



1: Heavy linen elephant crepe

This section entails the study of architectural precedents, both international and local, the exploration of design influences when composing a building form; design style, material usage and detailed elements.

# DESIGN PROGRESSION

# JOURNAL

# 5



## 1. Idols of Implementation:

When researching all aspects concerning the placing of a building system into the prescribed context, various issues arise that do not necessarily pertain to the physical construction of the building itself. Subjects such as marketing initiatives, resources, accommodation of different users, safety, maintenance, and community participation are but a few that need to be addressed. Mere analysis of an aesthetically pleasing architecture does not allow for the exploration and understanding of the realities.

Determining the actual challenges of the design execution will lead to a successful application. The following aspects will influence choices:

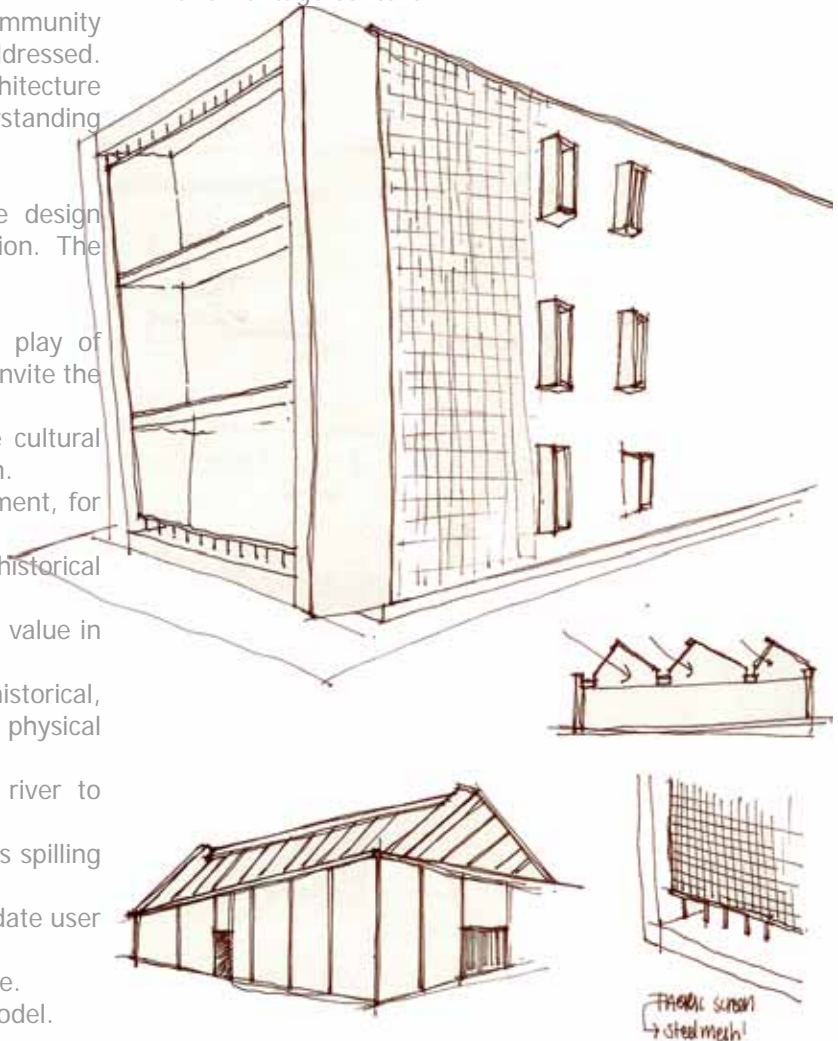
- Creating a building that becomes a play of light, texture and movement that will invite the public to interact with it.
- Creating a sense of place of definite cultural significance in a decayed urban region.
- Defining space and controlling movement, for ultimate access and participation.
- Designing thresholds between the historical significant and the vibrant new.
- Re-establishing meaning, identity and value in the Oeverzicht village.
- Providing a suitable response to the historical, cultural, social, economic and physical context.
- Redefining the pedestrian street to river to building relationship.
- Accommodating a network of activities spilling into and out of the building.
- Providing flexible spaces to accommodate user needs.
- Using textiles and crafts in architecture.
- Creating a sustainable eco-building model.

## Expertex Textile Centrum, Enschede , eastern Netherlands.

**Architects:** Brookes Stacy Randall and IAA Architecten

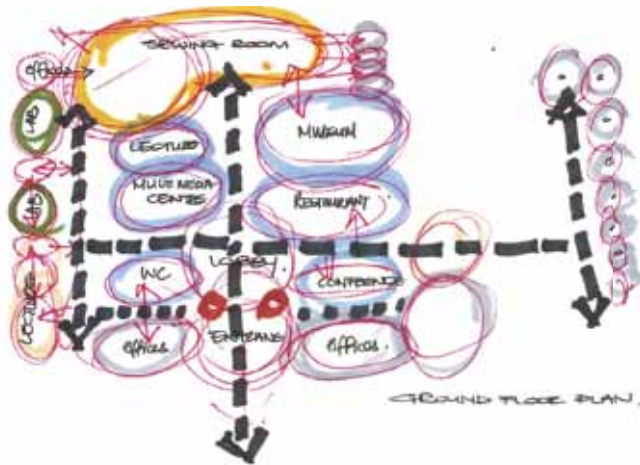
**Client:** Twents Textiel en Confectiecentrum.

**Relevance:** Textile school with coinciding functions and heritage context.

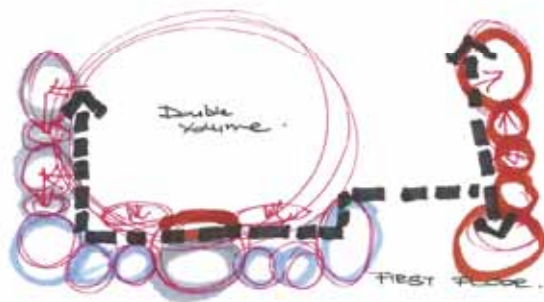


1: Perspective of new addition and old factory

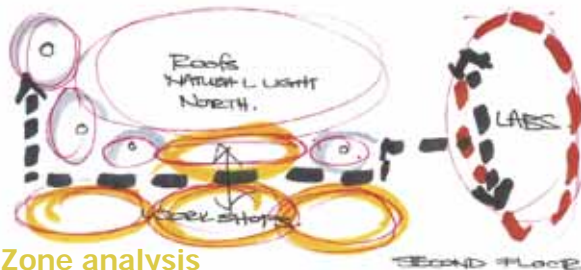
The Expertex Textile Centrum was first established as the De Maere Textile School in 1928. Art and craft classrooms surrounded a demonstration factory space for training factory members of the Dutch Textile Industry. After the refurbishment and repair of the school in 2000, the demonstration area was converted into a museum displaying antique machinery. The rest of the building hosts IT-based textile production and processes. A restaurant next to the museum allows users to connect with their heritage through glazed interiors that allow the observation surrounding of elements and movement patterns. A new wing was added to accommodate additional research labs and facilities.



COMMUNAL  
OFFICES  
SERVICES  
TEXTILE



STUDIOS  
LECTURE CONFERENCE  
RESEARCH LABS



2: Zone analysis

3: Glass connecting old and new

4: Section through old and new



The modern addition to the historic building is proficient in a plain and elegant manner. A glazed wall functions as a link connecting old and new. It consists of a steel structure and load bearing concrete, supplying a robust environment for research experimentation. Walls are clad with matching coloured square pavers applied to the existing brick finish. Concrete cowls repeat the existing rhythm of windows on the eastern façade and present passive sun control. The new southern façade is fixed with a steel mesh, in keeping with the textile theme, and serving as a screen hiding the incoherent interior layouts of the workshop environment. The simplistic nature of the addition is deserving of merit.



**1: Steel mesh facade**

**Knowledge gained:**

- Historic sensitivity.
- Repetition of existing rhythms in new manner.
- Movement past glazed barriers allows continuous interaction.
- Public spaces are centrally orientated, with semi public to private spaces located on the periphery of movement corridors, therefore creating a core of activity.
- Visual and physical interactiveness.

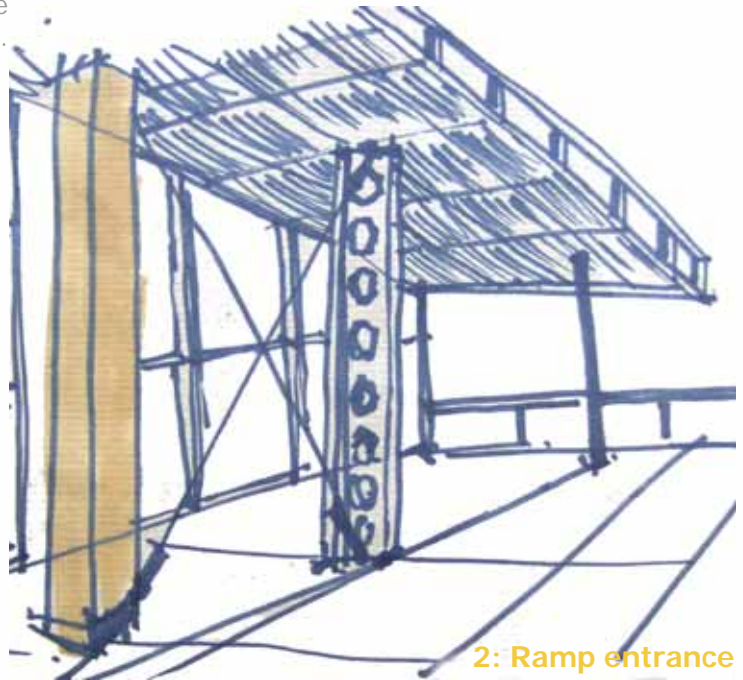
## **Kunsthal, Rotterdam, 1992.**

**Architects:** Rem Koolhaas and Fuminin Hoshino.

**Client:** Unknown

**Relevance:** Connects pedestrian route from freeway to Museum Park. Rotating exhibition space.

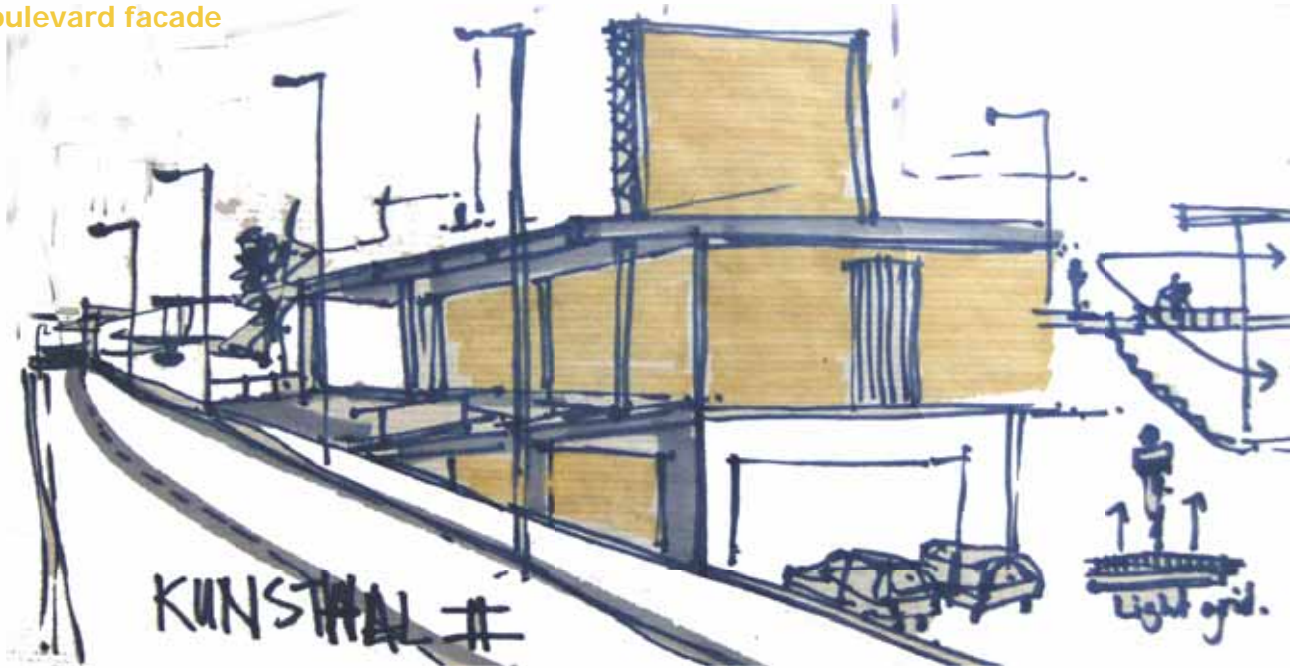
The architecture museum is a study of weight that floats above the park at the level of the dike. The luminous beacon situated next to the Maas Boulevard attracts people with its varying lightened textures.



**2: Ramp entrance**

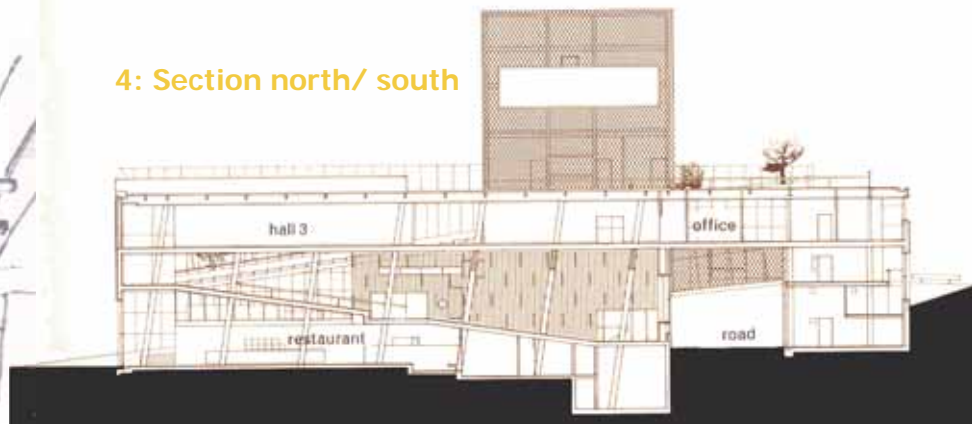
The building concept is based on a disjointed spiral linking four different squares by ramps escalating in juxtaposition to different views and experiences. The museum becomes a journey of exploration of different conditions by the application of different materials, varied lighting and interior and exterior spaces. The three-exhibition halls have dissimilar atmospheres responding to a prescribed theme.

### 3: Boulevard facade



The 60 by 60 meter square envelope hosts 3 major exhibition spaces, an auditorium and a public restaurant. Its southern façade connects to Maas Boulevard with a ramp leading to the public entrance. The ramp connects with a public pedestrian route progressing down to Museum Park. The square is thus split by this north south-axis. The pedestrian route has parallel glass facades on its adjacent sides, involving The user with the interior spaces of the museum and providing entrances to the restaurant and exhibition hall.

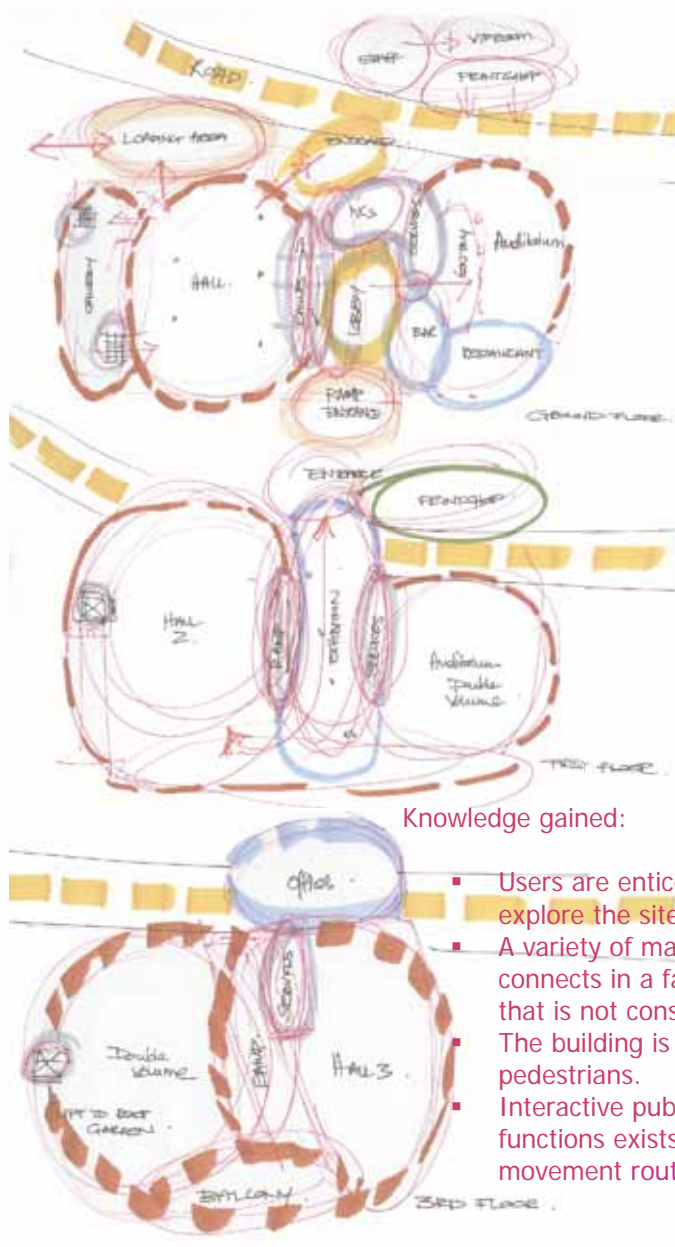
### 4: Section north/ south



5: Stairs



# 1: Zoning analysis

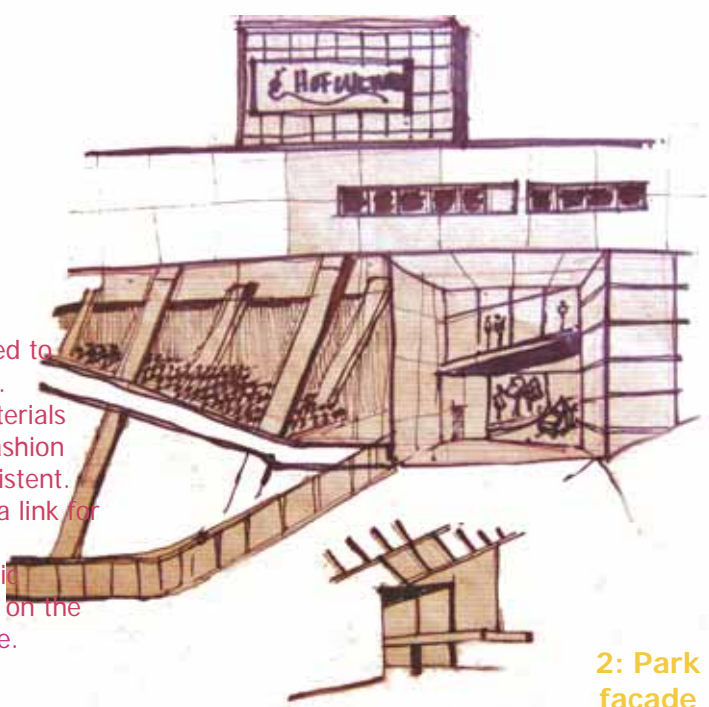


Knowledge gained:

- Users are enticed to explore the site.
- A variety of materials connects in a fashion that is not consistent.
- The building is a link for pedestrians.
- Interactive public functions exists on the movement route.

Museum Park is a serene green space connecting the Kunsthal with the Podium, which receives travelling shows and circuses. The park consists of a lush environment of beautiful trees with a variety of shrubs, flowers and creepers. The natural context next to the Kunsthal inspired the informal nature of its design. The ramp entrance has a variety of different structural beams positioned at various angles. They accentuate the entrance and reflect the random condition of nature. The grid panels on the surface of the ramp are unevenly lit adding to the informal atmosphere.

A northern glass façade links the auditorium and restaurant with the park. The natural wooden floors and tilted concrete columns imitate the landscape outside. The stone cladding of the upper northern façade echoes the colour prevalent in the pebbled stones in the park.



2: Park facade

## Municipal Multi-functional Lounge, Colmenarejo. Madrid. Spain. 1999

Architects: Abalos and Herreros

Client: Municipality of Colmenarejo

Relevance: Movement links and flexible spaces for workshops.

*"This building, in a small town on the outskirts of Madrid, is a hall which can be used by the townspeople in a variety of ways. Additionally, the glass paneled doors on its principal façade can be opened up entirely to form an open wall."*  
(RILEY, T. 2002: 8-9)

The Abalos and Herreros architecture of exemplifies the two-fold character of design in a capital city impinged on by newfound political freedoms. Pretoria is faced with the same phenomenon: designers are faced with a new context and culturally sensitive design procedures. The proposed project reflects local and national influences, but with a universal awareness of the conditions of architectural practice.



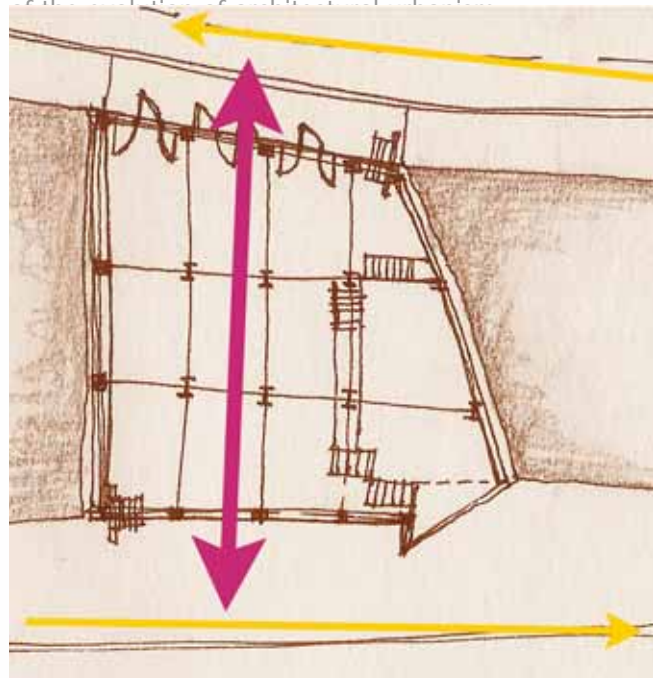
3: Closed facade



4: Semi-open facade



5: Open facade



6: Plan analysis

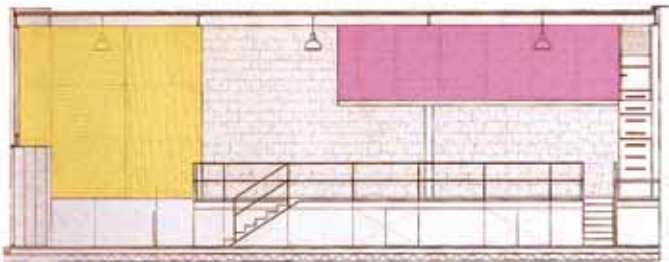


The multi-functional intervention slots in between two existing buildings which form part of a prominent rhythmic street façade. Traditional tiled roofs and gray natural stone form part of the town's existing building material applications. The Lounge effortlessly and lightly fills the space, repeating the existing horizontal and vertical rhythms on its façade. It can be accessed from both street entrances, allowing a perpendicular link between parallel street movements routes.

### 1: Interior texture

### 2: Exterior texture

### 3: Section



Light, colour and texture plays an important role in the building's night to day transformation. The construction consists of a white steel frame with transparent glass-rib cladding on the facades and rotating-sliding doors. The doors provide users with the freedom to change the space and vary openings according to light and climate. Reed and cork cladding on interior walls provides insulation as well as a penetrable, textured interactive street frontage at night when large fluorescent lights highlight the installations. A small mezzanine level supplies the community with a platform for lectures, ablutions and kitchen facilities.

### Knowledge gained:

- Adaptability of space, yet implication of borders to host different activities.
- Interactive and inviting nature of light and texture.
- Scale is relevant to existing buildings.
- Building becomes a node of activity by linking movement streams.



### 4: Night facade

## The Menil Gallery

**Architects:** Piano and Fitzgerald, Houston, U.S.A.  
**Client:** Dominique de Menil  
**Relevance:** Exhibition space with adjoining maintenance workshops.

### 5: Elevation



6: Building in context

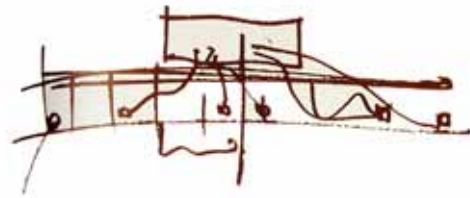


*"The Menil...is a study center for an established private collection, with public but quietly contemplative galleries for a rotating selection of these works." (BUCHANAN 2000: 140)*

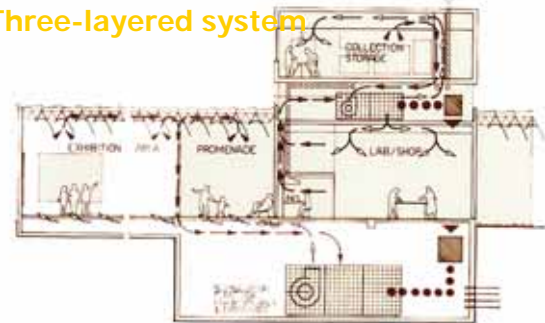
John and Dominique de Menil started collecting art in the 1930's. The collection of 10 000 pieces consists of modern art, African art, pieces from the Cyclodean period and oceanic art. After the death of her husband, Dominique and Renzo Piano encountered and started a design exploration that resulted in a cool, natural building solution. The new museum fits effortlessly into the local conditions and radiates a calm maturity.

The building consists of three contrasting layers:

- The Basement: containing all service rooms for air-conditioning, electricity, boiler and sewage and different storage spaces.
- Ground floor: Galleries, short, rotating and visiting exhibitions, library and laboratories.
- First floor: Art storage and offices.

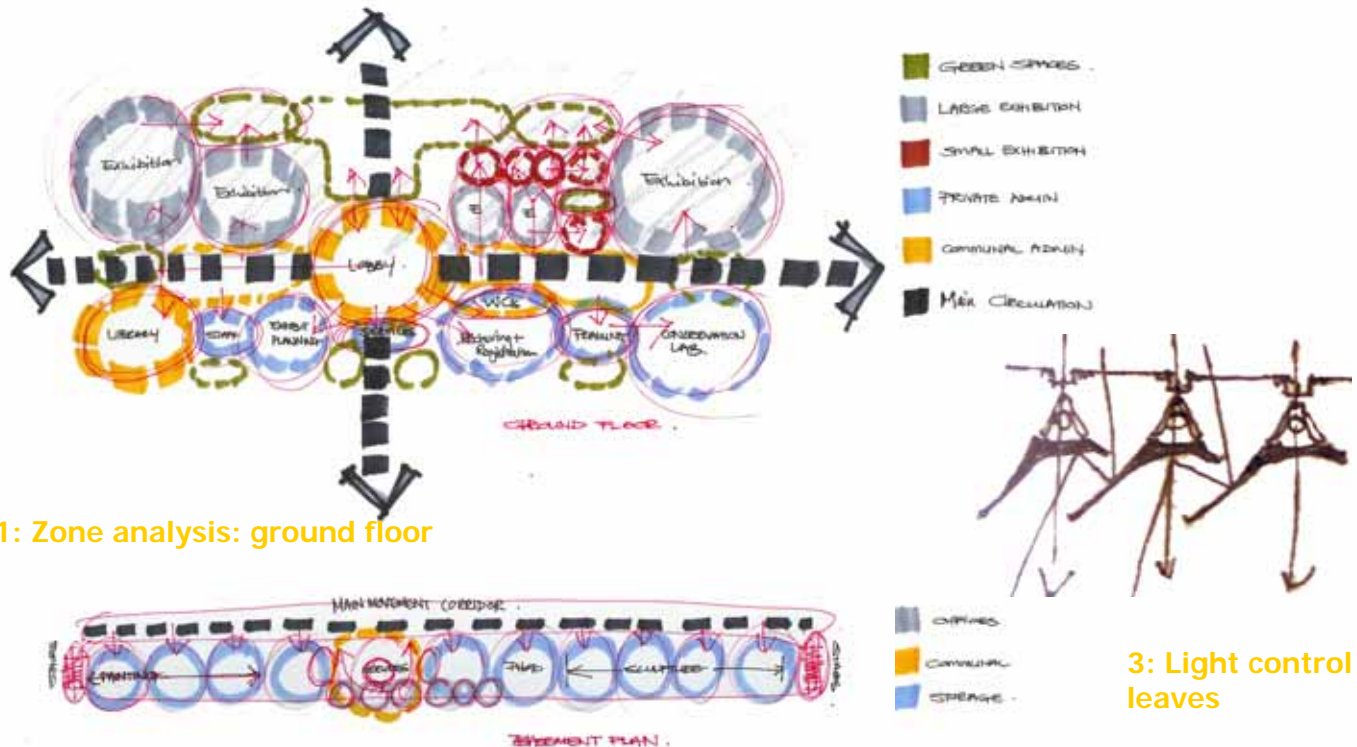


7: Three-layered system





The client and architect embraced the concept of the village museum, a place where the functions of a museum interact with public exhibitions for the enlightenment of viewers concerning the processes involved. A long plan of arranged activities spill into a longitudinal movement corridor. Parallel to these public activities, the following functions are arranged to promote knowledge for the viewer: an art library and framing and conservation labs with public seating for observation. The main requirement for the museum was that natural light would assist in the display of the artworks. Light in its varying conditions from day to night and season-to-season brings the art works to life. Cast ferro-cement light-diffusing leaves connect to roof trusses of the gallery roof, allowing natural light to penetrate the exhibition space. The interior walls of the gallery can be adjusted to vary spatial divisions.

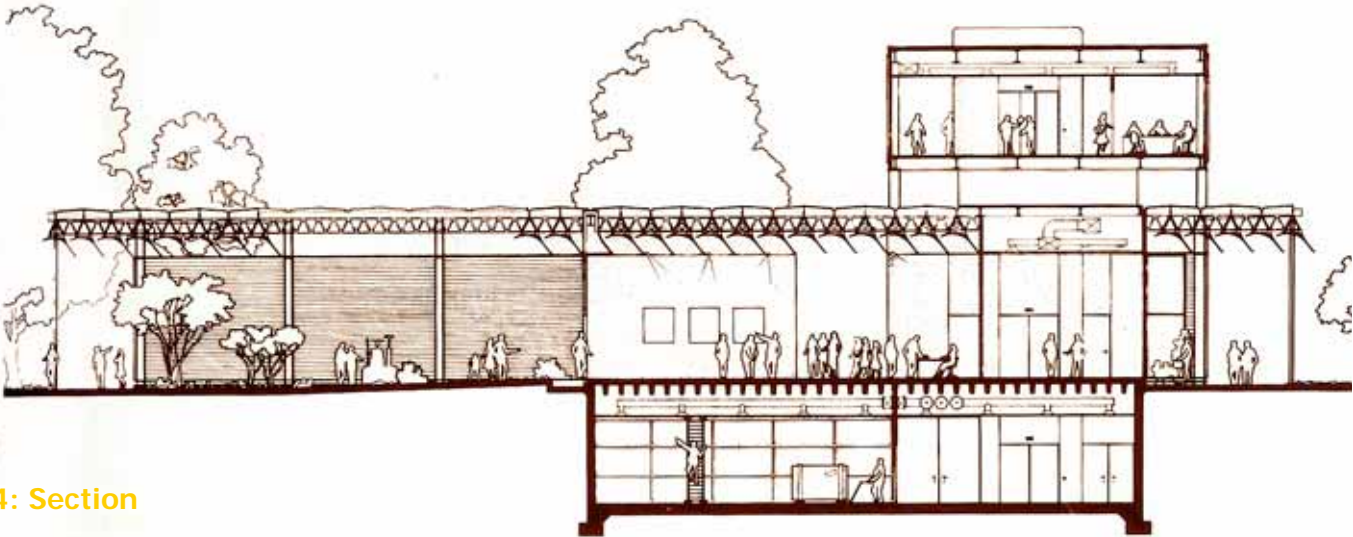


## 2: Zone analysis: basement

The public entrance, accentuated by a set-back with green courtyards adjacent to it, breaks the long monumental promenade resultant from the rectangular nature of the plan. Renzo Piano reinforces the contextual connection by looking for clues in the surroundings to provide formal and intangible foundations for design decisions. The steel frame structure echoes the nearby Phillip Johnson buildings and the St Thomas University. The colonnade suggest suburban verandas and the application of clapboarding echoes with the surrounding houses.

#### Knowledge gained:

- Simplistic movement-based forms achieve optimal function.
- Use of local materials and climatic design strategies do not affect the project's ability to be contemporary and new.
- Time zones of light affect the acuity of display.



#### 4: Section

### Drill Hall, Johannesburg CBD.

**Client:** Johannesburg Development Agency

**Architects:** Michael Hart Architects.

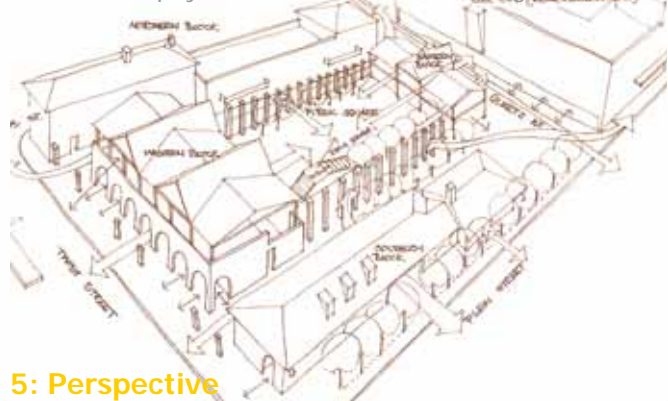
**Relevance:** Historic context and urban intervention.

According to Darrol (2005:26-31) the Drill Hall is situated in an active but dilapidated and hostile area of the inner city. In close proximity to the residential area of Joubert Park, the railway lines and the Jack Mincer taxi rank that supports 6000 taxis daily, the site is exposed to chaotic traffic, street traders and retail displays from the Ster Kinekor City on its eastern boundary. The challenges faced by the design group for renewal:

- To change a military facility into a public, interactive space.
- New building functions had to be relative to

its present and past public nature.

- To rebuild what was there adding clear visual and physical links to its surroundings.



#### 5: Perspective



## Heritage timeline

In 1904 the Headquarters for the Transvaal Volunteers was built, and became known as the Drill Hall. The double storey twin-gabled hipped roof with distinctive arcade façade served as recreational facility and a practise hall for military drills.

**1914 An underground rifle range was built.**

1920: New buildings were constructed along Plein and De Villiers Street.

**1922: During strikes the building hosted the troops that controlled the riots.**

1930 to 1970: Served as gathering and dispatch venue for vitreous of the two world wars. New Years Eve dance parties launched hundreds of people into their New Year till the 1970's.

**1956 to 1957: Hall used for Treason Trial investing of the majority of the African National Congress members, for conspiracy to overthrow the government.**

1958 to 1992: Occupied by South African Defence Force.

**1992 to 2000: Owned by the Department of Public Works. Invaded by squatters of the poor and homeless.**

June 2001: Fire destroyed western wing and 7 people died.

**April 2002: Fire destroyed Drill Hall and claimed 5 more lives. Johannesburg City Council grants R10 m to SAHRA to restore the Drill Hall as a public open space of historical significance, to provide recreational opportunities and form part of the cultural tourism trail.**

**2004 June: Renewed Drill Hall opened on dates of its centenary.**



1: Western building



2: Column perspective

### The Public Space:

A fire destroyed the original Drill Hall. It has now been converted into an open, paved public space. The eastern building was demolished to create a forecourt. Robust red brick benches and Celtis Africana trees provide a comfortable seating area for the public. These are surrounded by concrete display panels conveying the site's history. Excavated guns and ammunition cast into a concrete panel portray the site's military significance. New duplicates of the original concrete columns are placed in their historical positions, enclosing the main square. They bear the 156 names of the accused from the Treason Trial. The underground rifle range which was previously reached by a trap door in the Hall has been replaced by a curved memorial wall and podium for military address by the Rand Light Infantry. The military zone is provided with separate access points and circulation routes to the public spaces.

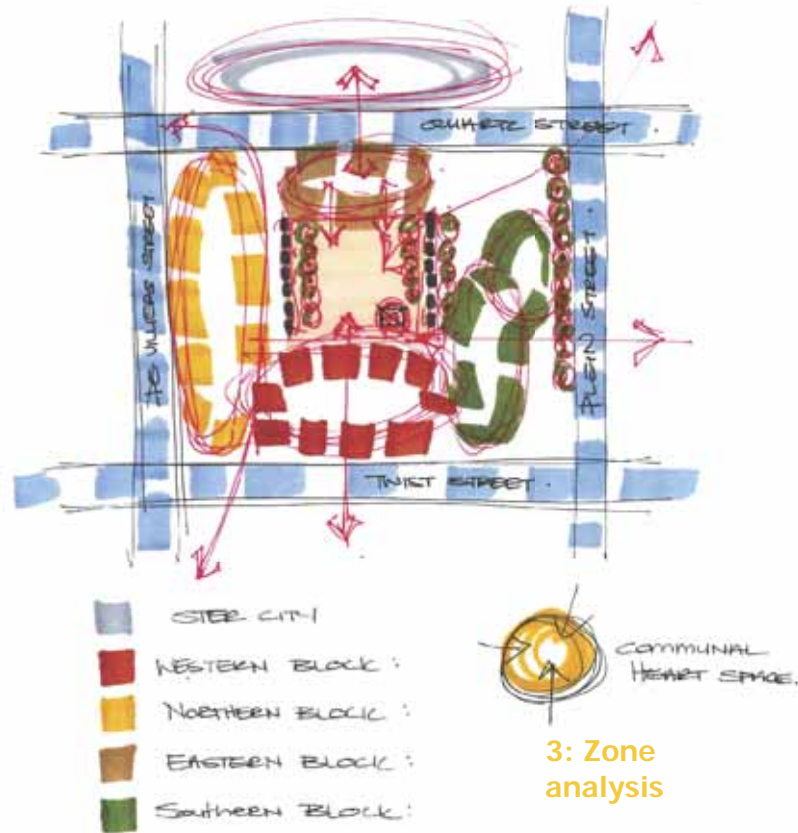
### Western portion:

The JPP (artists' group) and the Community Chest are non-profit, community-orientated groups occupying the west building. The fire destroyed the original eastern façade. The new intervention includes:

- New steel structures with pitched, corrugated iron roofs reflecting the historic gables that overlooked the square. These are very transparent and host the new art gallery while promoting visual links with the public space.
- The Community Chest is located on the ground floor in new offices refurbished with existing materials and fittings.

### Southern portion:

The one-storey red brick building was built in 1920. It served as a prosthetic limb factory and provided medical services for soldiers injured in the World Wars.



**3: Zone analysis**

The Johannesburg Child Welfare Society currently occupies the building and the following alterations have been made:

- The building and roof have been restored
- Skills training workshops occupy former technical rooms. Sewing, hairdressing and computer training take place in these facilities.
- Showers and a kitchen are available for future use, providing food and ablutions to the homeless.
- A New walkway cuts through the building to link the street to the public space.



### Northern portion:

The double-storey building has been rehabilitated for the Defence Force and hosts the Rand Light Infantry. The building has been completely restored and a new roof was fitted. A great attempt was made to retain the original finishes and fittings.

The Drill Hall conserves the rich and diverse cultural heritage of the site by retaining most of the existing buildings and encouraging awareness through the addition of historic information displays on artworks and the built environment.

### Limitations:

- Due to the existence of security fences and the presence of the military, the space is not always perceived as public.
- Natural ventilation is unsuccessful due to air pollution and a high noise rate.
- Functions do not spill into the central space.
- Although the public space is historically significant, it is not very inviting, especially for other activities.
- There is a lack of public amenities promote use of the public space.
- There is a lack of shelter against wind, rain and sun.

### Knowledge gained:

- The building works in its urban context, relating to the upgrading programme and tourism routes.
- Design is contextual. It addresses the three most relevant subjects: cultural, political and military.
- Adaptive re-use of the buildings was achieved.



**1: Infantry building**

- Relevant users occupy buildings that promote the activities desired on site.
- New building interventions are light and unobtrusive.
- Historic significance does not undermine the potential of a modern interpretation with contemporary building solutions.
- Impressive use of ordinary materials: brick, galvanized steel s-rib roofing and concrete.



**2: Eastern building- pedestrian link**

## Department of Trade and Industry (DTI) Campus

**Architects:** Studio 3, ERA Architects, Prism Architects, Prop 5 Corporation, Ruben Reddy Architects.

**Client:** Department of Trade and Industry (DTI)

**Relevance:** Part of Nelson Mandela Development Corridor within the 250m designated radius from the proposed site and urban heritage sites.

The DTI Campus is situated on the corner of Esselen Street and Nelson Mandela Drive. It has become one of Pretoria's building landmarks due to its vibrant and varied style. The planning of the scheme confronts the colonial and Apartheid framework by mingling public and private space, and avoiding cultural boundaries. The seven different buildings have four levels each that are linked by a covered public pedestrian route.

The designers drew on a Mapungubwe influence for the spatial organization and themes is present in the architecture. That society's trade relations, sacred leadership and class distinctions conjure the themes of royalty, industriousness, administration as machine for business, assembly of nations, people and labour, and the future.

3: Esselen entrance



4: Main axis



The phased development allowed buildings to be occupied in stages, thus making the venture economically feasible. An unrestrictive design framework accommodates adjustment and includes changing technologies. The historical structures close to the Apies River bordering the site has been revamped and retained for the Theosophical Society.

The northern orientation of the buildings and the use of evaporative cooling provides ideal climatic conditions. The eastern and western facades control the climate by using interesting detailed fixtures. The signature colour is orange mixed with brick and stone finishes portraying a vibrant African architectural language. The flowing interwoven lines of the landscape, interior design, signage and winding path mirror the Mapungubwe Rivers that represent life.

#### Limitations:

- Relevance of Mapungubwe historical context to Pretoria context can be questioned.
- The design is very prominent, and different thus limiting the style of extension.
- The scale of interior pedestrian route is exaggerated to such an extent that intimacy is lost.
- Building entrances are unresponsive for safety reasons.

**1: Atrium detail**



## Knowledge gained:

- Incorporation of art into building.
- Highly responsive exterior facades and spaces.
- Vibrant environment with pedestrian seats, walkways, display and water features.
- Interactive quality continues in interior.
- Interesting design detail solutions to climatic control.
- Architectural language repeated in various forms.

2: Eastern side: water feature and sun control



3: Orange plaster, brick and steel



4: Theosophical society building







1

### Pretoria CBD:

The author explored the streets of the CBD of Pretoria to develop an architecturally sound contextual design language for the Textile Art Centre. Pretoria has various international building styles and influences. The elements captured are personally significant visual magnetisms, whether good or bad.



2

*"Pretoria Regionalism, the Third Vernacular, reflects a particular response to nature and landscape through the economical use of naturally available and industrially produced materials with an empirical response to climate, all of which tempered the emergent tenets of the modern." (FISHER 1998: 123)*



3



4

Norman Eaton's architectural approach is greatly imprinted in my frame of reference. The author documents various different projects of Eatons' work in the archive, the following features of his architecture exemplify Pretoria Regionalism according to FISHER et al (1998: 125):

- Rustic brick / clinker and plastered walls
- Whitewashed stock bricks



5

- Low-pitched corrugated iron roofs
- Thatched roofs
- Deep shaded eaves and verandahs
- North facing living spaces with window fronts and climatic responses

- Cross ventilation by top-hung windows and sliding doors
- Brick pavers and planters
- Sensitivity to landscape and land features



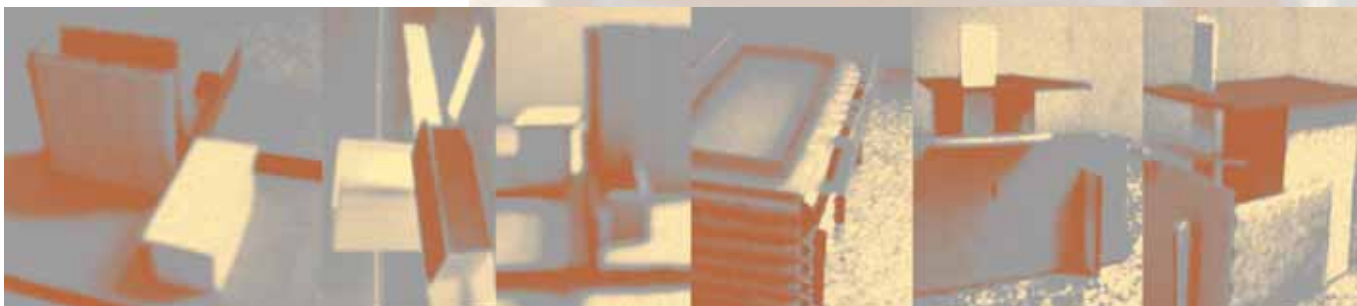
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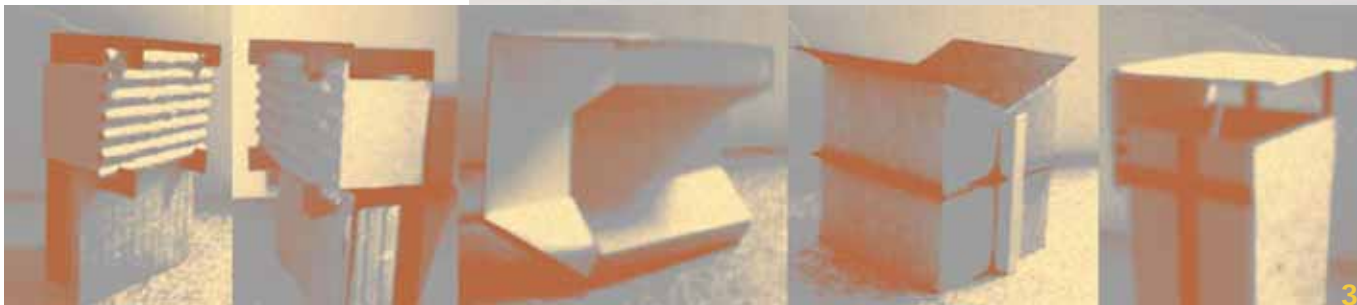
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A model investigation of the characteristic traits from the sketches of Pretoria allowed detailed features of the context to materialize.



2

# *M O D E L S T U D Y*



3

4

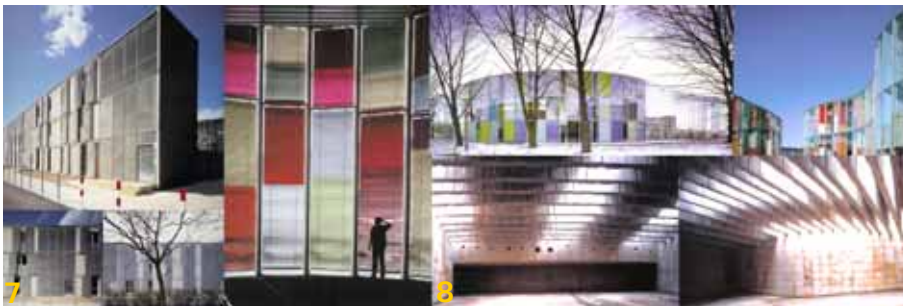
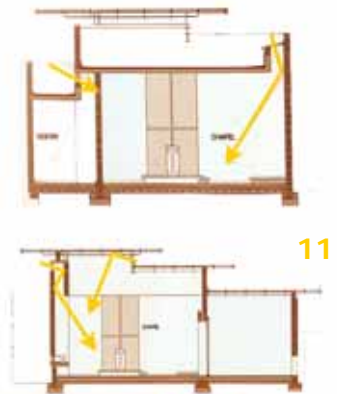
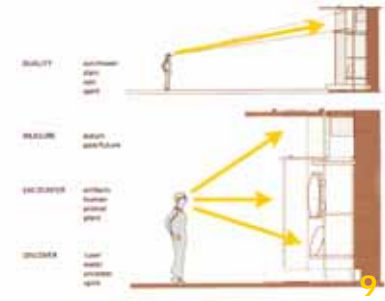
# *C O N T E X T* *D E T A I L S*





## 2. Design Influences





The pictures highlight specific detailing and aspects of design that will influence the building. When dealing with a facility that will house a combination of different activities, the design details and style must guide the user to utilize the building. The building will have to **speak / express** itself in order to control circulation and access as determined by private, semi-public and public environments. Natural light must be provided for workspaces and to facilitate the comfortable viewing of exhibits. Different textures in the form of materials used in the building composition will create interactive spaces and provide barriers for suggested movement and viewing.