

4

TRANSUDE

Precedents

Transude *vb* to pass through the interstices;
to release in drops or small quantities

4.1_Theoretical Precedents

4.1.1_Mason's Bend Chapel

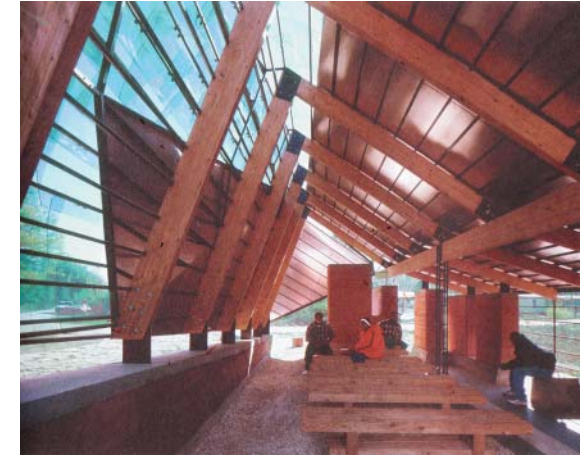
Mason's Bend is located in Alabama's former cotton belt, and home to four extended families. Most live in trailers or poorly constructed homes. This rural cluster of homes never had a community gathering space. The chapel was built to provide a space to hold meetings, provide childcare and worship. In addition to creating a central node within the hamlet, residents hoped the structure would serve as a transportation point for a mobile library and a traveling health centre, bringing education and medical services to the community.

The walls of the structure are made of rammed earth containing local clay, cement, and a small amount of water. The walls are capped by a rusting metal drip edge that compliments the color of the earth. The roof is a combination of aluminum sheets and 1980's GMC sedans car windows salvaged from a Chicago scrap yard. Both aluminum and glass are bolted to a light weight metal frame. Mr. Harris, owner of the Butterfly House, donated the land for the centre and now tends to its beautiful garden.

Sam Mockbee, part of the design team, once described the building as 'as cutting edge as any piece of architecture in the United States' (AFH 2006: 196). For him architecture is about shelter for the spirit.



[4.1]



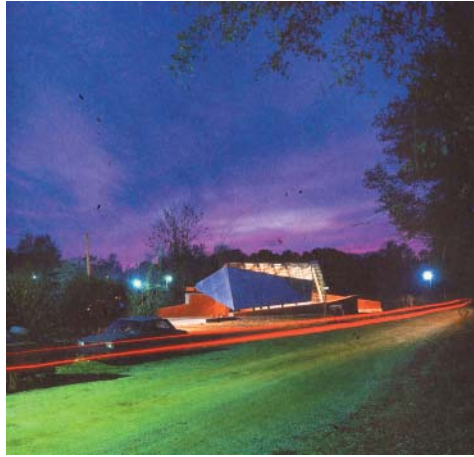
[4.2]

Figure (4.1):

The chapel is always open, to provide a space for contemplation and respite from the heat. (AFH 2006: 199)

Figure (4.2):

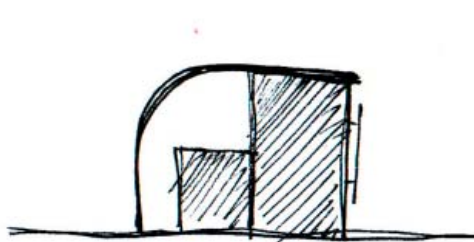
The sculptural glass skin gives the building an unanticipated appeal. (AFH 2006: 198)



[4.3]



[4.4]



[4.5]

Figure (4.3):

At night the chapel acts like a beacon, signaling Mason's Bend to passerby. (AFH 2006: 197)

Figure (4.4):

View from inside the chapel

Figure (4.5):

Early concept sketches exploring shelter vs building

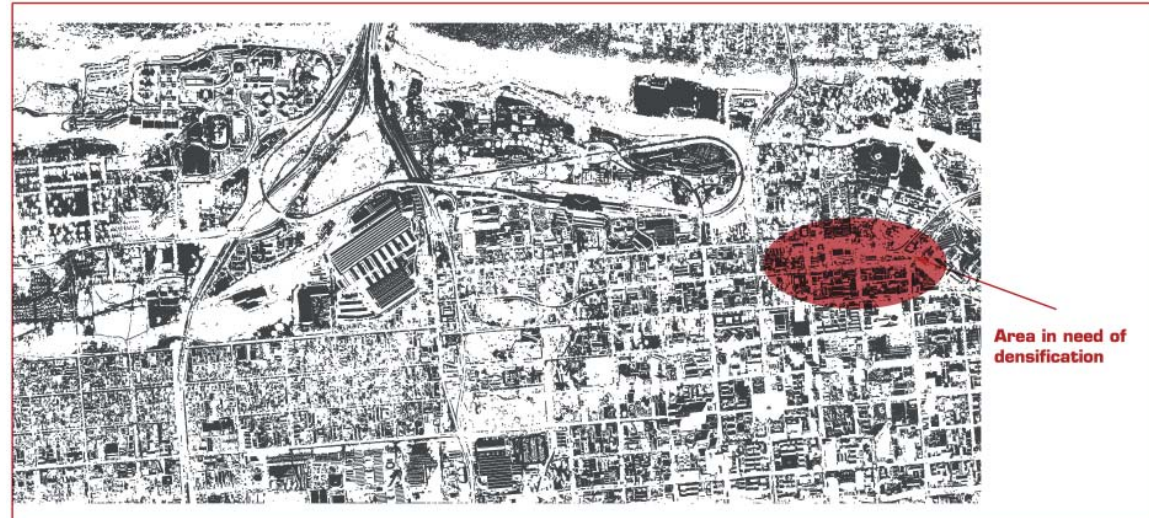
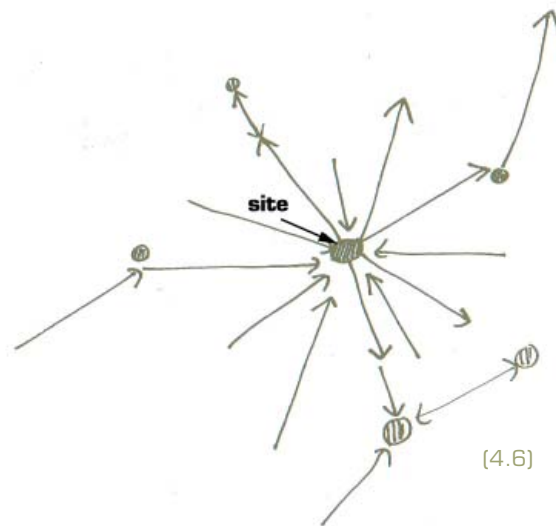
Relevance: While urban policy, infrastructure and economic development interventions are important tools to cross the gaps of disarticulated cities, it remains the presence of urban residents themselves and their varied uses of each other as instruments to realise particular aspirations and imaginaries that constitute the most significant form of urban connectivity. Individual urban selves mark both the gap and the connection in interwoven economies - material, symbolic, and spatial. The gap is between what buildings, people, spaces, objects and gestures can be normatively or customarily used for and how they can be put to task to do more than what is specified. This is closely bound to Dewar and Uytendogaardt's idea of qualitative settlements:

Settlements of quality enrich the living conditions of all people, both rich and poor. They are not dependant upon technological pre-conditions to perform successfully, and they accommodate ideological and political transitions. They are not based on ephemeral conditions, but are rooted in a basic understanding of human activity and human needs. (Dewar and Uytendogaardt 1991: 12)

Here, the people constitute themselves as unavoidable insertions into operations of all kinds by only using the 'primitive' structure as place of contemplation and respite from the heat. However, it becomes more than a shelter; its act as a connection among disparate uses and users.

Implementation: The design intervention will challenge the concept by acting as part of a patchwork of the increasingly dense infrastructure of the city. The city in its very physicality has been largely disjoined and deprived of an overarching institutional logic or public discourse capable of tying its heterogeneous residents together on some conviction of common belonging or reference.

The intervention becomes the catalyst through which the users can put together connections between the diverse infrastructures, spaces, populations, institutions and activities of the city. (figure 4.6)



(4.7)

Figure (4.6):

Sketch illustrating the connections between systems and places within the city

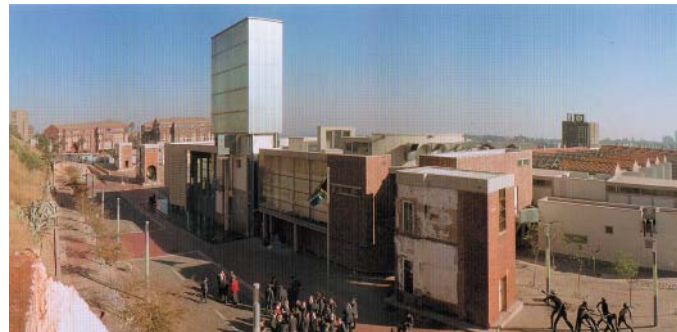
Figure (4.7):

The image indicates the site and its surroundings as an area in need of densification

Figure (4.8):
The Court at dusk
Figure (4.9):
Looking from
Hillbrow along the
southern façade of
the building towards
Constitution Square



(4.8)



(4.9)

4.1.2 Constitutional Court of South Africa

The new Constitutional Court of South Africa, situated on Constitution Hill, is a remarkable feat of architectural daring and hope. It celebrates the ideals of a progressive Constitution; commemorate the suffering and struggles of the country's past without slavishly doing obeisance to history and give visible form to the belief that all are equal before the law (Law-Viljoen 2006). The greatest challenge of the building was to embody the moment – both historically and architecturally – and to see into the future.

While architecture in South African cities is an agglomeration of European styles - Cape Dutch, Victorian, Edwardian, Art Deco and more recently, Tuscan, the Constitutional Court reflects the new democratic order, and shows how the city is embracing the challenges of transformation and growth.

Apartheid has had a profound effect on the country's architecture, and is still very evident. 'In no other country does architecture and urban planning bear such vivid witness to history, to politics and to social division. And these deeply embedded traces of apartheid remain ubiquitous in South Africa today' (Mabin, 2007). Apartheid buildings are almost always recognisable by their closed, exclusive nature, often imposing an uneasy presence difficult to ignore. Paul Wygers, an architect at Urban Solutions, one of the consultants on the project, said of the court, 'The building needs to be as active as possible - the court will not be a monument, it will be a people-inviting place.' The court did meet these demands:

'...the warmth and openness of the building was undeniable. It was a court for the people, expressing a range of cultural expectations of the concepts of justice and democracy.' (Law-Viljoen 2006)

The new-style architecture is changing the feel of South African cities. Many, who were confined by apartheid to townships and rural Bantustans, or to the countries beyond our borders, have converged on the streets of our cities to claim its promise of a better life. Public space is being occupied in new ways.

It is not about a style or fashion but about a new culture of planning and building, which creates a new approach to architecture and space.

'It was to become an iconic building, celebrated for its daring, it's combination of dignity and accessibility, its warmth and light, and its embodiment of the hopes of a young country.' (Law-Viljoen 2006)

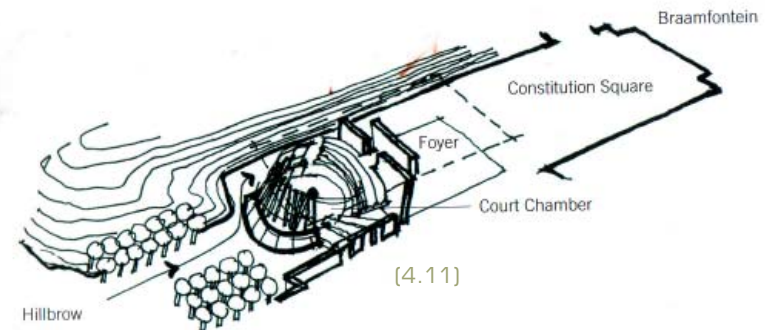
While some would argue that change in South African society is not happening fast enough, the Constitutional Court epitomises a new, open society that caters for creative spaces where people can mingle with each other. The architecture of this work is more spatial than visual. The design space anticipates new ways of how people live. It reflects rural habits within an urban setting - a culture going through a transition.



(4.10)

Figure (4.10):
Eastern approach to the Court

Figure (4.11):
Drawing showing the position of the court in relation to Constitution Square



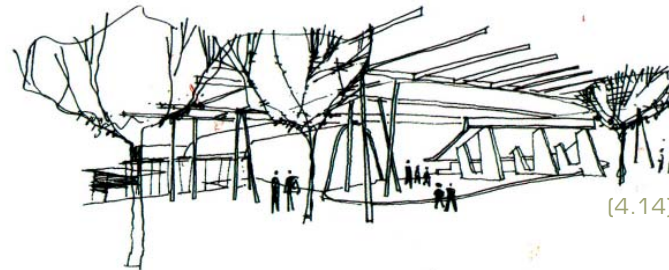
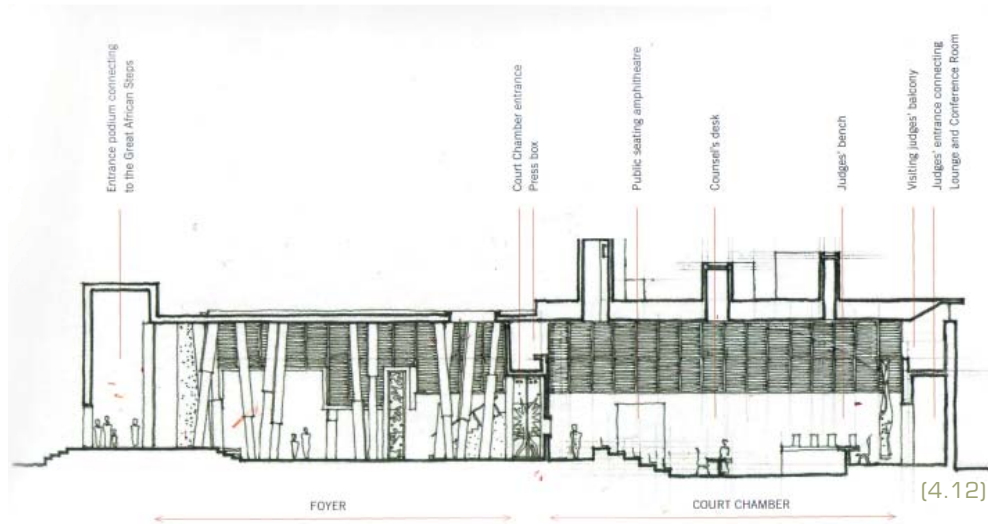
(4.11)

Figure (4.12):

Cross-section showing the direct relationship between Constitution Square, the raised entrance podium, the Foyer and the Court Chamber

Figure (4.13) & (4.14):

Early concept drawings imagining everyday activity around the Court



Relevance:

Warmth and openness of the building: The Constitutional Court is an invitation to newness and change. Whereas courts are known to be private and daunting, the Constitutional Court is happy, inclusive and open. One feels a participant there. This is a feeling encouraged by such simple things as the levels of seats in the Court Chamber. In that space one feels that one is part of the whole.

Active participation and accessibility: The court becomes part of the public life of the surrounding area, open to be freely used and visited.

Abstraction of tree canopy: The foyer was designed as an abstraction of a tree canopy: 'The shade of a tree as a place of communal gathering.' (Law-Viljoen 2006) Light falls through glass splinters in the concrete flat roof to create dappled light. Columns are arranged randomly at angles to reinforce the tree image.

Artist involvement: The idea of artist involvement in the design and building process is a wonderful aspect of the Court. This has enriched spaces and detailing. The ideal would be to involve artists as early as the concept stage of the design, to create the opportunity for a true integration of artworks into the built form.

Implementation: Being confronted with the concept of how people live in the South African urban environment, and by considering our climate as influential to the design of urban space, the author initiates an alternative urban fabric; one in which the segregation of 'inside' and 'outside' is being enriched by a third dimension of the 'in-between'. The 'outside' dimension, as within the organization of the traditional African village, being defined by a border or the composition of the structures. (figures 4.16 and 4.17)

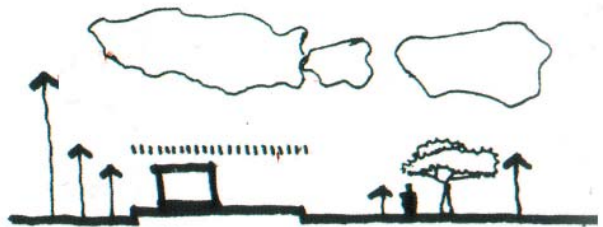
The transition from the outside to the inside therefore evolves around being in beyond the 'unfamiliar', towards that which is known.



(4.16)



(4.17)



(4.15)



(4.18)

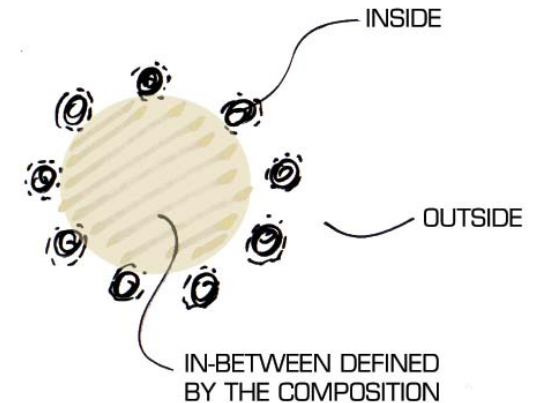


Figure (4.15):

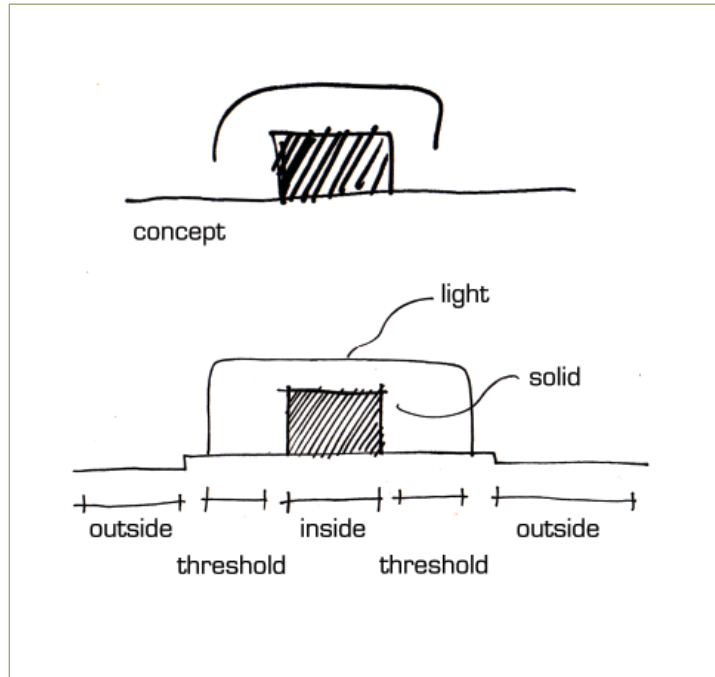
Drawing showing the relationship between ideas of 'inside' and 'outside'. The foyer is intended to be as much an inside space as an outside space, its roof a canopy of clouds and leaves.

Figure (4.16) & (4.17):

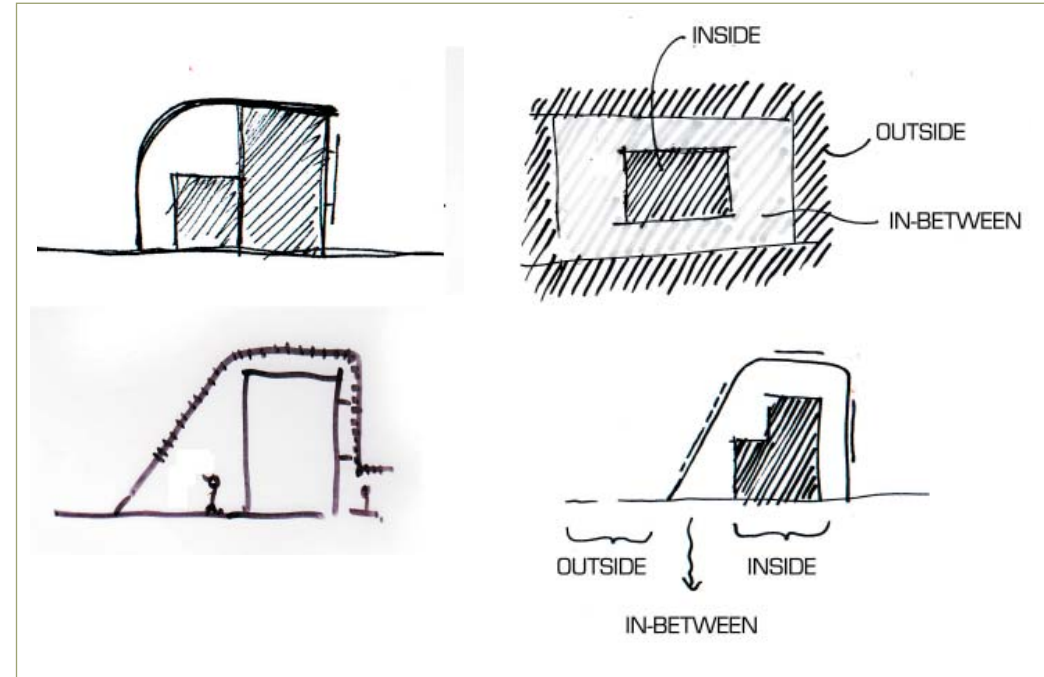
Traditional african villages

Figure (4.18):

Sketch explaining the concept of 'inside' and 'outside'.



[4.19]



[4.20]

Figure (4.19):

Sketches showing the first concept of 'inside' and 'outside' as being used in the design investigation

Figure (4.20):

The relationship between 'inside' and 'outside' as been used within the Constitutional Court, is taken further within the design investigation, by adding the third dimension of the in-between

4.2_Physical Precedents

The following section involves the analysis of specific precedents so as to inform the technical requirements for the selected function of the building. The technical issues which will be considered include the following:

- Spatial interconnectivity
- Circulation
- Sizes

The aim of diagrammatically analyzing the spatial connectivity and circulation requirements of the precedents is not to inform the architectural language, but merely to inform decisions with regards to the functioning of the selected facilities within the building. The different facilities and selected precedents are:

- Cafeterias
 - Condé Nast's Cafeteria, Times Square, New York by Frank O. Gehry and Associates
 - TV Studio Cafeteria for Televisa, Mexico City by TEN Arquitectos, Architect
- Clinical testing and X-rays
 - X-ray department at King Edward Memorial Hospital, Ealing

4.2.1 Condé Nast's Cafeteria, Times Square, New York



[4.21]



[4.22]

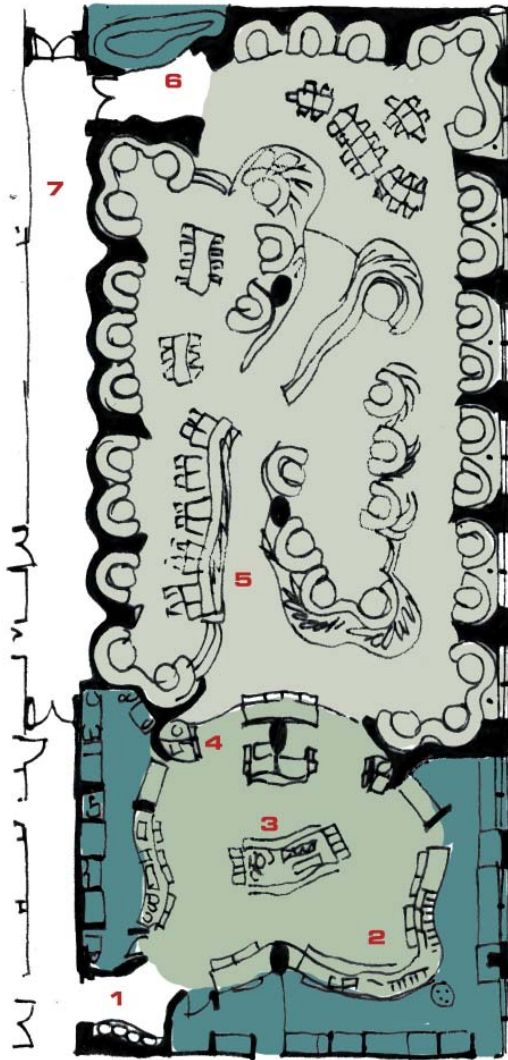


[4.23]

Figure (4.21), (4.22) & (4.23):
Interior views of the cafeteria

SPATIAL INTERCONNECTIVITY

CIRCULATION



(4.24)

- 1 Entrance
- 2 Hot buffet
- 3 Salad bar
- 4 Register
- 5 Dining Area
- 6 Tray deposit
- 7 Exit corridor

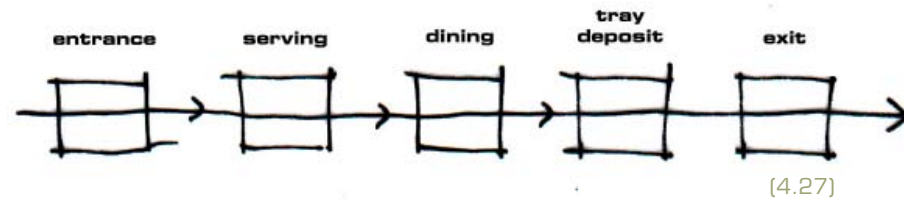
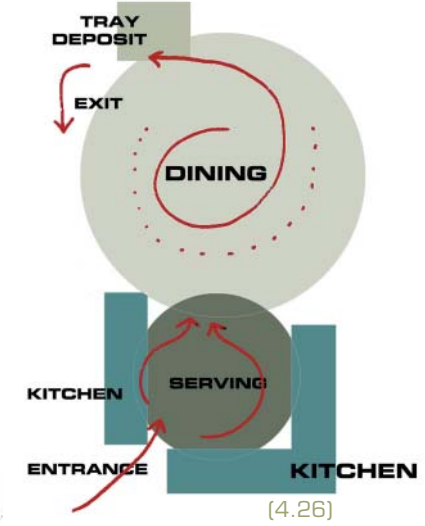
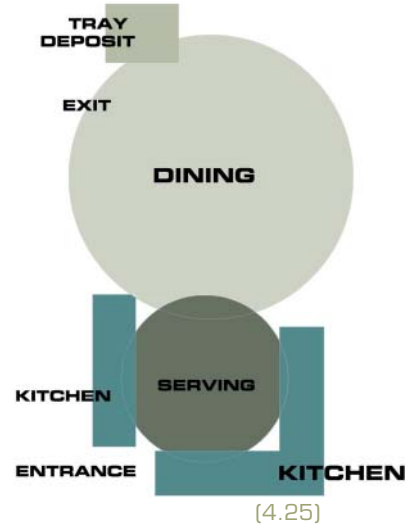


Figure (4.24):

Ground floor plan

Figure (4.25) & (4.26):

Spatial connectivity and circulation

Figure (4.27):

Diagram showing the circulation as a linear approach

4.2.2 TV Studio Cafeteria for Televisa, Mexico City



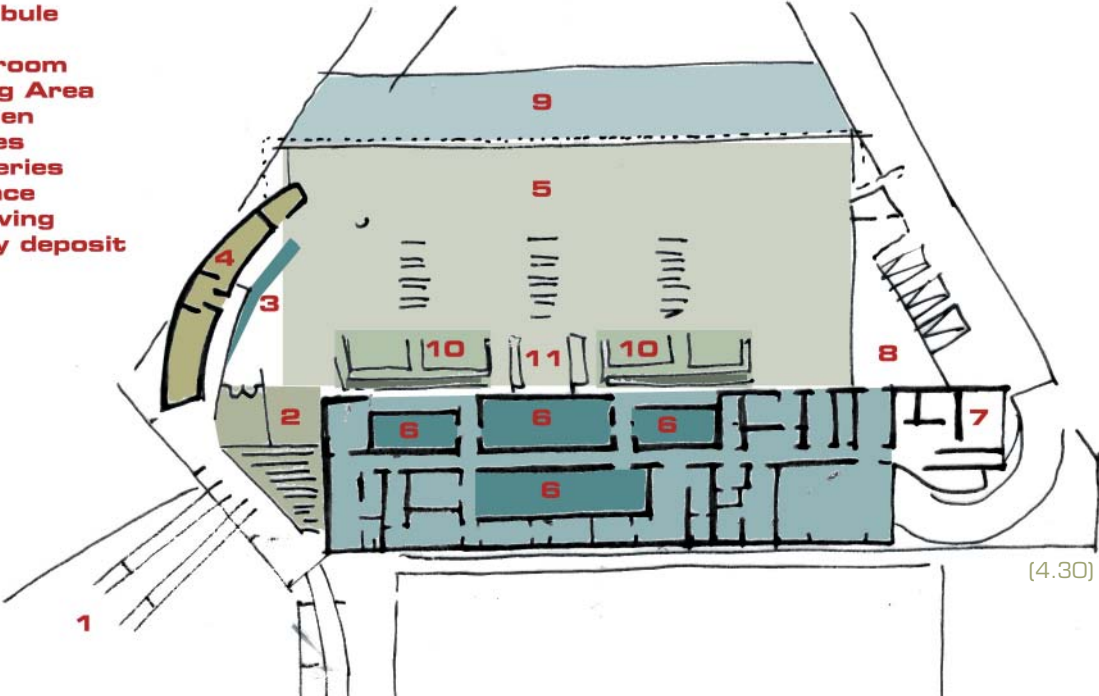
(4.28)



(4.29)

Figure (4.28) & (4.29):
 Views of the cafeteria outside and inside the dining area
Figure (4.30):
 Floor plan of the cafeteria indicating the relationship of the different areas

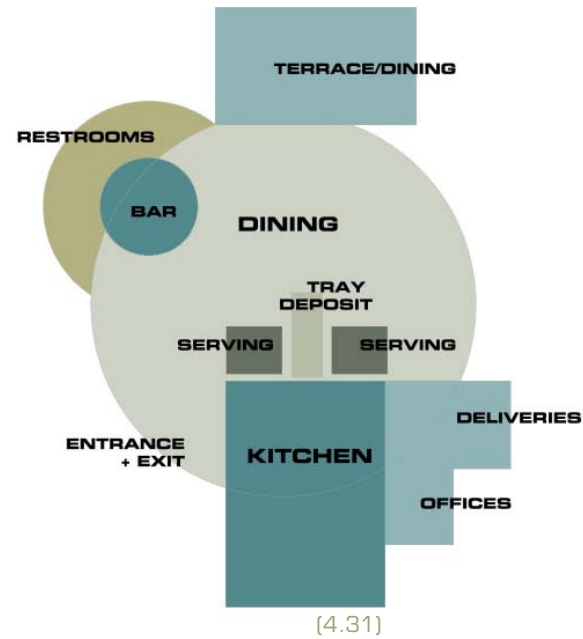
- 1 Plaza
- 2 Vestibule
- 3 Bar
- 4 Restroom
- 5 Dining Area
- 6 Kitchen
- 7 Offices
- 8 Deliveries
- 9 Terrace
- 10 Serving
- 11 Tray deposit



(4.30)



SPATIAL INTERCONNECTIVITY



CIRCULATION

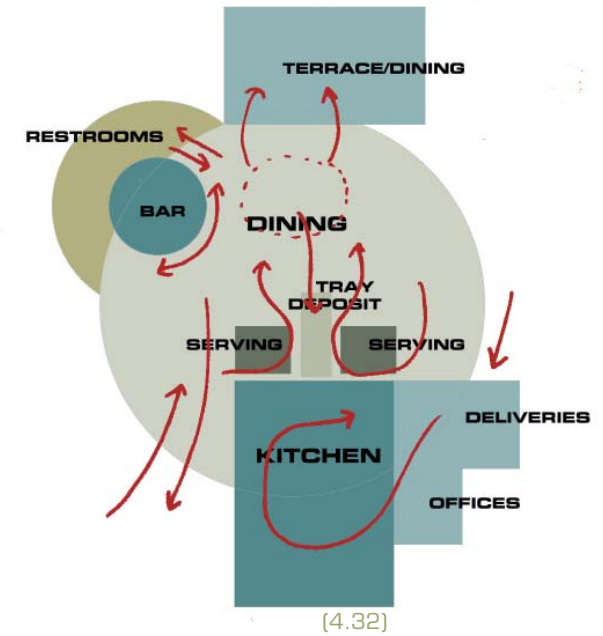
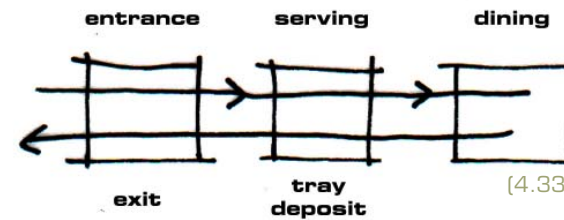


Figure (4.31):
Spatial interconnectivity

Figure (4.32):
Circulation diagram

Figure (4.33):
Diagram showing the circulation as
a turn-around or circular approach

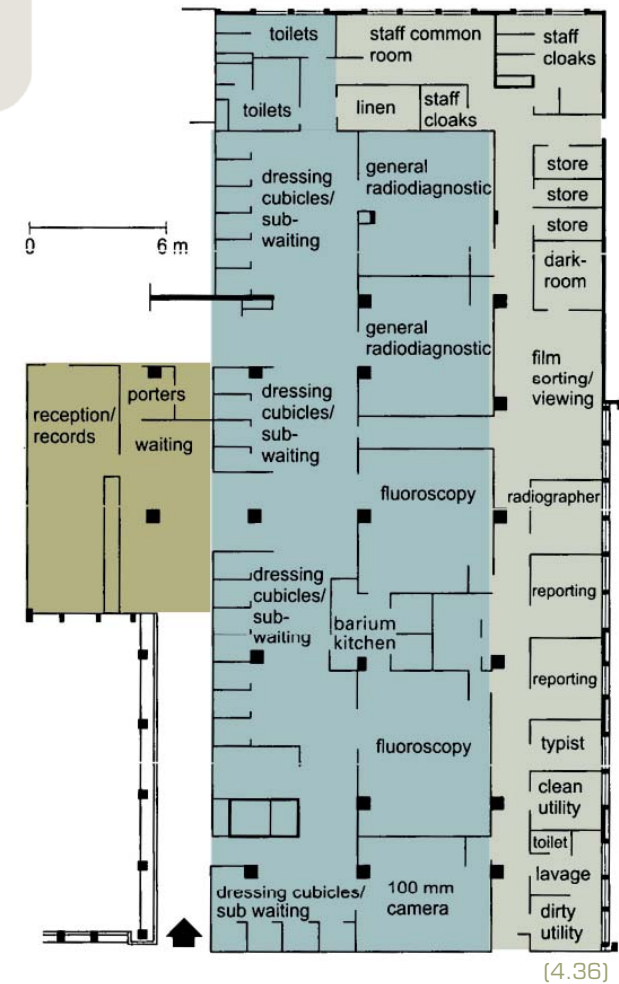
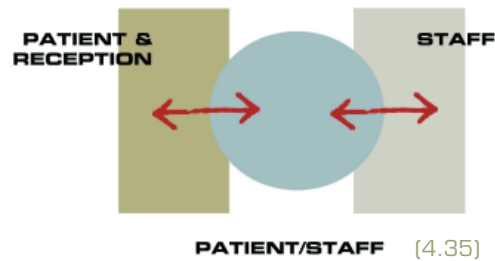
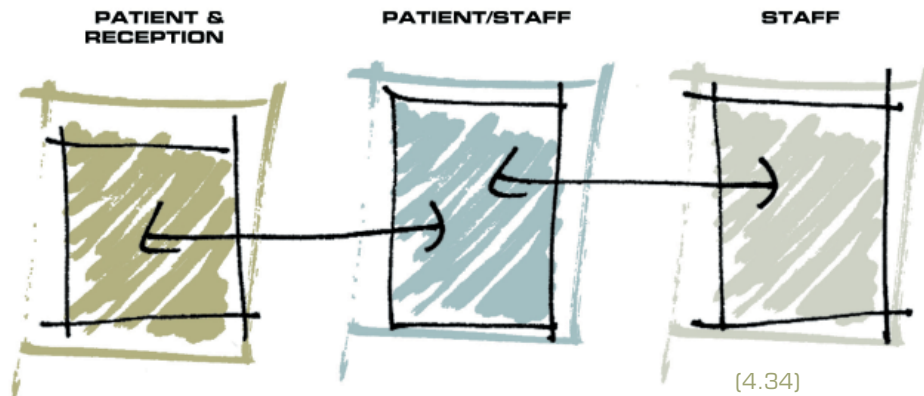


4.2.3 X-ray department at King Edward Memorial Hospital

Figure (4.34):
Spatial interconnectivity

Figure (4.35):
Circulation

Figure (4.36):
Ground floor plan of the x-ray department



4.3_Form, materials and elements

4.3.1_Competing elements



[4.37]



[4.38]

Figure (4.37):

View from inside the cylindrical shell towards entrance

Figure (4.38):

Outside view towards building

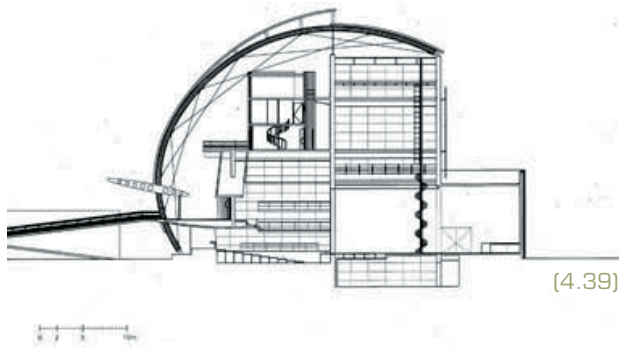
National School of Theater, Mexico City, Mexico
by Ten Arquitectos

The location of the National School of Theater has a unique set of contextual conditions. Two perpendicular highways on the northern and western edges, linked by a circular off-ramp, as well as a metro line, generate continual movements in front of the triangular corner site. The buildings contain three performance areas and their support facilities, rehearsal rooms, lecture halls, administrative offices, a cafeteria, a gym, scenography studios, costume design labs, and a library.

The various volumes are unified in a cylindrical shell, clad in curved steel panels, that creates an acoustic barrier from outside traffic and protects the building from the northern winds.

The spaces are organised as a series of stacked, individual volumes, unified by shared circulation and meeting spaces. The shell enclosure, supported by bent steel tubes held in tension by steel cables, also allows for covered terraces, performance, and event spaces, blurring the distinction between interior and exterior space.

Although the spaces are arranged in terms of their accessibility, the articulated forms represent a model of controlled disruptive order. This contradiction between random appearances and a calculated order creates a paradoxical dynamism among the enclosed forms.



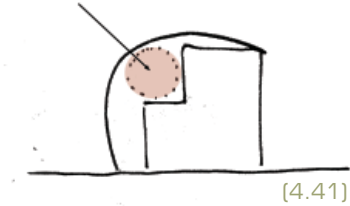
(4.39)

Figure (4.39):
 View from inside the cylindrical
 shell towards the entrance
Figure (4.40):
 Outside view towards building



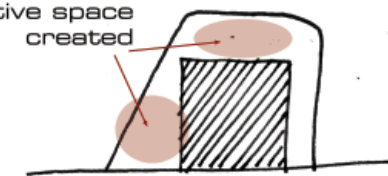
(4.40)

positive space created
between frame and building

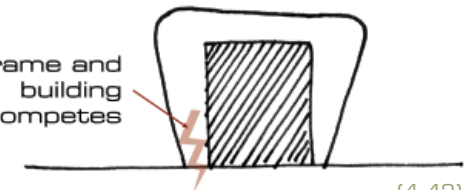


(4.41)

positive space
created



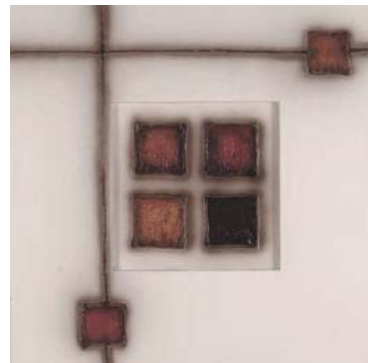
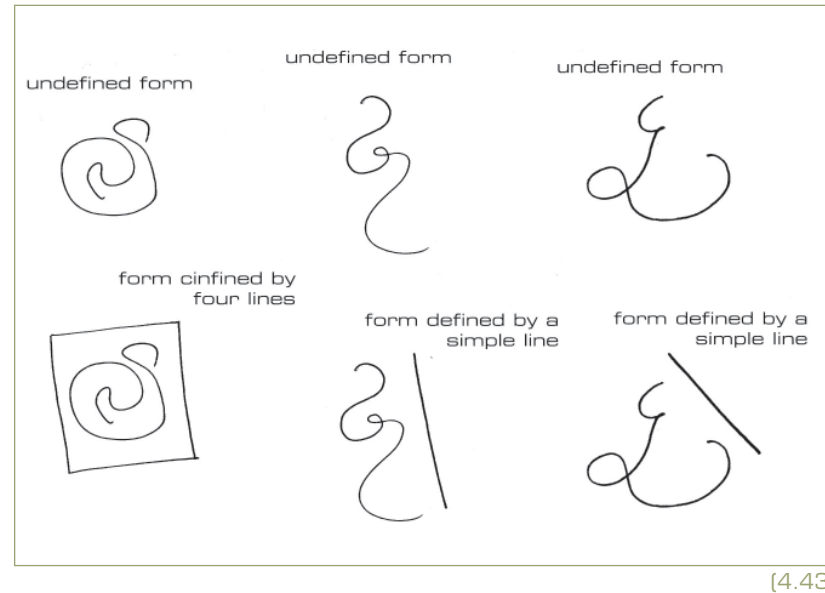
frame and
building
competes



(4.42)

Figure (4.41):
 Diagram showing the spatial relation between
 the frame and the building
Figure (4.42):
 Concept sketches showing spatial relationship
 of the proposed design

Figure (4.43):
 Sketches illustrating
 the concept of
 definition
**Figure (4.44) &
 (4.45):**
 In the abstract art,
 the line sometimes
 becomes the
 primary symbol of
 confinement and
 definition



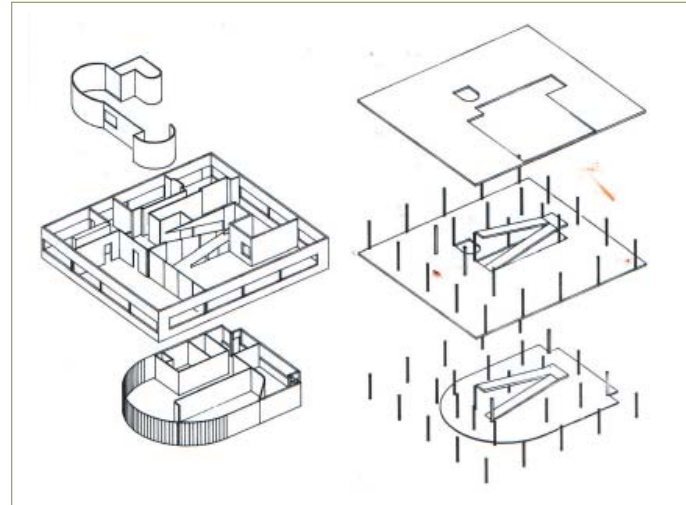
4.3.2 Confinement and Definition

The precedents in the next section illustrate the concept of confinement and definition of free forms and objects, by the use of simplified elements. Diagram (4.43) illustrate the concept. This principle was applied in the Villa Savoye, designed by Le Corbusier. As apposed to the informal arrangements of the interior, the external form is that of a pure prism. This pure geometry of the façade is entirely distinct from the practical considerations, but it confines the free forms used inside. Le Corbusier confirms this notion:

'My eyes see something that conveys an idea – an idea expressed not in words or sounds, but solely through prismatic forms, shapes clearly defined by light, which are related to each other. These relationships have nothing to do with practical functions or descriptive effects. They are the language of architecture. You not only have adapted raw materials to the functional requirements of a project but also, transcending these requirements, have established relationships that stir my emotions. That is architecture.' (Leupen, Grafe, Kornig, Lampe & Zeeuw 1997:116)



(4.46)

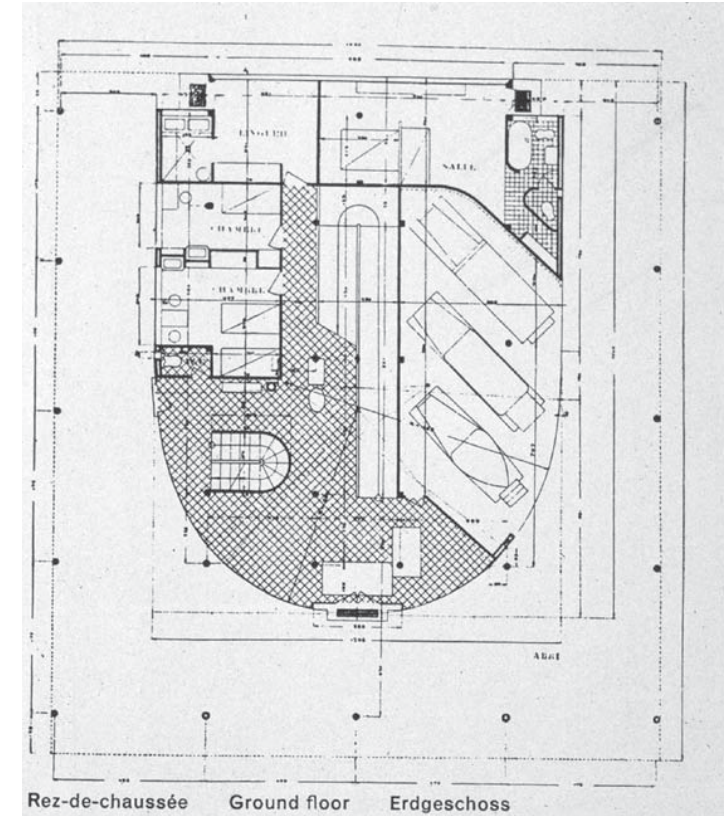


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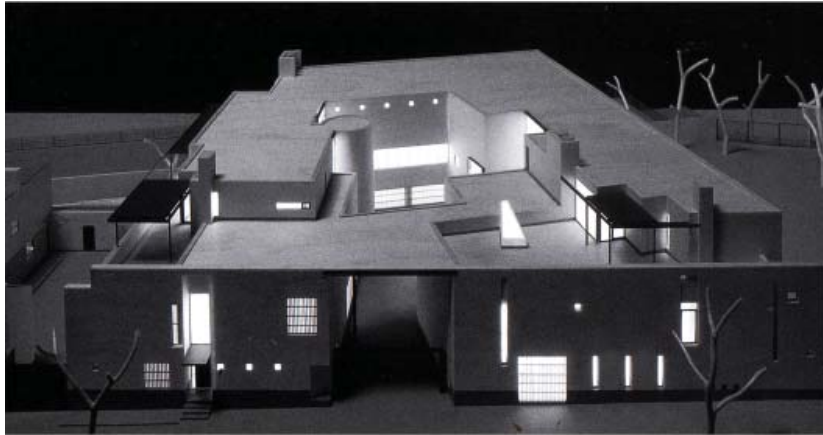
Figures (4.46):
Outside views of Villa Savoye

Figure (4.47):
Exploded views of partitions and structural elements

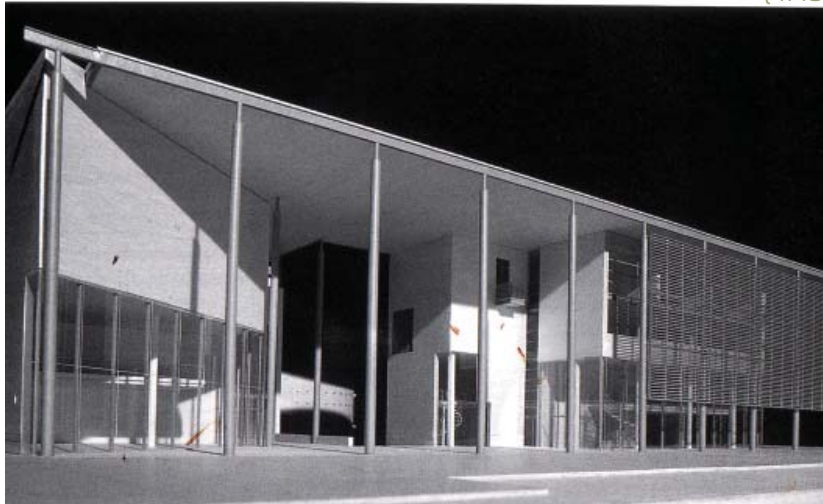
Figure (4.48):
Ground floor plan showing free forms of interior in relation to the strict ordering of the columns



(4.48)



[4.49]



[4.50]

The work of Finnish architect Kristian Gullichsen also illustrates this concept: Build form and structure are being treated as relatively independent, although at the same time, it defines one other. (Figures 4.59 and 4.50)

Figure (4.49):
The embassy of Finland, Stockholm
1993
Figure (4.50):
University Library, Lleida, Spain,
1996

4.3.3 Pretoria Regionalism

The particular vernacular of Pretoria could be termed a third vernacular since there were two previous vernaculars in the history of South Africa, namely the Cape Dutch of the 18th century and the Georgian of the early 19th century (Fisher, Le Roux & Maré, 1998:122).

The Pretoria Regionalism had a particular way of responding to nature and the landscape through the use of natural and industrial materials with specific climatically responsive characteristics (ibid). The third vernacular is considered as a precedent mainly because of the consideration it gave to context in the design process.

The following aspects characterise Pretoria regionalism:

- Traditional plan-forms
- Rustic brick, either directly as clinker or as whitewashed stock
- Low-pitched iron roofs
- Deep shaded eaves and verandahs
- Sun-shy windows
- Sensitivity to landscape and land features
- An architecture responsive to climatic constraints



(4.51)



(4.52)

(Following page) Figure (4.53), (4.54) & (4.55):

Images of environmental skin as used in the Pittsburgh Children's Museum

Figure (4.56):

Prototype of the skin

Figure (4.51):

House Karl Jooste, Waterkloof Ridge
Architect: Karl Jooste, 1960's

Figure (4.52):

House Stübgen, Waterkloof Ridge
Architect: Stübgen, 1966

4.3.4 Environmental Elements

The confluence of science and art has fascinated environmental artist Ned Kahn throughout his career. For the last fifteen years, he has developed a body of work inspired by atmospheric physics, geology, astronomy and fluid motion. He strives to create artworks that enable viewers to observe and interact with natural processes.

His artworks frequently incorporate flowing water, wind, fog, sand and light to create complex and continually changing systems. Many of these works can be seen as 'observatories' in that they frame and enhance our perception of natural phenomena. Kahn is intrigued with the way patterns can emerge when things flow. These patterns are not static objects, they are patterns of behavior - recurring themes in nature.

Articulated Cloud - Pittsburgh Children's Museum, Pittsburgh: Composed of thousands of translucent, white plastic squares that move in the wind, the artwork is intended to suggest that the building has been enveloped by a digitized cloud. The optical qualities of the skin change dramatically with the weather and the time of day. The articulated skin is supported by an aluminum space frame so it appears to float in front of the building (figures 4.53 - 4.56). The design evolved through collaboration with the architects, Koning / Eizenberg.



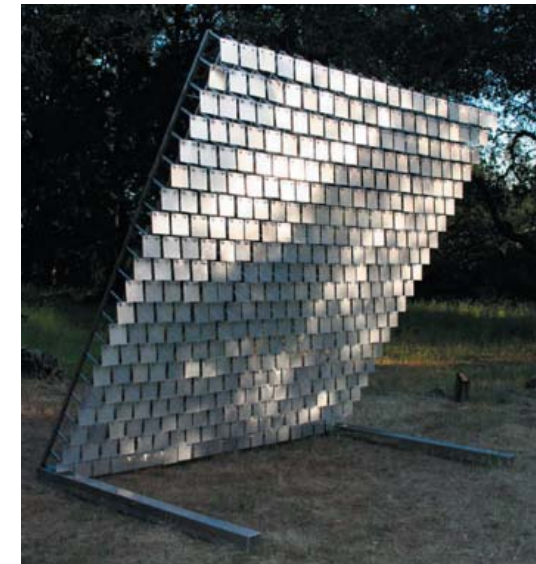
[4.53]



[4.54]



[4.55]



[4.56]

Fragmented Sea - Mesa Art Center, Mesa

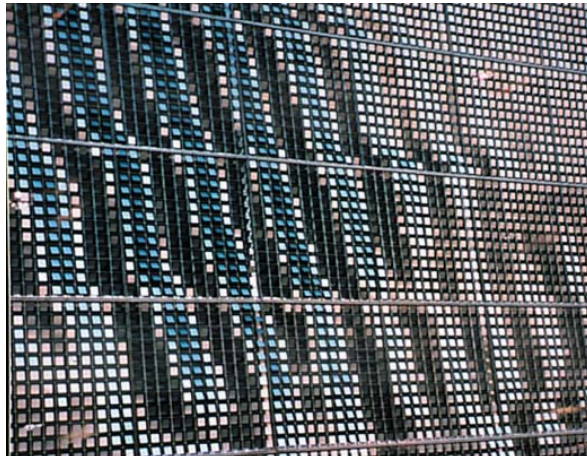
A second wind-activated shade screen for the arts center is composed of thousands of blue-anodized, 3 inch square, aluminum flaps that move in the wind and create the illusion that the building has been submerged in a vertical sheet of rippling blue water (figure 4.57). As the blue-anodized flaps pivot in and out with the passing breezes they reflect different amounts of light from the sky, changing from deep blues when they are angled down to bright, light-blue glints when they catch the sun, with countless subtle shades of blue in between. The result is a blue-tinted, animation of the ever-changing patterns of the wind. A collaboration with BOORA and DWL Architects and the engineering firm Paragon.



(4.58)



(4.59)



(4.57)

Figure (4.57):
Ned Kahn's 'Fragmented Sea'
Figure (4.58) & (4.59):
Prototype of Ned Kahn's work
implemented in a building facade



[4.60]

Torre Agbar, Barcelona, Spain: In the work of French architect Jean Nouvel, sensitivity and specificity to context – cultural, geographical and architectural – becomes one of the defining themes. In this way, the environmental context played a significant part in the design of the Torre Agbar.

The building (figure 4.60) houses the headquarters for Aguas de Barcelona (Agbar), the municipal water company. The first skin that covers the concrete structure is a layer of polished aluminum in blues, greens, and grays. The second skin, which adds an iridescent sparkle to the building, is made up of 59,619 sheets of clear glass louvers, in 25 different colours. There are 4,400 windows accompanied by the louvers that tilt in various directions to block out any direct sunlight (figure 4.61). At night, the tower becomes yet more magnificent, with 4,500 yellow, blue, pink, and red lights illuminating the exterior.

The fritted louvers contribute to the energy performance of the building in two ways. They provide partial shade to the building's surface, and they create a ventilation space that allows heat to rise and escape before reaching the thermal envelope behind. The varying angles at which the louvers are affixed, and the varying degrees of frit intensity, contribute texture and change to this extraordinary surface.

Nouvel's approach also reveals some of the same atmospheric motions as seen in the work of Ned Kahn. 'The surface of this construction evokes the water,' Nouvel says, 'smooth and continuous, but also vibrating and transparent because it manifests itself in colored depths — uncertain, luminous, and nuanced.' (Logan: 2006)



[4.61]



[4.62]



[4.63]

Figure (4.60) & (4.61)

Torre Agbar view and facade

Figure (4.62):

Interior view of the aluminum skin

Figure (4.63):

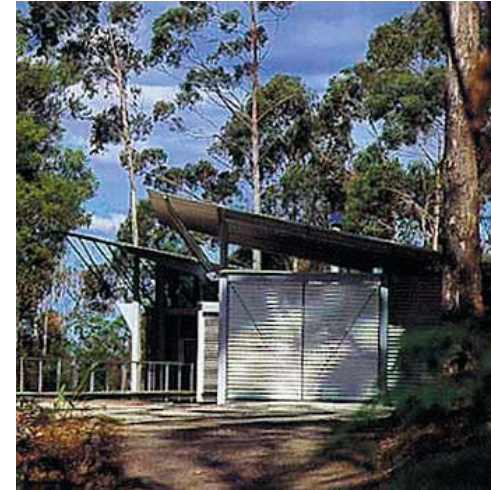
View showing both of the two skins

Glen Murcutt: Murcutt is said to be Australia's most internationally famous architect and is known for his environmentally sensitive design. He pours his creativity into smaller projects that let him work alone and design economical buildings that will conserve energy and blend with the environment.

Murcutt chooses materials that can be produced easily and economically: Glass, stone, brick, concrete, and corrugated metal. He pays close attention to the movement of the sun, moon, and seasons, and designs his buildings to harmonise with the movement of light and wind.



[4.64]



[4.65]

Figure (4.64):

Magney House
Bingie Bingie New South Wales

Figure (4.65):

Simpson-Lee House
Mount Wilson New South Wales