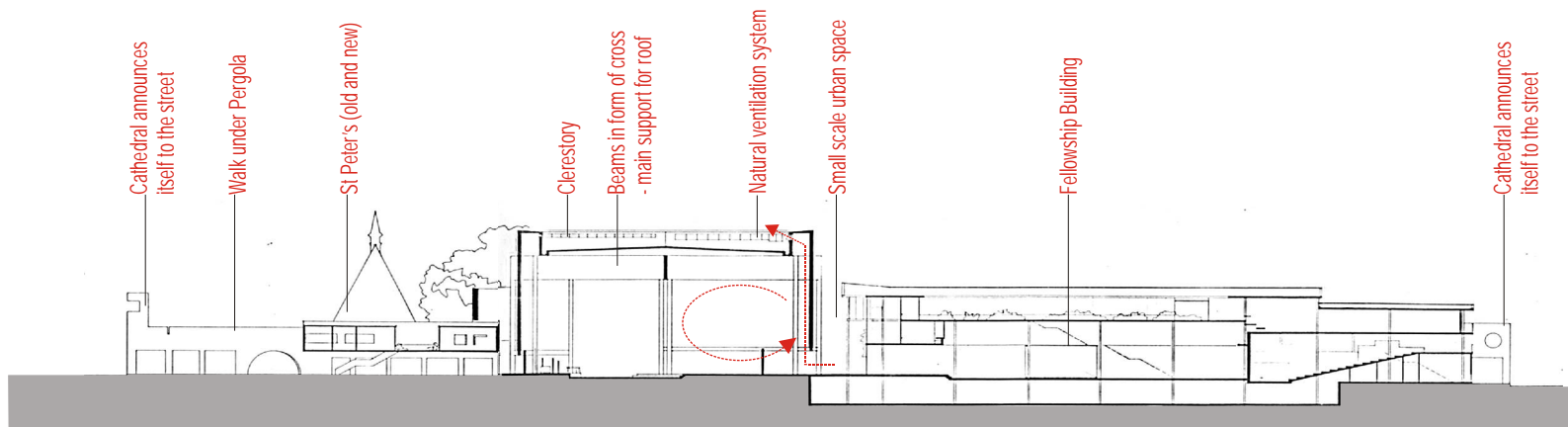
The complex is environmentally responsive. The Sanctuary is naturally ventilated on the convection principle; air entering at the base of the drum between the two skins and escaping out of mechanically operated clerestories at roof level produce the required air change rate (SEE FIG. 34) [Wale, 1983; 8]. The Fellowship Building consists of a number of verandahs, which are environmentally and regionally appropriate. The interior of the Fellowship Building opens up to allow natural ventilation. Most walkways are shaded by transitional elements.

31\_ The Cathedral seen from Longmarket Street. 32\_ The main entrance and external gathering space. 33\_ The spire of St Peter's showing above the rampart.



The cathedral is essentially a “people’s church”. The building becomes a thick wall wrapped around the functions of worship, fellowship and administration, unifying these in a single urban statement. It was the architects’ conviction that the Church is part of the world, that the Church should be able to reach out, to be involved in, and participate in, the business of daily life [Kammeyer, 1995; 20].

34\_ Longitudinal section trough site indicating building positions.



### Dominican Monastery of La Tourette, Eveux-sur-l'Arbresle (1957)

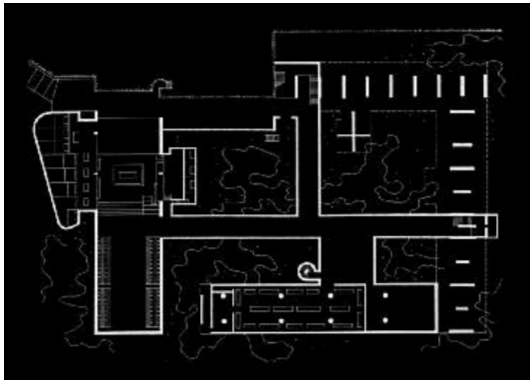
Architect - Le Corbusier

With the construction of La Tourette, the Constitution of the Dominicans did not evolve a new type of monastery; they rather simplified the types of buildings common in the 13th century and cut them down to essentials. Keeping within this rule the monks expounded the spatial programme of the order. They asked for a church and oratory, a chapter-room and refectory, a cloister, a library, lecture-rooms and cells [Henze, 1966; 8]. There is a sense of intellectual energy informing a plan that determines everything by reference to the Rule [Braunfels, 1972; 230].

Le Corbusier employed vestiges of the traditional monastery in his plan. The use of bare concrete and stark forms was intended as an equivalent to the stonework of old buildings [Curtis, 1996; 423]. Le Corbusier further selected the ancient ground-plan of the rectangle surrounding an inner courtyard, and in the refectory he retained the traditional 3-aisled hall [Henze, 1966; 12]. However, a strong sense of creative harmony, of tradition and new ideas, led to a new physical type of Christian monastery. The monastery gate is in the traditional position next to the church, but the gateway now consists only of a free-standing frame in space; it acts as a sign to remind strangers of the dignity of the place toward which their steps are bending [Henze, 1966; 10].

What gives the variously articulated functions the power of architecture was the way they were linked by platforms and corridors, and orchestrated within a clear overall form [Curtis, 1996; 424]. Le Corbusier abandoned the traditional type and model of the cloister, but enhanced the functional quality of the communicating way; the cloister takes on the shape of a cross linking all four sides of the courtyard. By placing the scholastic floor between the ground-floor containing the church and cloister, and the cells above, an overall vertical unity is achieved.

The visitor entering the monastery is guided by carefully controlled visual clues and led into the more private areas in a downward-spiralling movement, through spaces of varying light and intensity. It is a route of initiation, from the secular world outside to the daily ritual of the community within [Curtis, 1996; 424]. The visitor moves through a series of transitions; from the public realm of the outside to the semi public space of the church, from the private space of the lower church to the personal space of the individual cells.



35\_ Ground floor plan of church and refectory.

36\_ The cloister takes on the shape of a cross in the square of the courtyard.

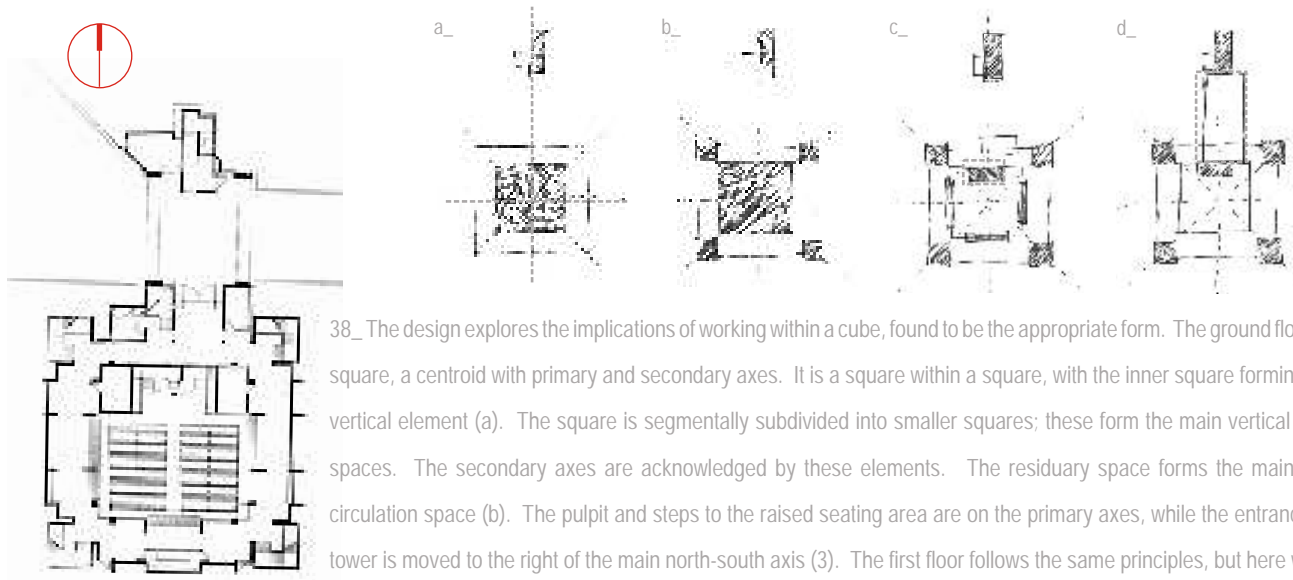
37\_ The lower church with individual altars.

## Dutch Reformed Church, Welkom (1964)

Architect - RS Uytenbogaardt

In 1964 this bold Church was imposed on a featureless landscape of rough veld of windswept grass, designed by the Dominee's brother-in-law, R.S. Uytenbogaardt (SEE FIG. 41). Since then not much has changed; the rough veld is still there, but church members have come to accept this fortress-like structure.

Although the building sits in a veld, like a pavilion-type structure, it was designed around its interior, with hidden light sources allowing visitors no outside views. The building could just as easily have been constructed in an inner city block. The Church has a powerful simplicity; the square plan of the main space extends to a functional and impressive spatial organisation. Strong scaling elements exist without being overpowering - the low circulation space, the height of the main space and the space created by the vestry (SEE FIG. 42).



38\_ The design explores the implications of working within a cube, found to be the appropriate form. The ground floor plan is a square, a centroid with primary and secondary axes. It is a square within a square, with the inner square forming the main vertical element (a). The square is segmentally subdivided into smaller squares; these form the main vertical circulation spaces. The secondary axes are acknowledged by these elements. The residuary space forms the main horizontal circulation space (b). The pulpit and steps to the raised seating area are on the primary axes, while the entrance and bell tower is moved to the right of the main north-south axis (3). The first floor follows the same principles, but here we find the interlocking forms of the vestry, and part of the horizontal circulation space (d).





39\_ Interior view of pulpit and main seating area.



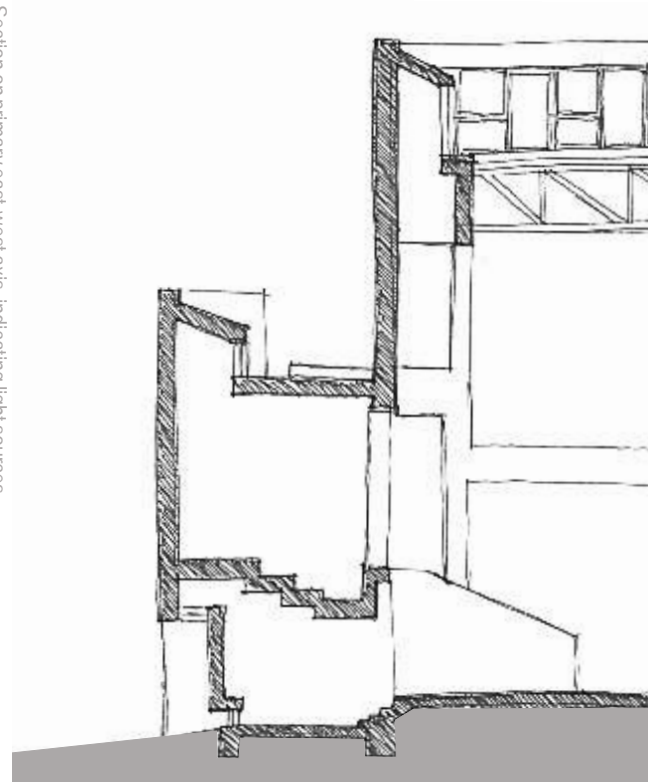
40\_ Light filtering in through two levels of clerestory.

When moving from the harsh light of the Free State into the Church, one is met by an almost complete darkness (SEE FIG. 44). Only glimpses of an interior light source draws one nearer. A calculated use of natural light, horizontally controlled, mellows an interior composed of natural materials, purged of superfluous detail, to produce a genuinely religious atmosphere [Graig, 1973; 226]. The main seating area is a few steps higher than the darker circulation route. With this change of levels and light intensity, there is both physical movement and an inner journey or passage that moves or removes the subject metaphysically.



The church was designed as an expression of brutalism, to exploit the use of structural and untreated materials such as timber, brick and concrete, and for the undisguised expression of a building's functions [Graig, 1973; 224]. Different aspects of the same material become the decoration and expression of the building; it accepts the elevational consequences of its internal space making [Nuttall, 1993; 14]. The potential of ordinary building elements are exploited in order to express design quality; clay bricks and concrete blocks are used on all their sides, while concrete elements become sculptural. Attention is given to the connection between materials.

Here is an architecture of discovery - one that comes from the struggle with the art of architecture, with materials, structure, space and light, and not from a pre-existing style [Nuttall, 1993; 14].



42\_ Section on primary east-west axis, indicating light sources.

43\_ Detailing of connections between materials used.

44\_ Main horizontal circulation space.

## Hector Pieterse Museum, Soweto (2002)

Architects and exhibit design - MRA Architects

Landscape design - P Watson

Quantity surveyors - F Williams and J Kgole

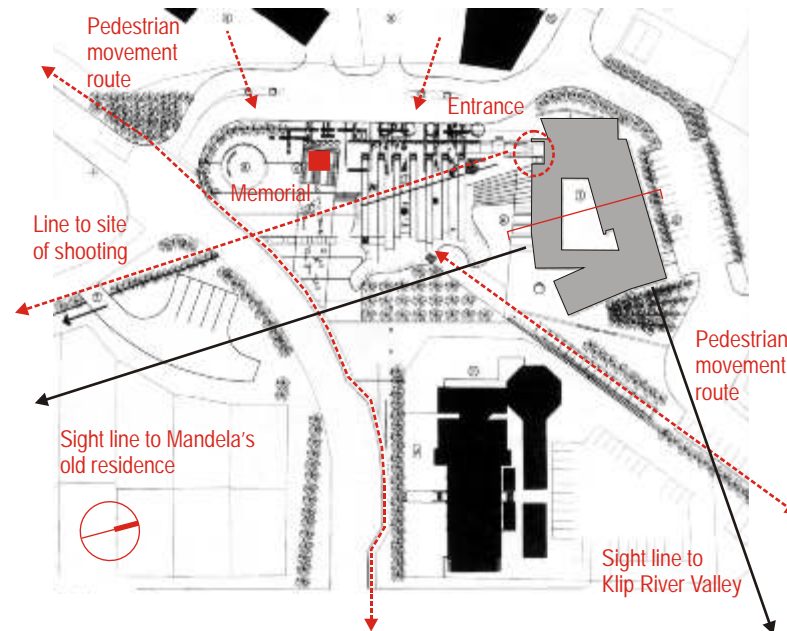
Electrical engineers - Gama Gamedze Associates

Mechanical engineers - Ubunye Engineering Services

Civil engineers - Civil Projects Engineers

Structural engineers - HBS Makheta CC

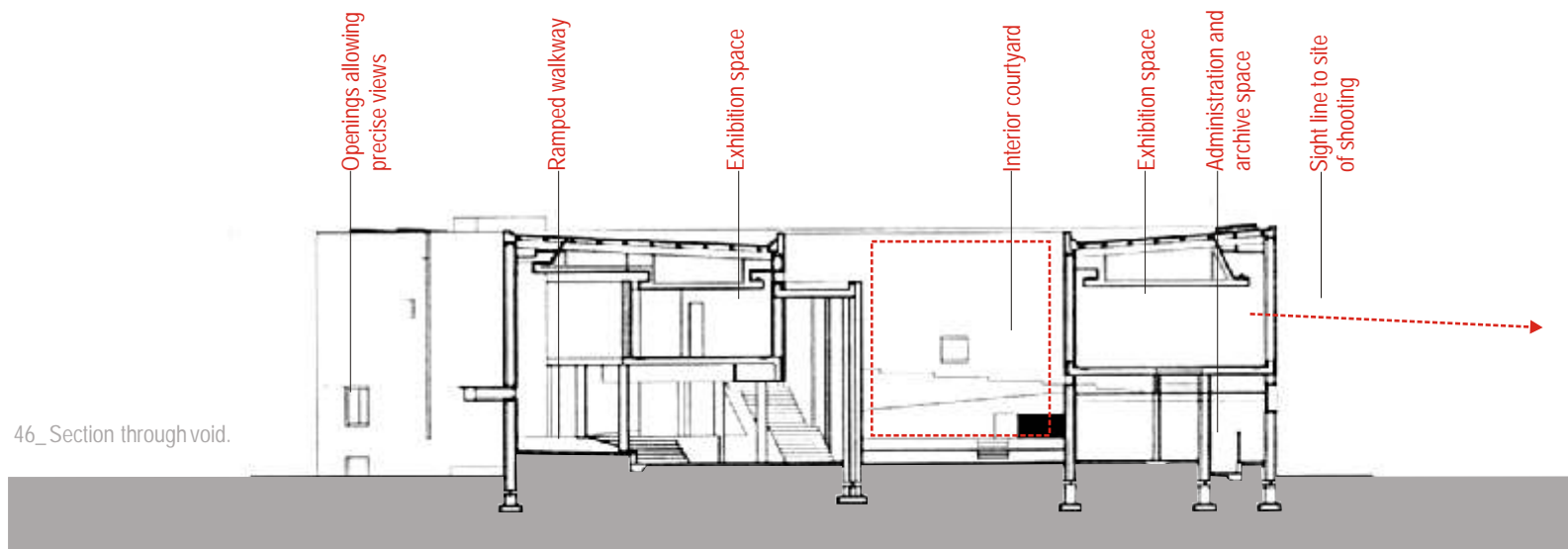
On June 16, 1976, Soweto students organised a peaceful march against 'Bantu Education' and the use of Afrikaans as a medium of instruction. During the marchers' clash with police, a 13-year-old schoolboy, Hector Pieterse, was gunned down. Chaos broke out and the area became a war zone for several days. The museum commemorates this part of South African history.



45\_ Site plan indicating sight lines and main pedestrian movement routes.

It is impossible not to draw comparisons between this museum and the Apartheid Museum. The Apartheid Museum struggles to have any contextual meaning. The neighbouring theme park trivialises the initial response to the site, and the experience of the museum. The Hector Pieterse Museum was erected on the site of the uprising and 600m from the site where Hector was shot. Two roads and a traffic circle were closed and several sites consolidated to form a public gathering space and site for the museum [MRA Architects; 2003, 32]. The museum responds to the community that surrounds it. An Anglican Church, a community centre, and a primary school form the edges of this gathering space.

The flush-jointed red-brick museum echoes the distinctive 1940's red-brick houses around the museum, establishing a contextual continuity [MRA Architects; 2003, 32]. Although this is a pavilion type building that has an inward focus, openings have been strategically placed to visually and historically connect to the surrounding areas. It is stark and oppressive, informed by the architects' respect for the suffering of the people [Du Preez; 2002, 28].





The museum is designed as a ramped and flat sequence of spaces that gently rise up around a central void over three floors. The ritual movement up the ramp gives visitors a sense of procession, linking historically to the march on 16 June. Movement up the ramp takes place through different layers of meaning. The complexity of the uprising is further strengthened through layers of spaces; a courtyard within a white box, within a red-brick box. There is the occurrence of incidences; for instance when one reaches the top of a ramp, an unexpected window looks out over the Klip River valley. Through the framing of critical views, historic moments are explicitly brought back into existence and internalised through the museum. Space is collapsed and the temporal separation of events that occurred over a protracted time and geographic area has been brought into a single condensed experience [Low, 2003; 32].

The museum exists outside the boundaries created by the structure. The physical landscape outside becomes an integrated part of the experience. An 800 m long line of 'rooigras' between two steel plates is drawn from the entrance of the museum towards the actual site where Hector was shot. In the gathering space in front of the Museum, a memorial, surrounded by several dry-stack black-slate walls and grass-block paving, conveys the real message of the museum. The inscription reads 'To honour the students who gave their lives in the struggle for freedom and democracy'.

The integration of the narrative museum space and the physical landscape outside is the most potent and memorable aspect of the museum [MRA Architects; 2003, 33].

47\_ Exterior view of entrance and main exhibition space.

### Sculptures by Richard Serra (1939 -)

All Serra's sculptures are concerned with experience and observation. Some reveal the process of their making, some clarify aspects of their physical properties, and others redefine the nature of the space they occupy [Krauss, 1986; 11].

Serra's works involve the viewer in this creative, exploratory process. They alter and reshape the viewer's perception of space and virtually force interaction [Krauss, 1986; 11]. Only parts of a work can be seen from any one vantage point; it requires that time be spent in walking, looking, anticipating, and remembering. The physical properties of Serra's sculpture is presented in a non-illusionistic manner so that the principles of the work's construction can be grasped. The viewer must "work" to understand the piece.

Both his indoor and outdoor sculptures occupy greater space than the works themselves; they define a greater spatiality. Even the urban and architectural works define certain boundaries where apparently no such boundaries exist (SEE FIG. 49). Pieces change configuration with the viewer's every step, making him aware of the relationship of the works to himself and the space they occupy [Krauss, 1986; 12].

In most of the sculptures a sense of movement exists. This is realised through form (curved plains or straight lines), the ever present possibility of collapse and metaphysical movement as experienced in *Delineator* (SEE FIG. 49). The urban and architectural works that involve more than one element and have an active dialogue with their own parts, seem to propel the viewer around them, exerting a sense of speed [Krauss, 1986; 13]. This is particularly true of *Clara-Clara* (SEE FIG. 48).

Serra creates works that are site specific; he structures his works as an integrated part of the sites on which they are to be placed. His works are designed in relation to the site, which they then redefine. They are built within the context of the architecture or urban space, and their scale and placement are determined by the size and shape of their spaces and by the limitations of access space and weight load.



48\_ Clara-Clara (1974), consists of two identical sections of a cone, a shape that has different radiuses at top and bottom, placed side by side with one inverted, so that the two parts incline in the same direction, enhancing and distorting the viewer's sensations of speed and mobility as he/she passes between them [Krauss, 1986; 13].



49\_ Delineator (1974-75), consists of two rectangular plates, one flat on the floor, the other attached to the ceiling, but positioned crosswise to the lower plate. The juxtaposition of the steel plates forming this open cross generates a volume of space which has an inside and outside, openings and directions, above, belows, rights, and lefts. These co-ordinate with the body, so that the observer understands the work when walking through it, and senses a volume of verticality that he/she becomes part of [Krauss, 1986; 12].