>>Re-Programming Public Space

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Normative Position

The most intriguing aspect about the discipline of architecture, including all the fields of architecture such as interior, landscape and urban design, is how the simple act of creating, manipulating or destroying form, can alter the human psyche. The world as people know it is shaped by the mere thoughts and aspirations of an architect, using their own experiences, thoughts and opinions. What architects create will determine so much more than just shelter from the surrounding environment. What they create shapes the minds and experiences of the people exposed to it. How architecture influences the way people perceive their world places immense responsibility on the architect as the architect can either enhance that perception, or totally destroy it. Architecture, of course, is a very subjective art. What one person calls a work of art; another calls a grotesque monstrosity. Architecture must create places and spaces that are no longer about the building, but to start designing and creating spaces that respond to the people who use the spaces and respond to the environment in which the architecture is found. Architecture has the ability to not only create from anew but has the capacity to mould and transform spaces, including those not meeting the requirements of a newer generation, or should never have been created. To transform spaces into environments that will enhance the psyche and use of a space is the art. Architecture must do more than just meeting the physical requirements of spaces.

Dissertation Summary

The intention of this dissertation is to re-programme public space. The site of Strijdom Square is used to prove that through the insertion of a symbiotic building into an urban environment a public square can be regenerated. The regeneration of Strijdom Square will on an urban level increase the use and accessibility of the inner city CBD. It is an architectural intervention that attaches itself onto the existing urban fabric. The building layers the space so that it facilitates accessibility and interaction between the open space and the built environment. Together with the symbiotic building and the re-design of the square the public space will become a space that people are drawn to and want to be in.

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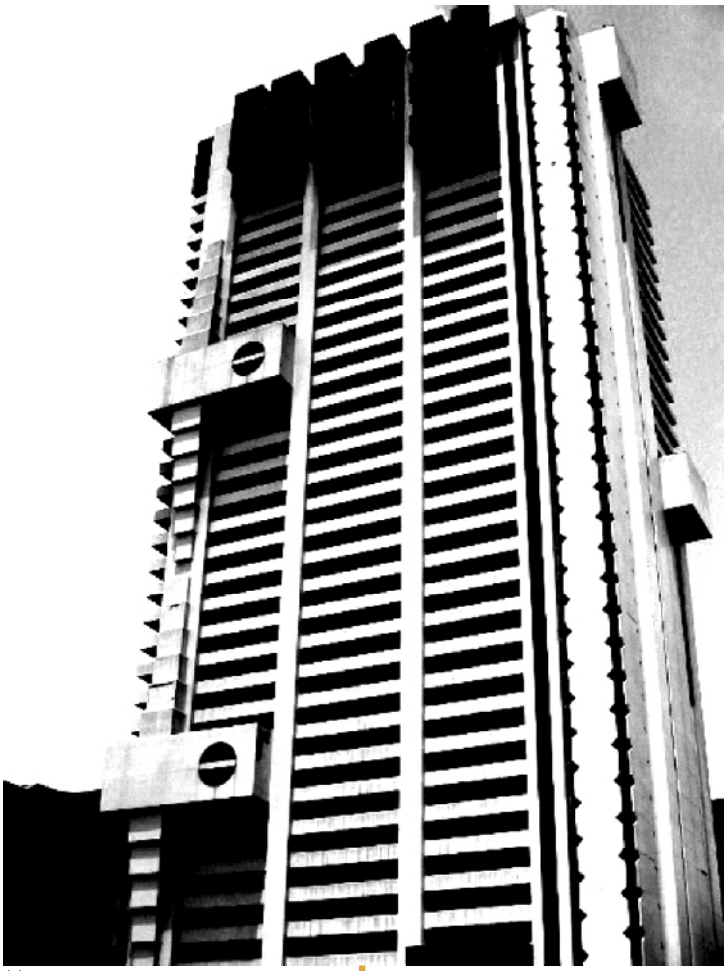


1.1

>> introduction

The urban city environment, just by looking at it, can provide a special pleasure. The city, like a piece of architecture, is a construction in space but on a vast scale (LYNCH 1960: 1). The city provides the people who use it with basic needs such as shelter, a place of social interaction and a place of economic income.

Some spaces in the city, over time become un-used or fail to fulfill their intended purpose. This is evident in the Pretoria inner city. The aim of this dissertation is to examine the aspects of the inner city and identify the spaces in the city that are not functioning as intended and look at ways of regenerating those spaces. Like most cities, Pretoria inner city has a dense urban fabric. It is difficult to interfere in the urban fabric without altering the visual or social quality of a space, or without having to resort to demolishing a particular area in order to re-build a new structure. The unfortunate aspect of demolishing and re-building is that it leads to the same problems that were originally encountered. Therefore altering the built fabric in the Pretoria CBD would be problematic. Instead of looking at ways of altering the city's built fabric, the open public spaces were analyzed. The most important elements in the city, according to Kevin Lynch, are the movable parts and the spaces in which they move (through which they move, are open spaces between the buildings.

The spaces between the buildings are the spaces where the activity and character of any city is formed. These spaces are the places where the focus of social interaction takes place in the Pretoria inner city. The built fabric is very dense in the Pretoria inner city, so the spaces between the buildings are limited to the streets and public open spaces or urban parks. There are limited urban public spaces in Pretoria's inner city, thus most social interaction between the users of the city occurs on the side-walks.

1.2

Fig 1.1 north-west corner of ABSA building
Fig. 1.2 side-walk activity in Pretoria inner city

The side-walk activity attracts a multitude of people. Wherever there is activity it is generally true that people will gather and new activity will develop in the vicinity of the existing activity (GEHL 1987: 25-27). This has been proven true in the Pretoria inner city context as most side-walks that generate pedestrian activity are filled with informal traders enjoying the exposure of the people walking by. This in turn has attracted more activity to the side-walks. The only problem associated with this form of activity is that the Pretoria inner city side-walks were not designed to accommodate the masses of people on them.

This is also true for the roads that run adjacent to the side-walks. The roads tend to have fast moving traffic which is not ideal for the close proximity of public activity. The side-walks form a great deal of the city's character due to this activity. Side-walk activity also has another aspect to it. It is movement orientated, so it does not allow for stopping, resting or any form of paused activity such as sitting, eating or drinking. The continual movement and energy of the inner city is reflected in the character of the streets and side-walks.

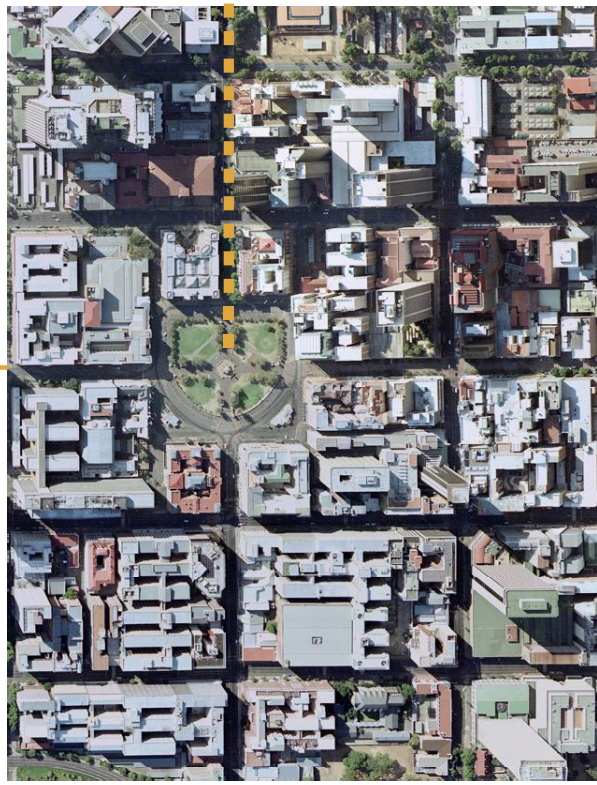
The public spaces within the city are the last spaces left where people can pause in the city's continuous movement. They are needed in the city to provide places of rest. Jan Gehl, an urban designer from Denmark, believes that people need to have contact with other people within a city environment. This contact can be even on the most basic and superficial level of what he calls 'passive socialization'. Just being in a space where you can see and hear the people around you. Throughout history, streets and squares have formed the focal points of gathering spaces. But with the advent of functionalism, streets and squares were literally declared unwanted. Instead they were replaced by roads, paths and endless grass lawns (GEHL 1987: 47).

The aim of this dissertation is to examine how, through the re-design of a public square, inner city regeneration can take place. Public spaces are areas where, if designed properly, an increase in usage and gathering can take place. It cannot be denied that human beings are creatures that enjoy being around other human beings. If this feeling of social integration can be enhanced, the character of the inner city can be enhanced too.

>> city context

2.1

Church Square

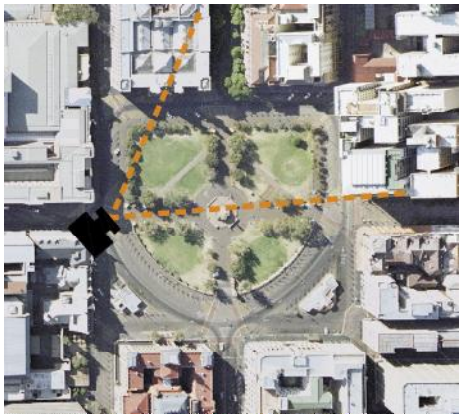


2.2

Fig 2.1 aerial view of inner city

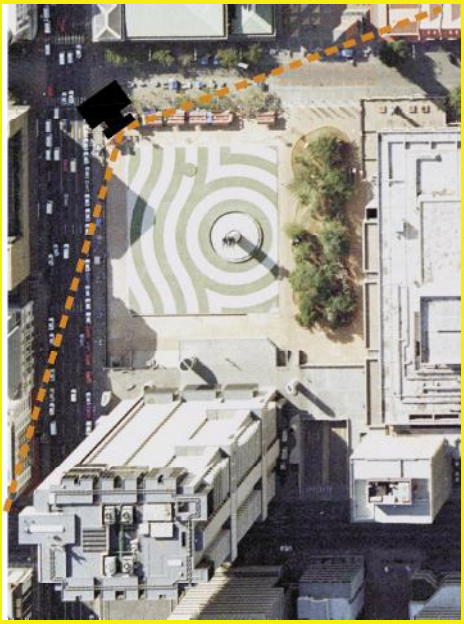
Fig 2.2 aerial view of open spaces in the CBD

"In street and city spaces of poor quality, only the bare minimum of activity takes place. People hurry home. In a good city environment, a completely different, broad spectrum of human activities is possible" (GEHL 1987: 13).



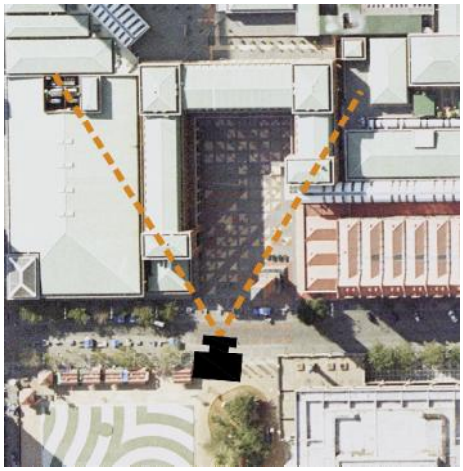
2.3

The inner city of Pretoria, as it currently exists, lacks good urban public spaces for the users of the city. The current urban public spaces provide merely the necessary superficial requirements. This includes the traditional open green space, places for sitting and lounging and some vegetation for shading. But this seems to only satisfy the needs of the city user on a level that does not cater for a true experience of being in a city environment.



2.4

The spaces between buildings, even though they are the most important elements of the city according to Jan Gehl, are created by the built fabric. This built fabric creates physical and psychological boundaries which in essence defines the edges of open spaces. These spaces come in the form of streets, side-walks, alleys and urban parks. The relationship between the built city fabric and the spaces which they create becomes vitally important. The built fabric's edges are hard. There is little interaction between the open spaces and the buildings which is resulting in harsh city spaces, uncomfortable to be in. The contrast between inside and outside is very apparent, which leads to the feeling of isolation when in the spaces between the buildings. This feeling is encouraging people to get to their destinations as quickly as possible.



2.5

To break down these barriers and give accessibility to the city would create a holistic experience of the city. In order to do this, buildings cannot be demolished in such a way that they expose their interiors but rather to add a new layer onto the many existing layers of the city. This layer would facilitate the interaction between the built fabric and the spaces between the built fabric and allow the people who use the city to have a more legible connection with the spaces in which they move and the city around them. Current open spaces in the city include Church Square, Strijdom Square, Sammy Marks Square, the open public space on the north eastern side of the State Theatre, the open space on the eastern side of Sammy Marks and the open public space in front of the Reserve Bank.

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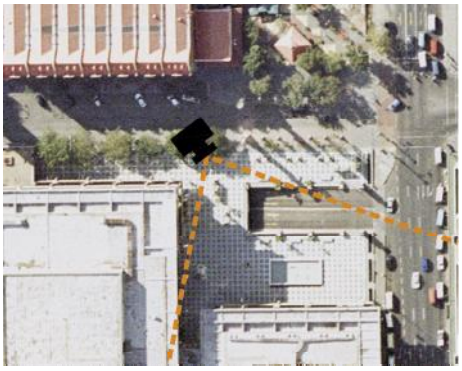
Fig 2.3 aerial view of Church Square
Fig 2.4 aerial view of Strijdom Square
Fig 2.5 aerial view of Sammy Marks Square
Fig 2.6 photo of Church Square as indicated in Fig 2.3
Fig 2.7 photo of Strijdom Square as indicated in Fig 2.4
Fig 2.8 photo of Sammy Marks Square as indicated in Fig 2.5



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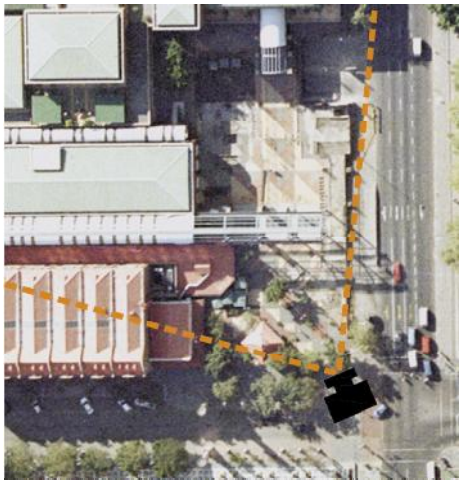

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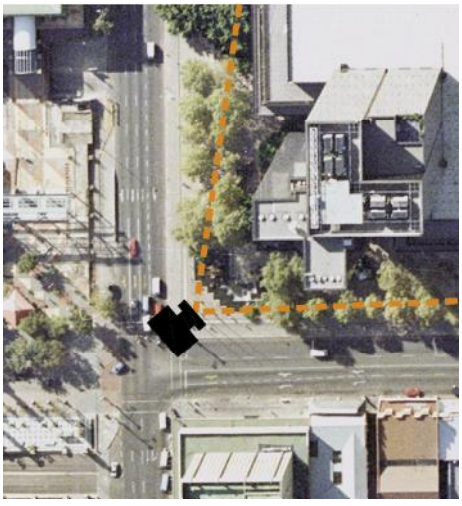

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2.12

Fig 2.9 aerial view of open space next to the State Theatre
Fig 2.10 aerial view of open space next to Sammy Marks Square
Fig 2.11 aerial view of public space in front of Reserve Bank
Fig 2.12 photo of open space next to the State Theatre as indicated in Fig 2.9
Fig 2.13 photo of open space next to Sammy Marks Square as indicated in Fig 2.10
Fig 2.14 photo of public space in front of the Reserve Bank as indicated in Fig 2.11

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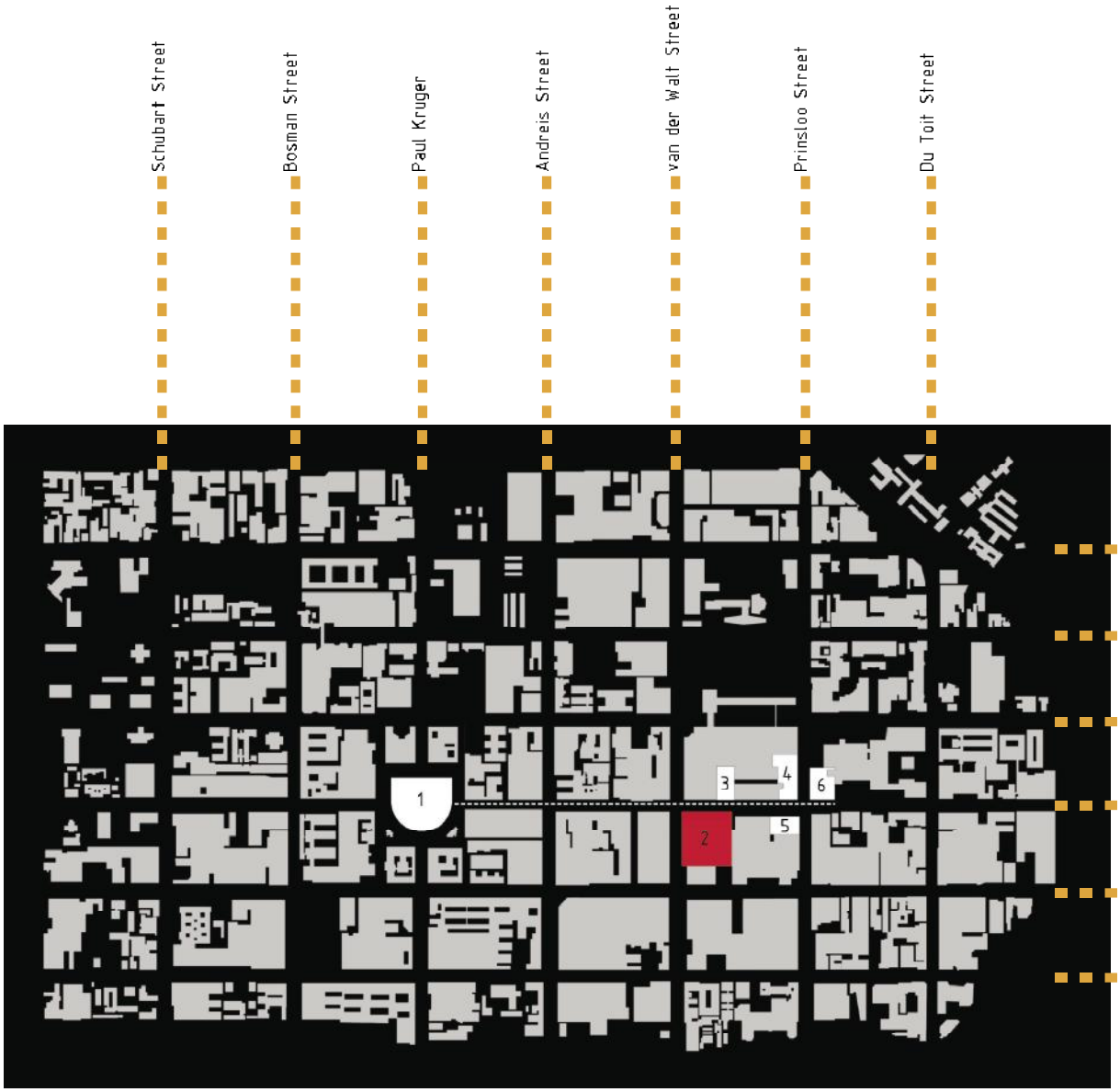
2.14

Strijdom Square was chosen as the site (see Fig 2.4 and 2.7) for this dissertation as it provides the necessary requirements for an architectural intervention. Currently the square is not functioning as a public space. It has become a 'white elephant' in the inner city. The site suffers from all the characteristics mentioned before and there is no interaction between the built fabric and those spaces which it creates. The square is meant to function as a public space but has few people using it. It is a mostly barren open space in the inner city but has not been altered. This is possibly due to its historical significance.



2.15 1-Church Square; 2-Strijdom Square (site); 3-Sammy Marks Square; 4-open space next to Sammy Marks Square
5- open space next to State Theatre; 6-public space in front of the Reserve Bank

Fig 2.15 linkages of open public spaces in the

>> growth of site

Strijdom Square has always functioned as an open public space. Strijdom Square has always been an open plot of land allowing for the gathering of people. Church Square is the historic birth place of the city. In 1857 President Pretorius erected a church on the site and it was known as "Kerkplaats". From this an east-west corridor formed as people came to the church square for the church services. As the services lasted for a couple of days this allowed people to trade and this created movement patterns of how people approached the city and also how they exited it (PIENAAR: 03-05). This led to the development of the main roads used to enter or exit the city, namely Paul Kruger Street (north-south direction) and Church Street (east-west direction). The site of Strijdom Square lies directly east of Church Square along Church Street where the majority of trading occurred and became known as the *Markplein (m*arket square). The site was used to trade cattle and produce. The buildings that use to exist on the site when it was a market square remained there up until the construction of the State Theatre.

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Fig 3.1 Church street looking west at the second church built in Church Square (1885)

Fig 3.2 Church Street looking east (date unknown)

Fig 3.3 Church Street looking west from the corner of van der Walt Street, Markplein directly behind view of photo (1880)

Fig 3.4 Markplein during morning trade (1911)

Fig 3.5 Markplein (unknown date)

Fig 3.6 Corner of van der Walt & Church Street, Markplein to the left of the photo (date unknown)

Fig 3.7 Corner of Church Street & Prinsloo looking west, Markplein to the left of photo & George Kynoch building in the right of photo which still stands today (1897)

Fig 3.8 Sammy Marks photo taken from where the ABSA building stands today looking north (1922)

3.9

In 1970 construction began on stand 2909 on the State Theatre as well as an underground parking lot. The State Theatre was design by Walter Smith and Hans Botha (STAATSTEATER: 32). The architects were influenced by the architecture they witnessed while researching foreign examples of theatre, but especially the Japanese "Mega-Structures" they saw while traveling. Theatres (like churches, town buildings and government buildings) all over the world are designed as a sign of power of the person or institutions that are governing the country at the time. These buildings were designed to exercise control and power and were massively monumental structures dominating the surrounding urban space in order to make a statement of glamour, affluence and desirability (MCAULEY 1999: 52). The State Theatre exercises the same type of character and is definitely a dominating presence in the urban space. The left-over space on the western side of the State Theatre, remainder of stand 2909, was converted into public square but on a much more civic scale. It was named after JG Strijdom, a former Prime Minister of South Africa.

Before the State Theatre was finished a new building was commissioned for the south-west corner of the site, portion 1 of stand 2909. The Volkas Bank high-rise building (currently known as the ABSA building) was built. One of the architects, Samuel Pauw, said in an unpublished document that the building was to represent solidarity and security. He described the building as: masculine; strong; solid; robust and a sculptural structure. The ABSA building is a landmark in Pretoria, and is still the second tallest building in the city after the Reserve Bank.

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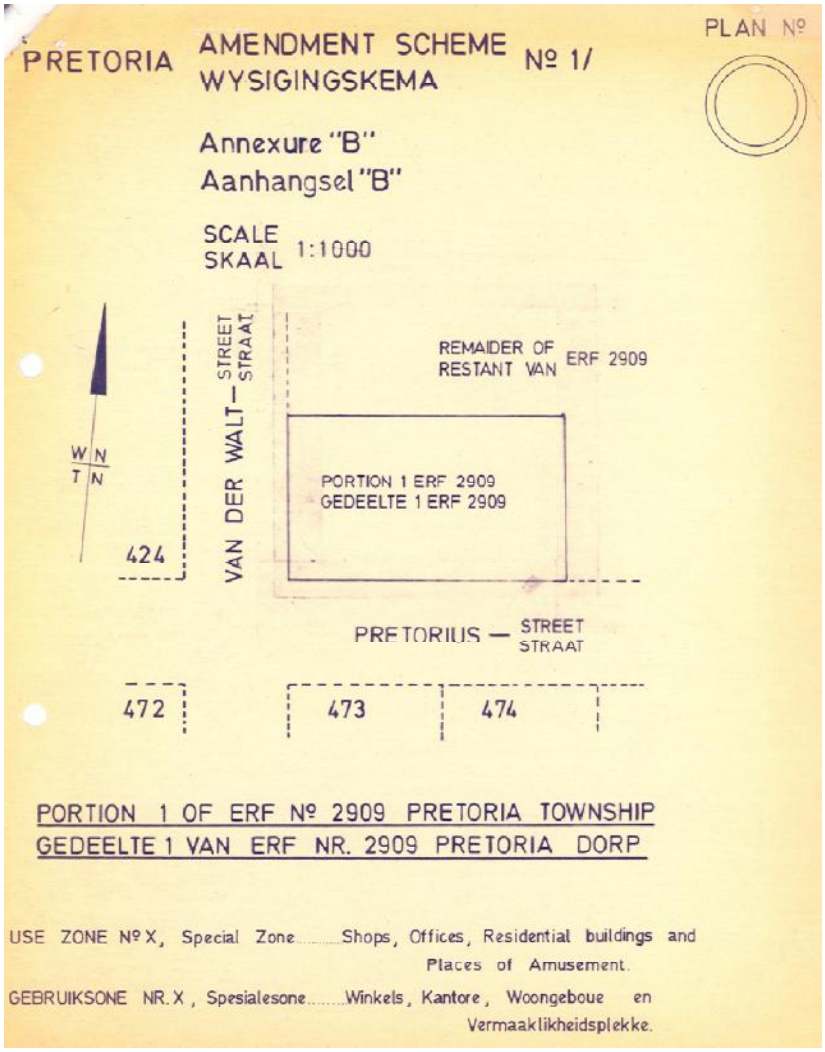
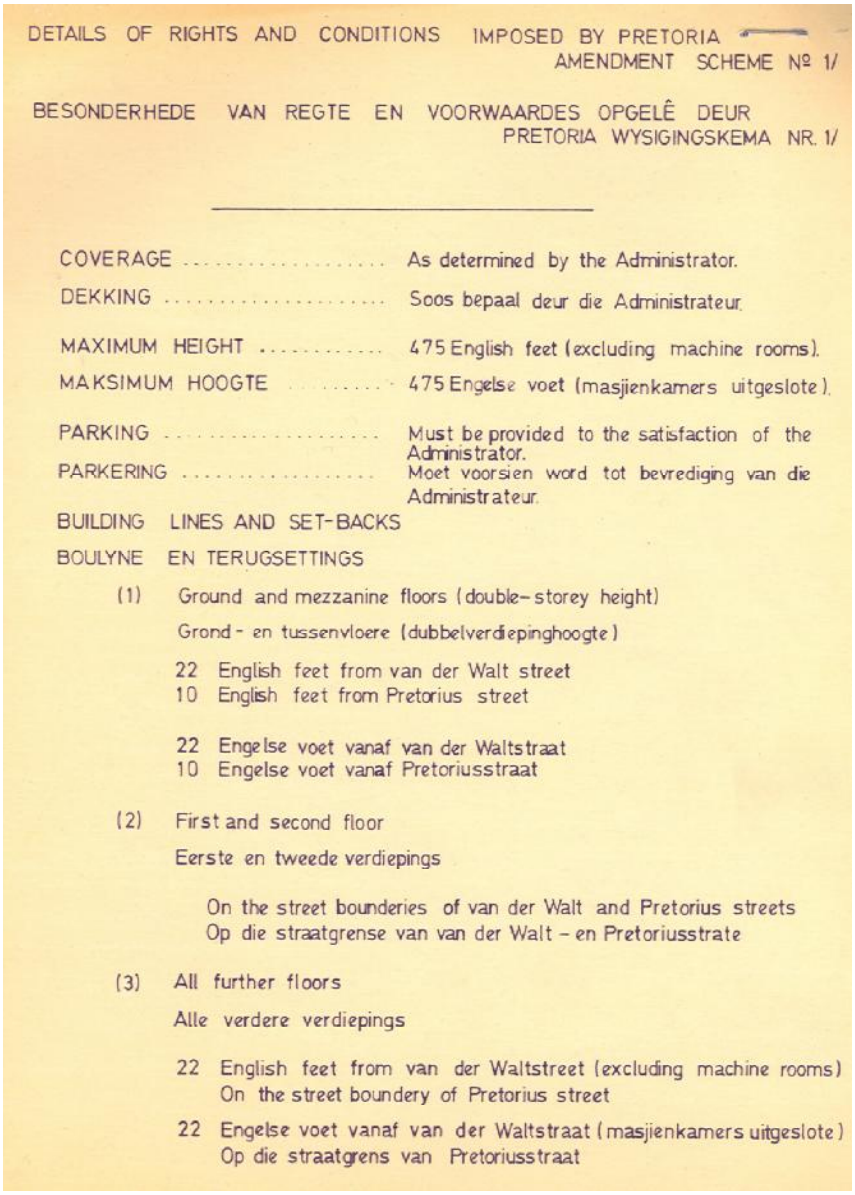


3.12

Fig 3.9 Un-used & dilapidated Markplein (1966)
Fig 3.10 Excavation of site in 1970
Fig 3.11 Construction of basements in 1970
Fig 3.12 Site information for stand 2909



DETAILS OF RIGHTS AND CONDITIONS IMPOSED BY PRETORIA AMENDMENT SCHEME Nº 1/

BESONDERHEDE VAN REGTE EN VOORWAARDES OPGELÊ DEUR PRETORIA WYSIGINGSKEMA NR. 1/

COVERAGE ..... As determined by the Administrator.

DEKKING ..... Soos bepaal deur die Administrateur.

MAXIMUM HEIGHT ..... 475 English feet (excluding machine rooms).

MAKSIMUM HOOGTE ..... 475 Engelse voet (masjienkamers uitgeslote).

PARKING ..... Must be provided to the satisfaction of the Administrator.

PARKERING ..... Moet voorsien word tot bevrediging van die Administrateur.

BUILDING LINES AND SET-BACKS

BOULYNE EN TERUGSETTINGS

(1) Ground and mezzanine floors (double-storey height)

Grond- en tussenvloere (dubbelverdiepinghoogte)

22 English feet from van der Walt street
10 English feet from Pretorius street

22 Engelse voet vanaf van der Waltstraat
10 Engelse voet vanaf Pretoriusstraat

(2) First and second floor

Eerste en tweede verdiepings

On the street bounderies of van der Walt and Pretorius streets
Op die straatgrense van van der Walt – en Pretoriusstrate

(3) All further floors

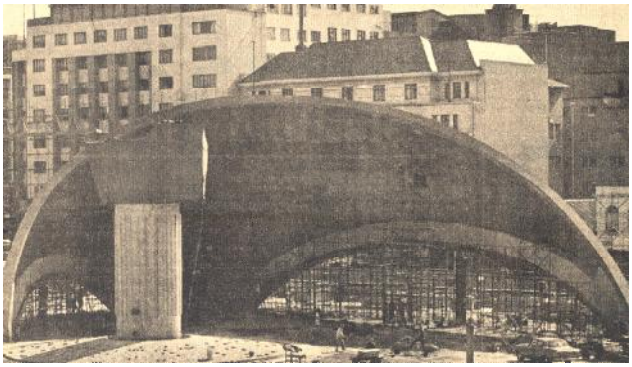
Alle verdere verdiepings

22 English feet from van der Waltstreet (excluding machine rooms)
On the street boundery of Pretorius street

22 Engelse voet vanaf van der Waltstraat (masjienkamers uitgeslote)
Op die straatgrens van Pretoriusstraat

3.13

Over the years, the area surrounding Strijdom Square received much criticism. The huge concrete cupola was erected on the square in 1972. From its completion it was criticized as being a direct copy of the Oscar Niemeyer monument in Rio de Janeiro dedicated to a Brazilian politician (MEYER 1979: 5). When the supports were removed the two front legs crawled 80mm. Cracks began to appear and engineers said that the cupola was completely unstable. The dome cost R80 000-00 to build and cost R90 000-00 to repair. Over the years, Strijdom Square also went through many changes with continual repairs and re-designs (BEELD 1985: 15).



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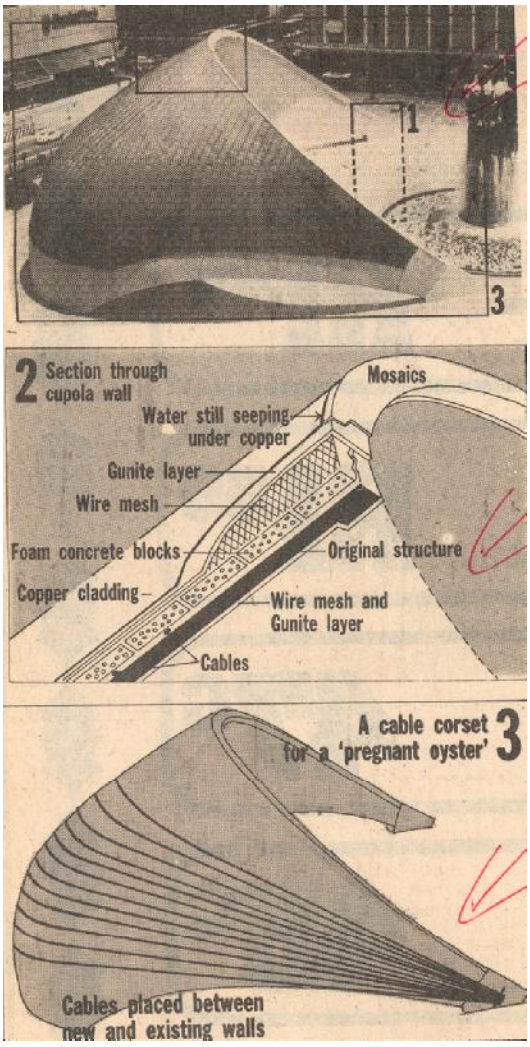

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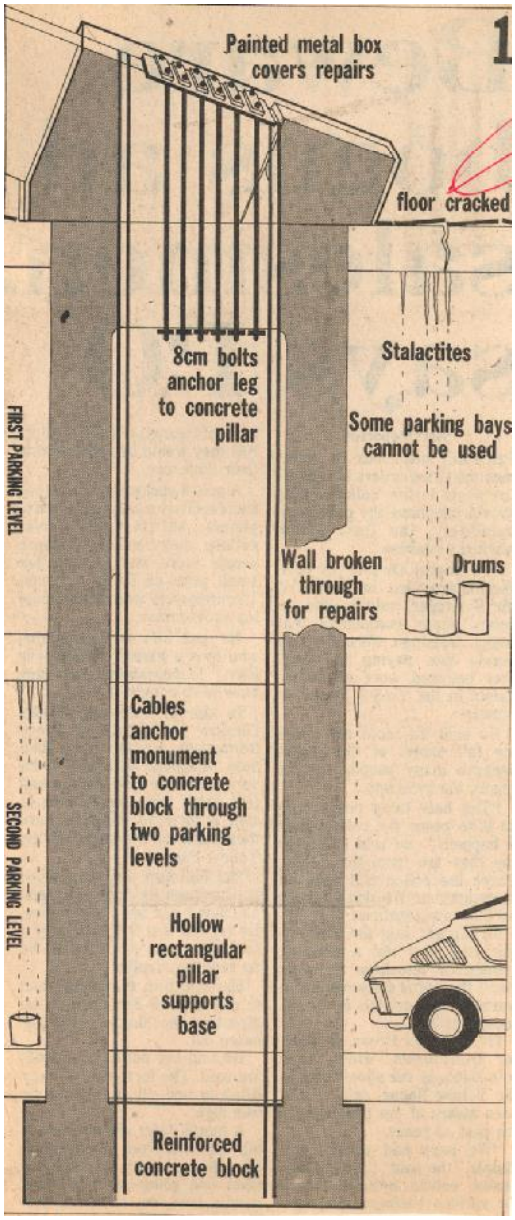


3.16

Fig 3.13 zoning information of stand 2909 in 1970
Fig 3.14 construction of the concrete cupola (date 10 February 1972)
Fig 3.15 diagrams indicating the various repairs needed on the cupola (date 23 November 1979)
Fig 3.16 section through the foundations of the cupola indicating how repairs were done (23 November 1979)

Strijdomplein kry nuwe lewe

RESTOURASIEWERK aan Strijdomplein loop steeds volgens plan en Pretorianers behoort teen vroeg aanstaande jaar weer oor die plein te kan loop – dalk self vroeër.

Daar wag 'n verrassing op mense wat altyd oor die "koudheid" en "doodsheid" van die plein gekla het. Die TPA, wat vir die instandhouding van die plein verantwoordelik is, het die klagtes ter harte geneem.

Hulle het die argitekte genader en daar is besluit om die plein met behulp van steenwerk op te kikker.

Verskillende sirkelpatrone is met die sterre uitgewerk en daar is heelwat ekstra blombakke van verskillende hoogtes gebou om die eentonigheid en strak lyne te breek.

Mnr. Steyn glo nie die nuwe versierings doen afbreuk aan die standbeelde op die plein nie.

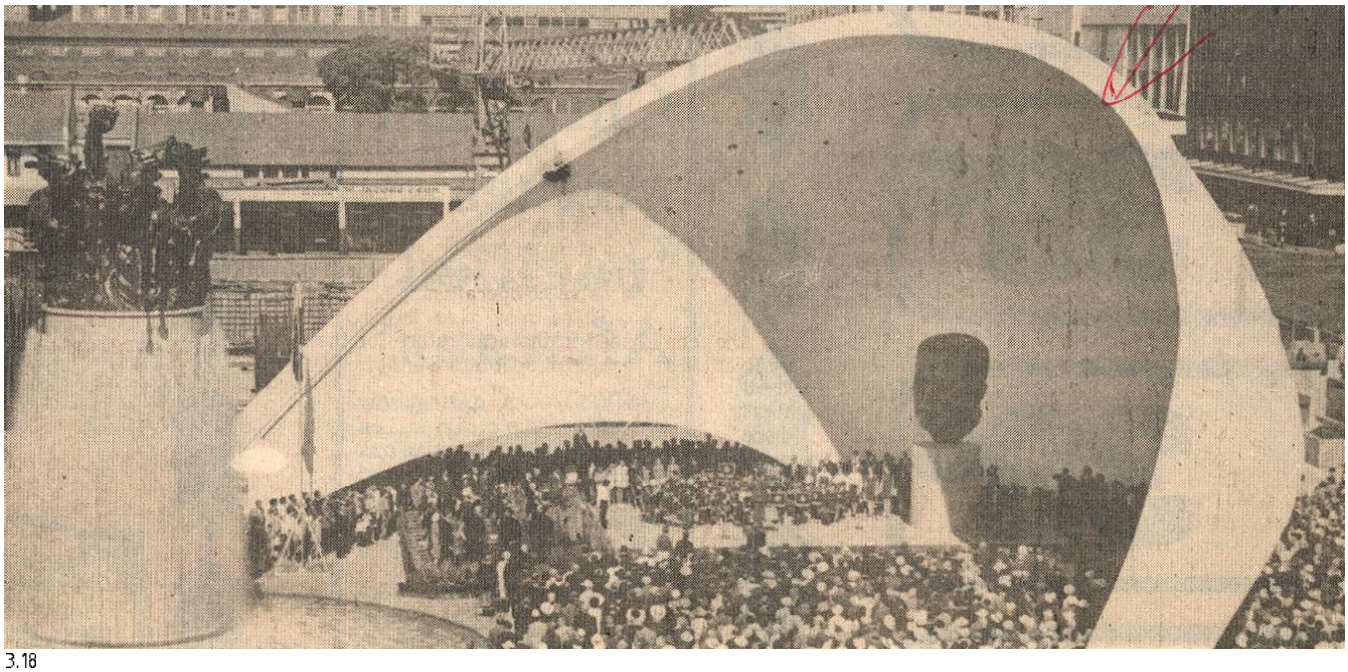
"Ons het die ontwerp aan verskeie mense voorgelê en almal het gedink dit is 'n goeie idee. Die stadsraad van Pretoria was in sy noppies met die steenwerk," sê hy.

Die beraamde koste waarteen die plein gerestoureer word, is R2 miljoen. Volgens mnr. Steyn is die departement nog heeltemal binne sy begroting.

WANNEER die restourasiewerk aan die Strijdomplein voltooi is, wag daar 'n verrassing op almal wat gekla het die plein is te koud en dood.

3.17

Criticism came for the architectural fraternity as well. Alan Konya who was part of the University of Pretoria's Architectural Faculty at the time, commented that "The entire city block is just a jumble of concrete. Ten years ago it was a charming market square with cobbled alleys and little stalls of life." (MEYER 1979: 5). There was a big uproar at the time about all the older historic buildings being demolished and replaced with high-rise structures of steel and glass. The inner city was being criticized for becoming one of the ugliest cities in the world. Professor Dieter Holm of the Architectural Faculty of the University of Pretoria stated that: "Too many of the modern buildings are being built on the false assumption that only the inside of the building is important. Only a few hundred people have to work inside, but hundreds of thousands are confronted with its ugliness. Also, diversity is being built out of the city centre. The small business man who could afford the rental in the older buildings is being forced out because of the high rentals in the skyscrapers. With its attractive surroundings, its out-of-doors climate and its old buildings, careful re-use and restrained but imaginative urban planning could have made Pretoria one of the most beautiful cities of the world. Instead it is becoming one of the ugliest- lifeless and cold, forgetful of its past." (MEYER 1979: 5).



3.18

Pretoria's heart is ugly and cold, say architects

By WILLIAM SAUNDERSON-MEYER
Pretoria Bureau

PRETORIA'S obsession with towering concrete, glass and steel monoliths has given it one of the ugliest city centres in the world, an architect claims.

Mr Alan Konya, of the University of Pretoria's architectural faculty, said that after eight years' travel in the United States and Europe he was shocked at the deterioration which had taken place in the city's architecture.

"Pretoria's architects and town planners have identified closely with the brash and discredited US architecture of the 60s — and this has led to the razing of almost all the old buildings of the turn of the century.

"Many of the modern developments, like Strijdom Square, seem hell bent on destroying the city centre for people," he said.

The square is dominated by what is snidely referred to by locals as the "pregnant oyster" — a cupola enclosing the massive carved head of J G Strijdom, 12 times life size. In front of the cupola is a marble column surmounted by a herd of galloping horses.

The chairman of the committee in charge of the design, Dr Hendrik F Verwoerd, promised that it would be "more than a mere statue".

When the design was unveiled there was an immediate public outcry that it was a copy of a monument in Rio de Janeiro, designed by Oscar Niemeyer, in honour of a Brazilian politician.

Others warned gloomily that the cupola's design was structurally unsound and that it would collapse.

Despite the outcry, work started on the R80 000 cupola in 1970. Since then it has cost more than double that amount to prevent its collapse. Structural difficulties delayed the completion for two years and work was done in secrecy. It was not until May 1972 that it was unveiled.

When supports were removed from the shell in December 1970, the two front legs "crawled" and the one lifted 8cm. Large cracks appeared in these legs and the engineers commissioned to repair it said the shell was "completely unstable".

They wrote in an article for an engineering magazine that the supports had rotated when the shuttering was removed from the concrete, deflecting the dome and causing cracks throughout the structure.

Water seepage from the cracked floor in front of the legs had caused stalactites like this one in the parking garage.

To prevent it from toppling, they braced it with two jacks. After much head-scratching, they decided that if the cupola wanted to take off, the best solution would be to moor it.

Cables were fixed to the cupola frame and anchored to foundations below the two-tier underground parking garages. Total cost of repairs — R90 000.

3.19

City architects critical of Square project

COR UYS, Municipal Reporter

PRETORIA architects have described the city council's Verwoerd Square project as not utilising a "wonderful opportunity" to create a "really imposing city square".

However, according to the deputy mayor, Mr Bob Zylstra, the council has a developer and an architect and "should get on with the job".

The Pretoria Architectural Society says in a report on a meeting it held concerning Verwoerd Square that circumstances had changed since the project was mooted in 1965.

It said a new political climate, talk of privatisation, an increase in population and the planned city lake project invalidated earlier criteria.

It questioned whether a centre city square was the best place for a clinic, because the users — young Pretoria and poor Pretoria — lived the furthest away from the city centre.

Others asked whether it was justified to place the city library — described as a depot supporting suburban libraries — in the city centre.

Speakers also said insufficient parking would be provided and questioned whether there was justification for a new mayor's suite and more reception facilities.

The meeting was "fairly unanimous" that the scheme would not succeed in creating a "so-called people's place" in the city centre.

The city council has accepted an offer from Murray and Roberts Properties for the redevelopment of the terrain — on the block bounded by Church, Van der Walt, Vermeulen and Prinsloo streets — and demolition of buildings has actually started.

The project, which is the first step in the council's ambitious city core scheme, should be completed in 1993.

3.20

Fig 3.17 article of the re-design of Strijdom Square (date 8 October 1985)
Fig 3.18 completed cupola (date 23 November 1979)
Fig 3.19 article criticizing Pretoria's built environment (date 23 November 1979)
Fig 3.20 article criticizing the proposal of Verwoerd Square (date 12 July 1990)

There was controversy over 'Verwoerd Square Project' (now known as the Sammy Marks Square). It was meant to be designed as a "people's place" and the money to be spent was enormous at the time. The city architects were very critical of it at the time. They said that the square would become a privatized space and would not benefit the people of the city (UYS 1990: 2). Later, when the square was finally to be built, there was again controversy as Verwoerd Square was not to be named after Hendrik Verwoerd but rather after Sammy Marks, a Jewish man, who was an entrepreneur (VAN DER LINDE 1991: 13).

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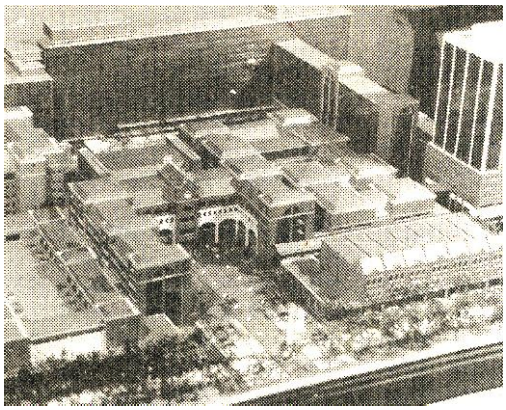

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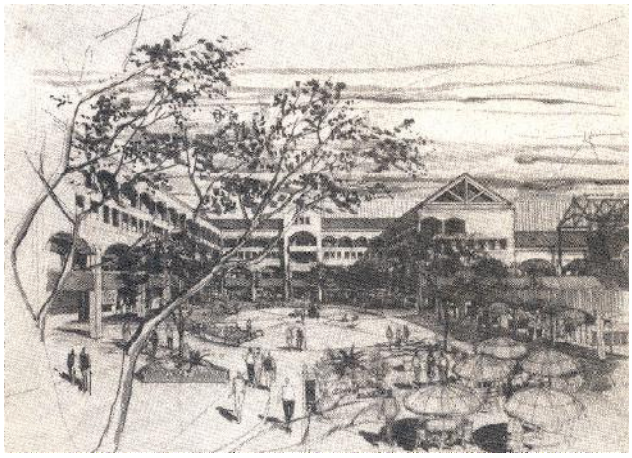


3.23

Fig 3.21 Model of Verwoerd Square (date 30 July 1987)
Fig 3.22 Architect's model of Verwoerd Square (date 14 May 1990)
Fig 3.23 Artist impression of Verwoerd Square (date 13 February 1991)
Fig 3.24 Article reporting that Verwoerd Square's name to be changed to Sammy marks Square (date 22 February 1991)

Nou druk 'n Jood Verwoerd van sy plein af!

Verwoerd as 'n jongman

SAMMY Marks, pionier-sakeman in die dae van die ZAR, en nogal 'n Jood, het nou byna vir Hendrik Verwoerd van die plein in die middestad afgedruk.

Die Verwoerdplein sou eers die hele straatblok oorkant die Strijdomplein beslaan het, ingevolge 'n 1966-besluit van die Stadsraad. Dié besluit is enkele dae na die moord op Verwoerd geneem.

Maar intussen het 'n konsortium sakemanne sowat twee derdes van die straatblok gekoop en besluit om dit liefs te vernoem na 'n pionier-sakeman van Pretoria, Sammy Marks. Die mooi baksteen-gebou reg op die straatfront in Kerkstraat, staan ook bekend as die Sammy Marks-gebou.

Hier gaan 'n kompleks van R215 miljoen opgerig word.

Van Verwoerdplein het nou net 'n derde oorgebly, op die hoek van Prinsloo- en Kerkstraat. Dis die grootte van 'n klein agterplasie en gaan deur die Stadsraad ontwikkel word saam met die res van die terrein.

Die Hendrik Verwoerd Monumentfondskomitee, met dr Willem Cruywagen as voorsitter, lyk vasberade om ten spyte van die omstredenheid, voort te gaan met die plan om 'n gedenkteken, hetsy 'n monument of 'n beeld, op die lappie grond aan te bring.

Die gedagte was vroeër dat 'n drietal monumente in die middestad die totstandkoming van die Republiek moet gedenk, het Cruywagen vandeesweek gesê. Dit sou uit drie pleine bestaan, waarvan die eerste Kerkplein ter herinnering aan die ou Zuid-Afrikaansche Republiek, 'n plein vir JG Strijdom omdat hy die gedagte van 'n Republiek lewend gehou het, en dan Verwoerd-plein vir die man wat Republiekwording verwesenlik het.

Oor die monument wat 'n simbool van onderdrukking vir baie sal wees, sê Cruywagen: "Daar is baie goed waarin mense baie dinge kan lees. Jan Smuts se standbeeld staan in Pretoria en daar is baie mense vir wie dit aanstoot gee, maar daar was nie 'n plan om dit om te stoot nie. En wat van koningin Victoria...

3.24

After the huge cupola dome collapsed, the appearance of the square remained unchanged. The square has always been of significance to the city but has generally been seen in a negative light. Since the completion of the State Theatre the square has been a very barren and unwelcoming space and that is how it has remained to this day.

>>site analysis

4.1 (a)

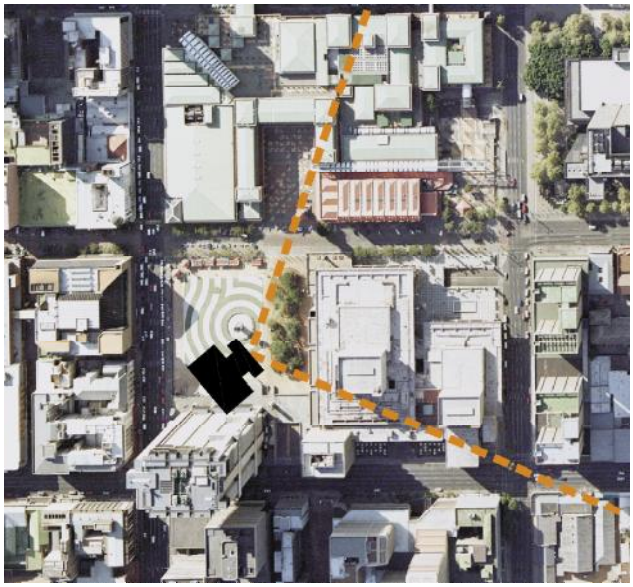
4.2 (a)

4.1 (b)

4.2 (b)

Fig 4.1 (a) aerial of Strijdom Square and immediate context
Fig 4.2 (a) aerial of Strijdom Square and immediate context
Fig 4.1 (b) panoramic looking north as per Fig 4.1 (a)
Fig 4.2 (b) looking north-east from glass elevator as per Fig 4.2 (a)

4.3 (a)

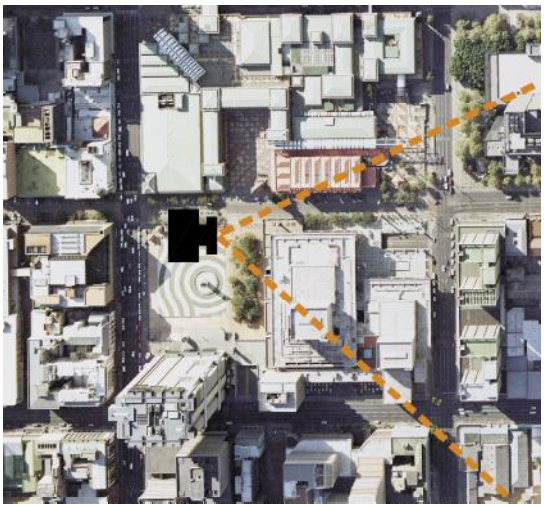


4.4 (a)

4.3 (b)

4.4 (b)

Fig 4.3 (a) aerial of Strijdom Square and immediate context
Fig 4.4 (a) aerial of Strijdom Square and immediate context
Fig 4.3 (b) panoramic looking east as per Fig 4.3 (a)
Fig 4.4 (b) green area on Strijdom Square as per Fig 4.4 (b)



4.5 (a)

4.5 (b)

4.6 (a)

4.6 (b)

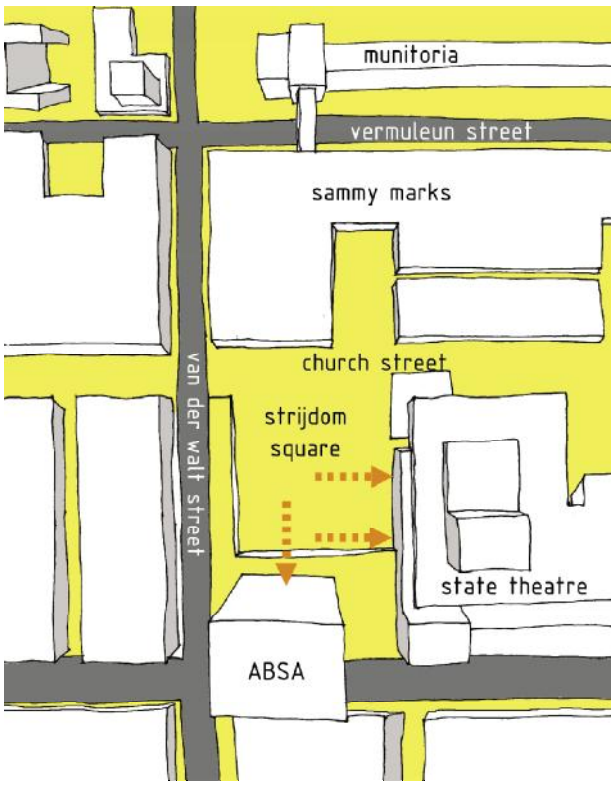
4.7 (a)

4.7 (b)

Fig 4.5 (a) aerial of Strijdom Square and immediate context
Fig 4.5 (b) State Theatre's north-western corner as per Fig 4.4 (a)
Fig 4.6 (a) aerial of Strijdom Square and immediate context
Fig 4.6 (b) looking north-west at the Standard Bank Centre as per Fig 4.6 (a)
Fig 4.7 (a) south-east corner of Premium Towers (old Volkas building before the ABSA building was built) as per Fig 4.7 (b)
Fig 4.7 (b) aerial of Strijdom Square and immediate context

Constraints of the Site

Strijdom Square has various possibilities and constraints. In analyzing the site and the surrounding context, various physical constraints become apparent. The most obvious constraint of the site is the western façade of the State Theatre and the northern façade of the ABSA building. The western façade of the State Theatre and the northern façade of the ABSA building are the best example of the lack of interaction between the built fabric and the spaces between the buildings, occurring throughout Pretoria. The western façade of the State Theatre has been widely criticized as the reason for the death of Strijdom Square. The city council Architect during the 1970's said," Pretoria is basically a garrison town and the laager mentality which produced the Voortrekker Monument is obvious in the blockhouse style of the opera house (State Theatre Pretoria). Not only did the State Theatre contribute to the death of Strijdom Square, but it was built with an overhang on the Church Street side of Strijdom Square, which aesthetically demands the demolition of the historic Sammy Marks building across the road." (MEYER 1979: 5).



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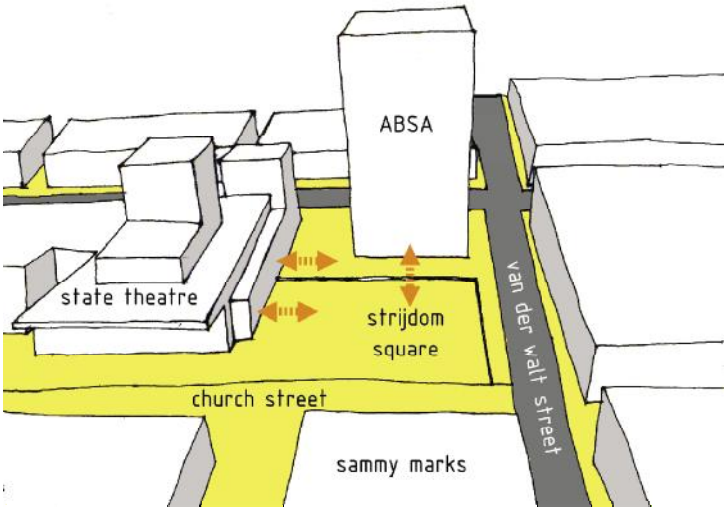

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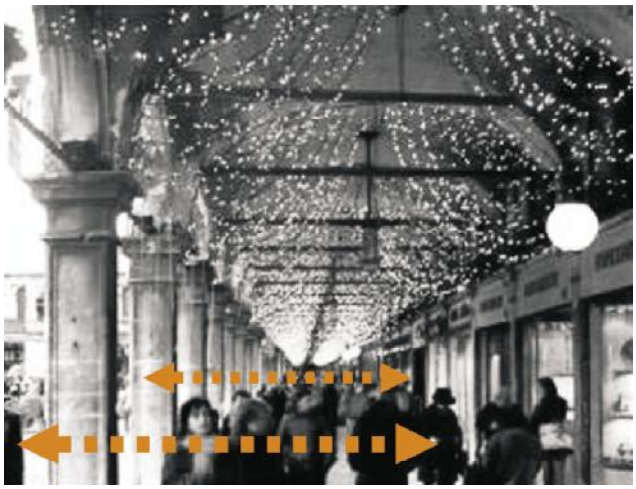

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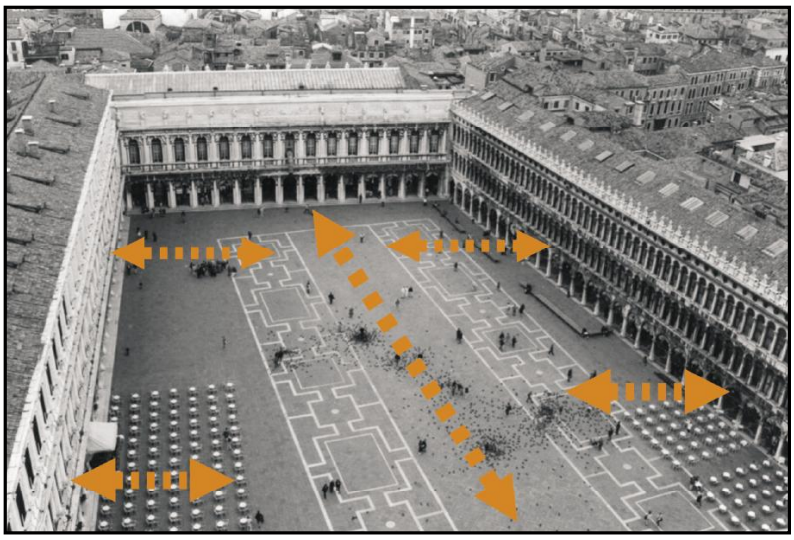


4.12

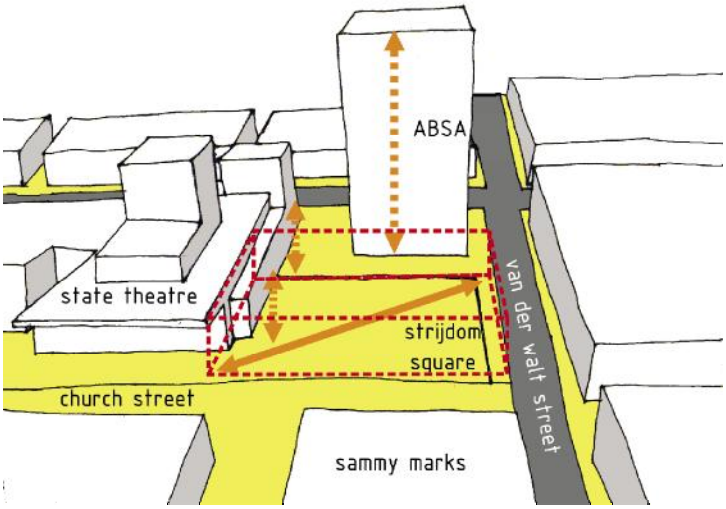
Fig 4.8 diagram indicating the un-responsive facades of State Theatre & ABSA building
Fig 4.9 diagram indicating the un-responsive facades of State Theatre & ABSA building
Fig 4.10 photo of western facade of State Theatre looking south
Fig 4.11 San Marco Square in Venice is a good example of how the built environment interacts and participates with the public space
Fig 4.12 San Marco Square in Venice is a good example of how the built environment interacts and participates with the public space

The way the building envelopes disregard their surroundings leads to harsh, unwelcoming and dead spaces in the city. In city streets and public spaces there tends to be a more superficial interaction between people, the majority being passive contacts, seeing and hearing a great number of unknown people. This form of socialization can be very appealing even in its limited superficial form (GEHL 1987: 15). If activity between buildings disappear the boundaries between isolation and contact of people become sharper (GEHL 1987: 19). The way the built fabric disregards its surroundings is one of the reasons why activity between buildings is disappearing. The space on the western façade of the State Theatre is a clear example of how a buildings disregard for its surrounding can create spaces that are barren. The building's envelope not only affects the space directly in front of it but the rest of the square has become barren as a result of the uncomfortable space. People are attracted to other people's activity. When there is activity occurring within a given context and space people will generally be attracted to the activity. And where there is already activity, new activities tend to begin in the vicinity of that activity as well (GEHL 1987: 25-27). What this means in the context of Strijdom Square is that the barren space will not attract any activity and hence one of the reasons why the Square is not functioning as an urban public square.

Fig 4.13 diagram indicating height ratios of existing buildings to the square
Fig 4.14 photo of the northern facade of the ABSA building from Sammy Marks Square
Fig 4.15 San Marco's Square indicating good height ratios of building to the square

Strijdom Square is surrounded by built fabric on all four sides. The ABSA Building on the southern end of the site is approximately 145 meters high. The State Theatre on the eastern side of Strijdom Square is approximately 30 meters high (45 meters high including the fly tower). The ratio between the height of the ABSA building and the area of the square is uncomfortable. The ABSA building is too high and a very dominating presence in the square. The sheer size and obtrusiveness of the ABSA building creates an overwhelming feeling of intimidation. The height of the State Theatre is suitable for the size of the square.

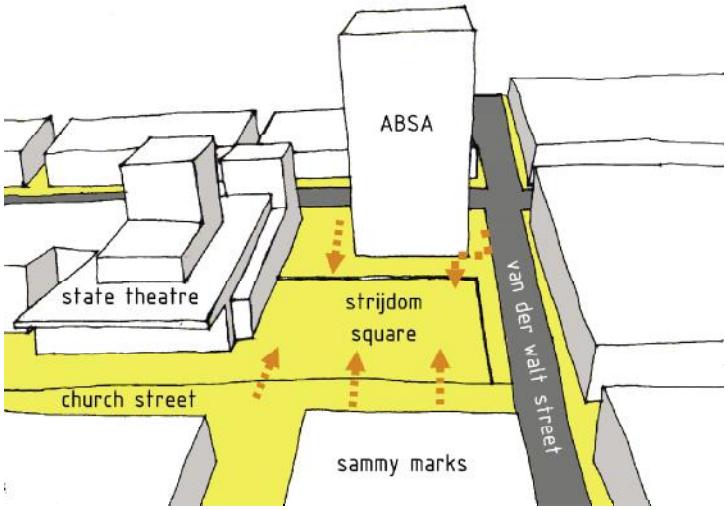
4.14



4.13

4.15

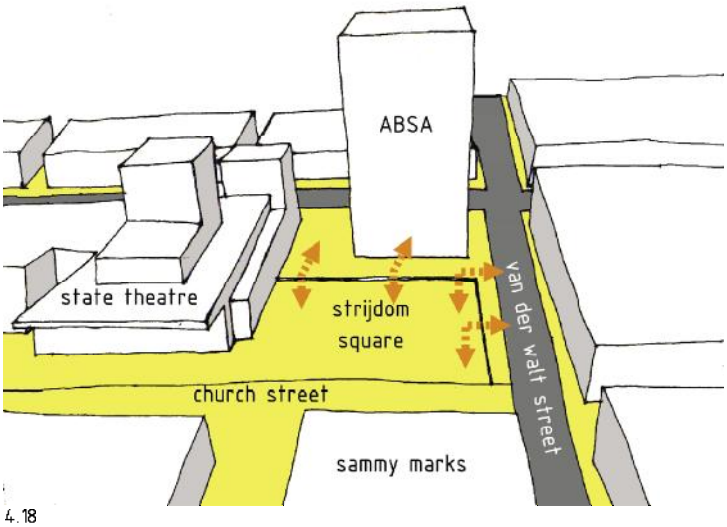
Accessibility into Strijdom Square is a hindering factor to the use of the square. The most notable level difference is the height difference between van der Walt Street side-walk and the square itself (see fig. 4.23). Not only is there a level difference but there is also a balustrade along the length of the western side of the square on van der Walt Street. This has made the accessibility of the square limited to only staircases from the ABSA building side of the square and from Church Street the square is on the same height. There is a lot of pedestrian activity along van der Walt Street as well as informal trade but it is restricted to the side-walk and can not spill over onto the square.



4.16

4.17

The other restrictive level difference is the transition between the square and the ABSA building on the southern end of the site. Staircases have been provided allowing for people to be able to traverse the square from north to south; north to south-west and visa versa. This level difference is not as detrimental to the site as the level difference between the side-walk and the square on van der Walt Street but is slightly restrictive in terms of the visual barrier it creates between the square and the southern part of the immediate surroundings.



4.18

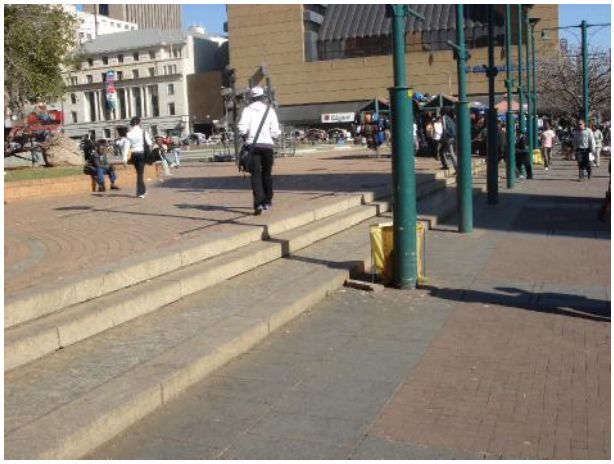
4.19

Fig 4.16 diagram indicating current lack of accessibility onto site
Fig 4.17 photo of level difference between van der Walt side-walk & the square
Fig 4.18 diagram indicating the level differences between the square & its surroundings
Fig 4.19 photo of the entrance to the underground toilets
Fig 4.20 (a) aerial of Strijdom Square and immediate context
Fig 4.20 (b) photo of staircase access on the south-western side of the square as per Fig 4.20 (a)

4.20 (a)

4.20 (b)

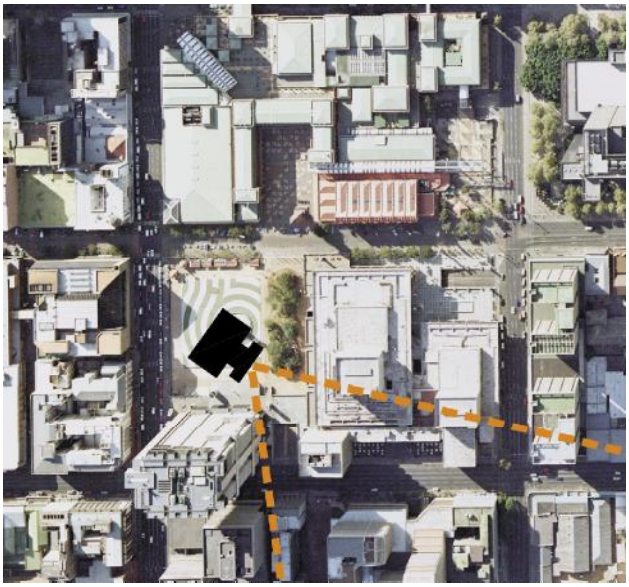
4.21 (a)



4.21 (b)

4.22 (a)

Fig 4.21(a) aerial of Strijdom Square and immediate context
Fig 4.21(b) photo of northern part of square looking west as per Fig 4.21 (a)
Fig 4.22(a) photo of staircase on the south-eastern side of the site as per Fig 4. (b)
Fig 4.22(b) aerial of Strijdom Square and immediate context
Fig 4.23 photo of how the surface of the square is hard & uncomfortable



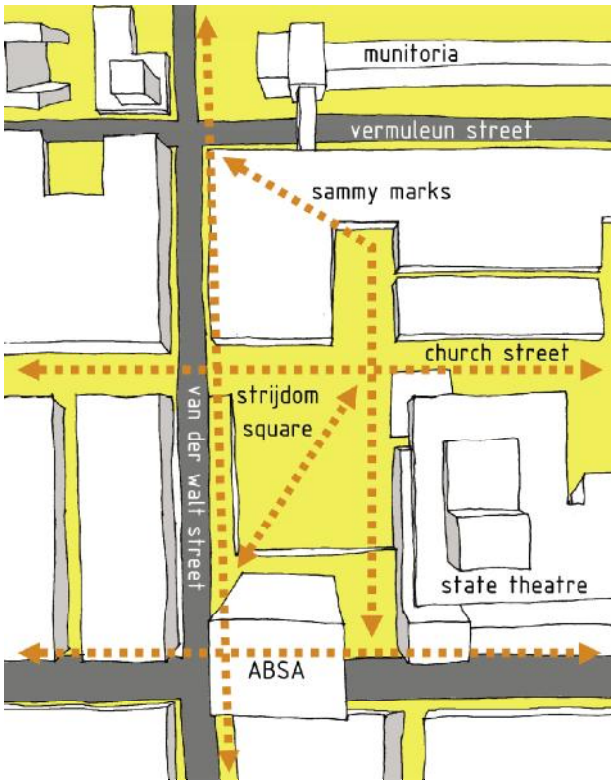
4.22 (b)

The square itself is restrictive in that the surface of the square is hard paving concrete. During the day, the hard surfaces absorb the sun's short-wave radiation and that heat is radiated back into the space. The square becomes hot and uncomfortable. The raised section of the surface is painted with light colours which reflect the sunlight creating a glare which is visually unpleasant. Basic needs are not met- there is no seating for people, no shading from the sun. The square is a barren surface and there is no possibility of involvement and interaction for the people who use it.

4.23

Opportunities of the Site

Strijdom Square, apart from its negative failings has positive attributes that have enormous opportunities. The most significant of these is the location of the square in the greater context of the inner city. Strijdom Square is fortunate in its location because of the significant pedestrian activity that flows through and around the site. The only problem is that none of the pedestrians that either move by or through the square have any intention of using the square as a public space, in other words to stop, sit or relax and take a break from the continual movement and repetitiveness of the surrounding city. The major pedestrian activity past the site is the east-west movement on the northern part of the square in Church Street. Church Street is pedestrianized from Church Square up until the Prinsloo Street on the eastern side of the State Theatre. The entire pedestrianized portion of Church Street generates massive pedestrian flow throughout the day. Because of this pedestrian exposure along Church Street, the retailers and informal traders are enjoying an increase in consumers, and thus exposure for trading. This activity continues past Strijdom Square



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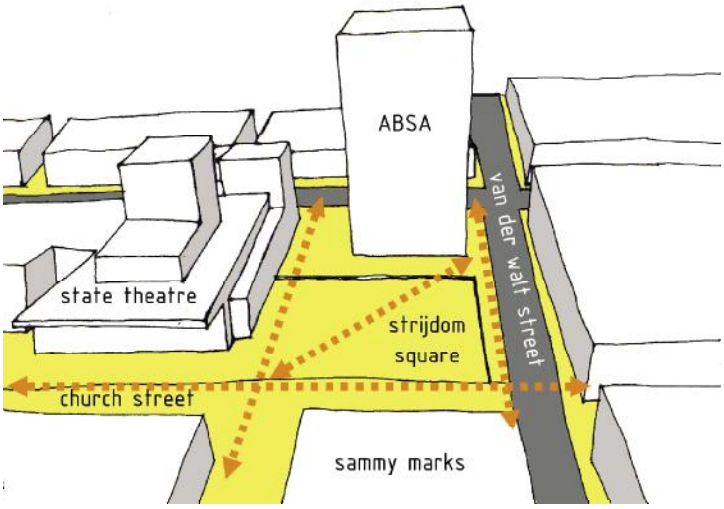
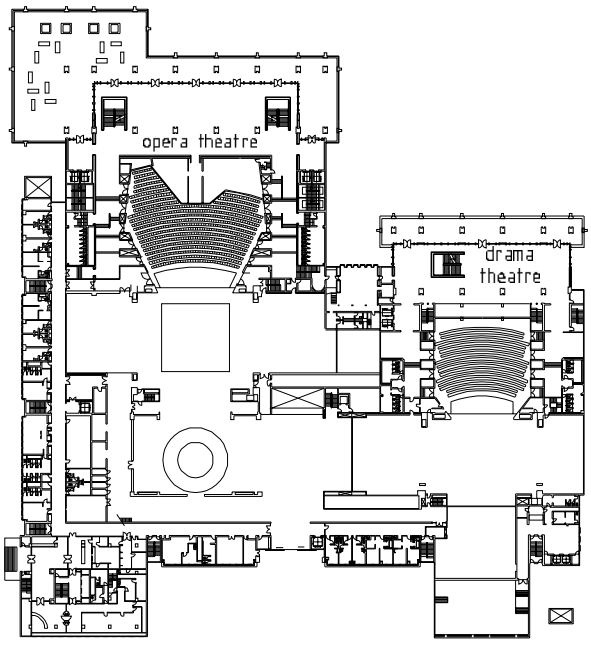


4.25

but does not move into the square. Secondary to this is the pedestrian movement diagonally across the square from the southern part of the inner city to Sammy marks and visa versa. Again, people are not taking ownership of the square but are rather using it as a corridor to move through to get to an intended destination. The third major pedestrian activity is the north-south movement along van der Walt Street. This movement generates more pedestrians than the pedestrians moving across the square but it has less impact on the square currently. Due to this pedestrian activity, informal traders have set up stores and are trading on this side-walk. Lastly there is pedestrian movement along the western side of the State Theatre through the square moving towards Sammy Marks and vice versa.

The State Theatre, as well as contributing to one of the negative aspects of the site (the western façade) also provides opportunities. That opportunity being the influx of people who work, train, study and teach at the State Theatre. The State Theatre at any given time, has at least 1500 people inside the building, rehearsing, working, building props etc... (VILJOEN 2006). And then there are the people who come to the theatre to view productions. The influx of viewers is restricted to mostly night-time activity, but this can be an important attribute. Currently, the way the theatre works in terms of the patrons who use the theatre is as follows: Most people come to the theatre by private transport. They park their vehicles underground in the two-level basement parking. From their vehicles, people move to the nearest elevator. All elevators take people into the lobby of the respective theatres. The State Theatre is equipped with four theatres. From largest to smallest they are the: Opera Theatre (seats 1300 people), the Drama Theatre (seats 660 people), the Rendezvous Theatre (seats 260 people), and the Momentum Theatre (small scale for development theatre). Once people have arrived in the respective lobbies, they enjoy drinks and snacks at the bar, and are then ushered to their seats. Apart from the balconies provided on the northern part of the State Theatre for the opera and drama theatres, there is no connection (visually or physically) by the guests to the city environment. People do not venture into the State Theatre's surroundings. When they are finished in the theatre they simply move back to their vehicles and go home. Reasons for not using the surrounding spaces vary from safety issues especially that the people only come at night. People who come to the theatre generally are not from the city so are unfamiliar with the environment. The important attribute is the fact that the theatre is being used at night. This allows for a twenty-four use of the surrounding areas.

4.26



4.27

Fig 4.24 diagram indicating pedestrian movement in & around Strijdom Square
Fig 4.25 diagram indicating pedestrian movement in & around Strijdom Square
Fig 4.26 photo of one of the levels of the underground parking lot
Fig 4.27 plan of the State Theatre showing the two biggest theatres

4.28

There are hidden opportunities within the square. One of the significant advantages that Strijdom Square has, is a two level underground parking lot. The underground parking is intended for the patrons of the State Theatre who come for the productions in the evenings. During the day the parking lot is occupied by vehicles of the people who work in the State Theatre and by the general public who are willing to pay a parking fee. The ABSA building also has underground parking facilities in the building for its employees, not accessible to the general public, and can be only accessed from the State Theatre's parking lot in the second basement level.

4.29

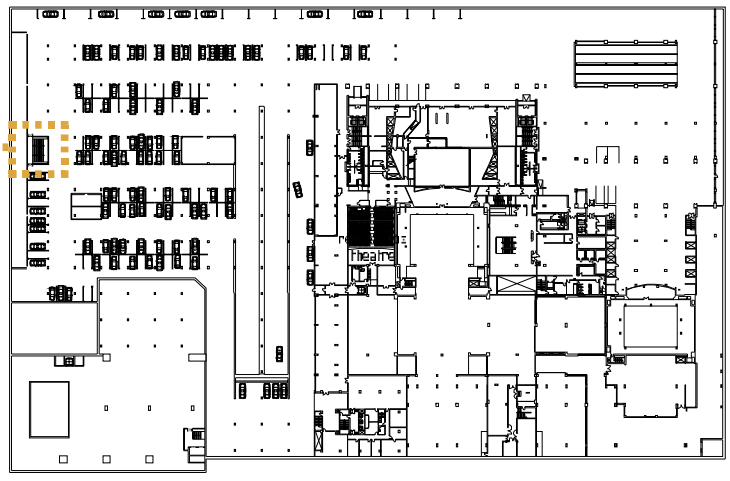
4.30

Fig 4.28 entrance to the Rendezvous Theatre on the first level of the underground parking lot

Fig 4.29 photo of the underground parking lot under Strijdom Square

Fig 4.30 entrance to the staircase in the underground parking lot which moves down to the underground arcade that crosses van der Walt Street to the Standard Bank Centre

Fig 4.31 plan of basement level 1 indicating the Rendezvous Theatre and highlighting the staircase to the underground arcade



4.31

To the western end of Strijdom Square there is a staircase which allows vertical access between the first and second levels of the underground parking. It does not, however, extend onto the square level. The opportunity of this staircase is that at its lowest level, the staircase leads you to an underground arcade which crosses west, under van der Walt Street, to the Standard Bank Centre. The underground arcade has small retail stores. When the arcade reaches the other side of van der Walt Street it opens up into an atrium banking hall of Standard Bank, which is on a basement level. Above the atrium there are many retail stores that are on ground floor level. On higher floors are offices mainly used by Standard Bank. The centre generates significant activity. People who use the centre who cannot find parking on the streets tend to park in the underground parking of the State Theatre. People on foot who also use the centre do not have the easy access to Strijdom Square as they have to cross the busy van der Walt Street in order to get there.

4.32

4.33

4.34

4.35

Fig 4.32 staircase to the underground arcade
Fig 4.33 underground arcade passing under van der Walt Street
Fig 4.34 Standard Bank on the basement level of the Standard Bank Centre
Fig 4.35 view of the upper floors from the basement level of the Standard Centre
Fig 4.36(a) aerial of Strijdom Square and its immediate context
Fig 4.36(b) panoramic of Sammy Marks Square as per Fig 4.36 (a)

Opportunities of Sammy Marks

Sammy Marks is currently a busy retail center, generating a lot of activity, though not used to its full potential either. An intervention on Strijdom Square will enhance the activity that Sammy Marks currently enjoys but more importantly, the two will be able to work in tandem and benefit from each other's activity. Together with the Standard Bank center the three spaces will provide a broad spectrum of activities and enhance the immediate surroundings.

4.36 (a)

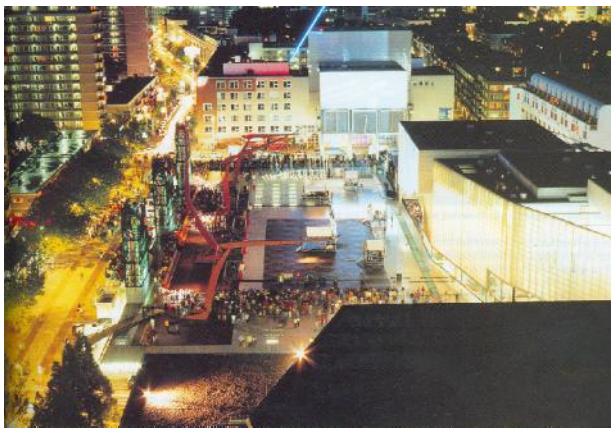
4.36 (b)

>>design implementation

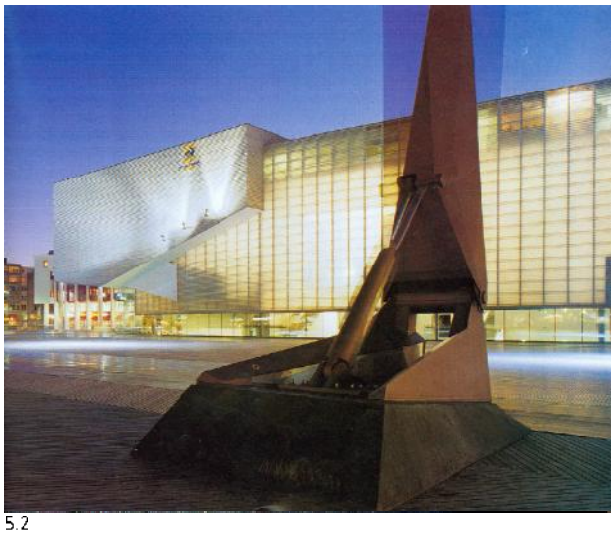
West 8, a landscape architecture/urban design firm in the Netherlands, undertook an urban project in Rotterdam, the Schouwburgplein, which was initiated in 1991 and completed in 1996. It was the re-design of a public space in the inner city.

The Schouwburgplein is strategically located in the centre of Rotterdam. It is near the train Station, office districts, theatres and concert halls (HOLDEN 1998: 33). Yet despite its location, in the 1980's the square had become a dilapidated cheerless place, a typical product of commercial development. The space needed to be revived. West 8 re-interprets the square as a city stage and raised the plinth of the square by 300mm. The planning of the square reflects the changing paths of the sun and the different seasons. This is done through the material use in the square. The materials vary from epoxy resin, Robinia wood, to perforated steel panels (VAN CLEEF 1998: 44). Ultra light materials were used in order to avoid costly renovations but also to alleviate the weight imposed on the 2 level parking lot below. The cinema complex, designed by Koen van Velsen, lies on the western edge. It was designed to be an extension of the public space. Its foyers and café are open to all. By day the transparent, corrugated plastic skin lets in light and in the evening the building transforms into a gigantic lantern (L'architecture d'aujourd'hui 1996: 94).

As Robert Holden observed being in the square," You are in full autumn sun and you begin to see the urban choreography. There's a tall jogger totally clad in white going to and fro across the square. Eight or nine people sit talking on the varnished, orange timber-slat benches. Later people come to eat sandwiches. There is an intermittent diagonal flow of mothers and children from the two eastern corners of the square to the white, translucent block clad in plastic corrugated sheet which is the Pathe cinema in the centre of the western side."



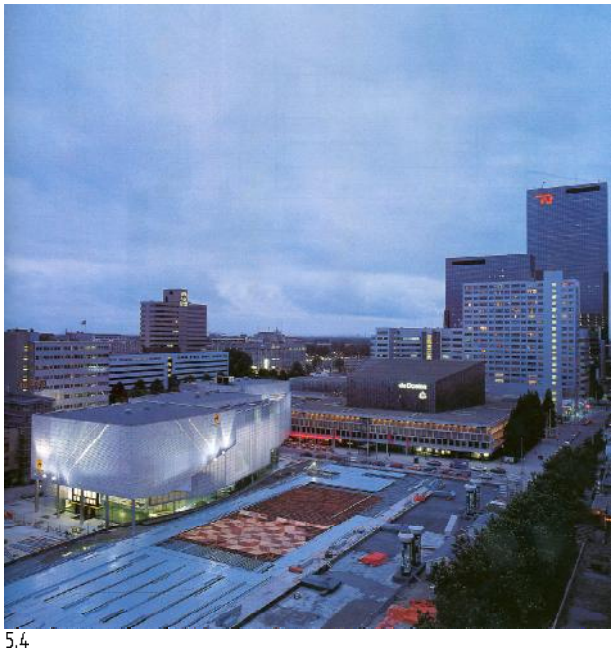
5.1



5.2

5.3

Fig 5.1 elevated view from the north of Schouwburgplein
Fig 5.2 view of cinema complex on the west side of the square at night
Fig 5.3 raised plinth
Fig 5.4 elevated view from the south-east of Schouwburgplein
Fig 5.5 timber seating

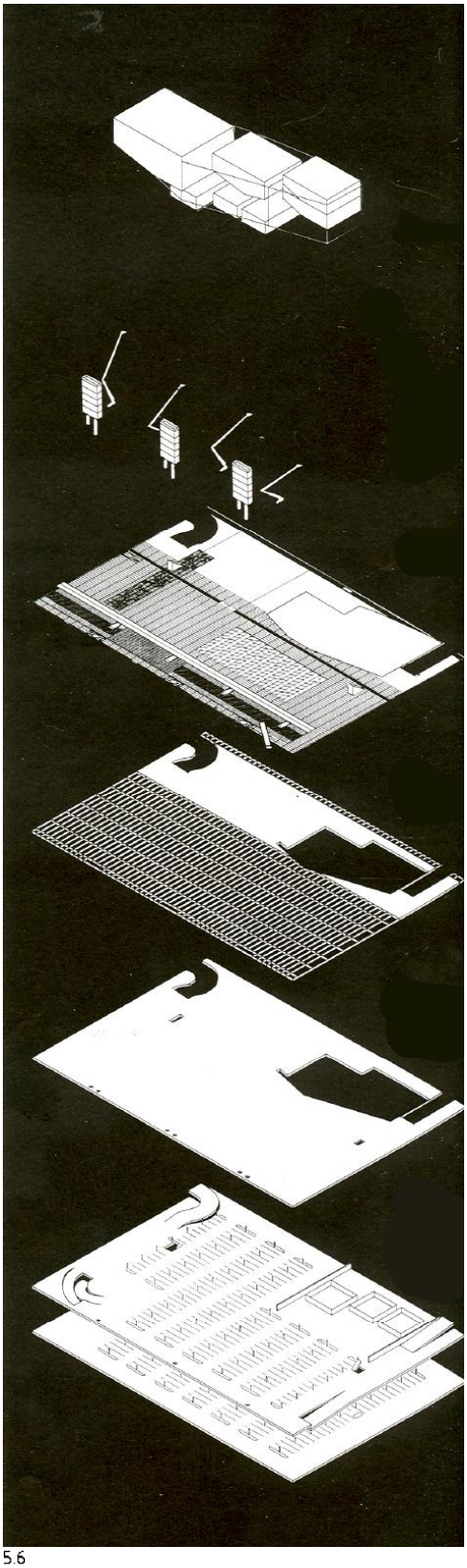


5.4

The similarities that exist between the Schouwburgplein and the Strijdom Square are quite significant. They both have an open square, a road running adjacent to the square, the cinema/ theatre complex and a third building enclosing the square. Both sites have underground parking lots, which need to be ventilated to the surface. Not only do the ducts in Schouwburgplein ventilate the underground parking but they also provide large advertising platforms. The two sites are completely mirrored i.e. the theatre complex of Schouwburgplein is on the western side of the square whereas the State Theatre on Strijdom Square is on the eastern side. However, this makes the solar orientation of the two squares identical due to their differing hemispheres.

5.5

The project is described below by the firm: "The Schouwburgplein is situated in the heart of the city and is surrounded by shops and flanked by the City Theatre and the City Concert Hall. The design emphasizes the importance of a void, which opens a panorama towards the city skyline. The square is designed as an interactive public space, flexible in use, and changing during day and seasons. Its appearance is a reflection the Port of Rotterdam. All of the necessary ingredients were present; it only had to be brought to life. By raising the surface of the square above the surrounding area, the void was retained and the 'city's stage' created. The layout of the square is based on the expected use at different times of the day and its relationship to the sun. These sunlight-zones are reflected in the mosaic of the different materials used on the floor. The west side of the square is a poured epoxy floor containing silver leaves. The east side (with more sunlight) has a wooden bench over the entire length and warm materials including rubber and timber decking on the ground plane. Geraniums are also placed seasonally within this warm zone. Fifteen-meter high ventilation towers from the underground parking are strong vertical elements on the square. Each of these lightweight steel structures is activated with LED displays. Together the three towers form a digital clock. At night, the towers are lit from the inside spreading a soft filtered light. The centre of the square is finished with a deck of perforated metal panels and a wooden play area. The perforated metal panels are lit from below with white, green and black fluorescent tubes. Connections for electricity and water, as well as facilities to build tents and fencing for temporary events, are built into the floor. Fluorescent lights, form a radiant Milky Way at night. The whole square seems to be floating because of the linear lights that are mounted under the edge of the raised deck. The last major features of the square are the four hydraulic lighting elements. Their configuration can be interactively altered by the inhabitants of the city." (http://www.west8.nl/W8_Archives/archive.html: 4th April 2006).



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What can be learnt from the Schouwburgplein is:

>> The theatre/cinema complex has not created a hard edge between the square and the building. As mentioned above, the theatre complex allows interaction between itself and the square. The ground floor of the complex is seen merely as an extension of the public space. This creates a connection between the built fabric and the open space.

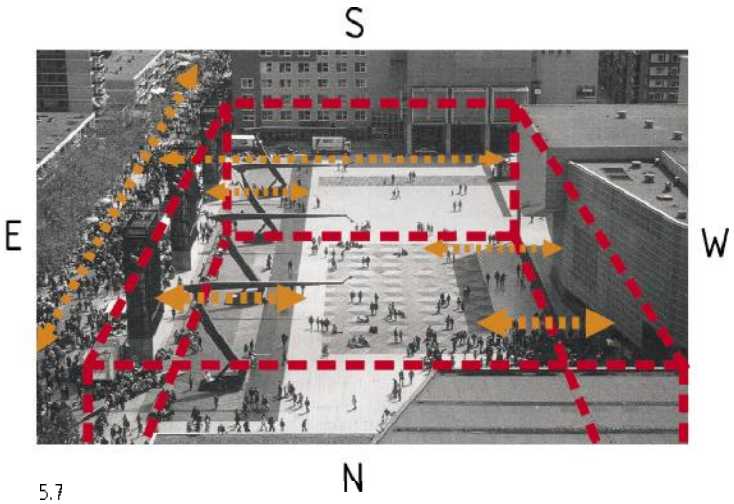
>> The solution of ventilating the underground parking lot was turned into an architectural design solution.

>> Providing seating along the edge of the square. This emphasizes the stage idea of the raised square by allowing people to either be spectators (seated watching the people and activity) or to become part of the theatrics (by moving or participating in activity in the square).

>> The square level is of such a nature that it allows easy access in and out of the square. Also the movement across the square is not hindered in any way and it is easy to orientate oneself once in the space.

>> The scale of the surrounding buildings is the correct ratio. The buildings do not overpower the square and the square is not too large so that someone would feel isolated in the space.

>> The square accommodates a constant flow of people, but can host large gatherings of people as well.



5.7

Fig 5.6 exploded isometric view of Schouwburgplein

Fig 5.7 analysis of Schouwburgplein indicating height ratios, interaction between building and open public spaces and pedestrian movement through and around the site

The intention of this dissertation, in terms of re-designing an urban public space, is not to create a place that is constantly filled with people so that it feels as though it is a continuous festival. That would be difficult to achieve and would not be the test of whether or not the space has become successful.

The success of the space will be tested on whether:

- >> Accessibility (in the physical sense) to the Strijdom Square is on a level that all users, including the physically challenged, do not feel (within reason) a significant effort on their behalf has to be made in order to gain access to or through the square.
- >> Accessibility (on a conscience or sub-conscience level) is on such a level that all users feel welcome, comfortable, not threatened or overwhelmed by the space.
- >> Legibility is on a level that the user does not feel disorientated, that they can maneuver through the space easily in order reach another destination.
- >> The distinction between the built fabric and the open space is on such a level that the user is not consciously aware of inside or outside.
- >> The existing movement across the site is not impeded and is enhanced to a level that benefits the space and users.
- >> The existing economic and social activity is retained, added to and enhanced in such a way that it will benefit the regular users and visitors of the city.
- >> The square is of such a nature that it is defined by edges and boundaries on a physical and psychological level.
- >> The architectural intervention is merely a continuation of the city floor.
- >> The square becomes easy to use and satisfies basic needs for a public space i.e. provisions for shelter (shading), seating, access to ablutions and access to food and drink etc...
- >> The square can accommodate a mass gathering of people for concerts, public announcements etc... as well as be a comfortable space when there are few people in it.

Fig 5.8 first concept model indicating a form diagram

First Concept

In addressing the issues above, as well as the physical constraints (as discussed in the previous chapter) a desirable 'form diagram' evolves on an urban scale. Public spaces need not have structures or buildings in them in order to enhance them. A public space needs to be open so it allows people to take ownership of the place and make it their own. The open space will acquire its own identity through continual use by the people of the city. An intervention is still needed to address the problems of the square as well as enhance the space.

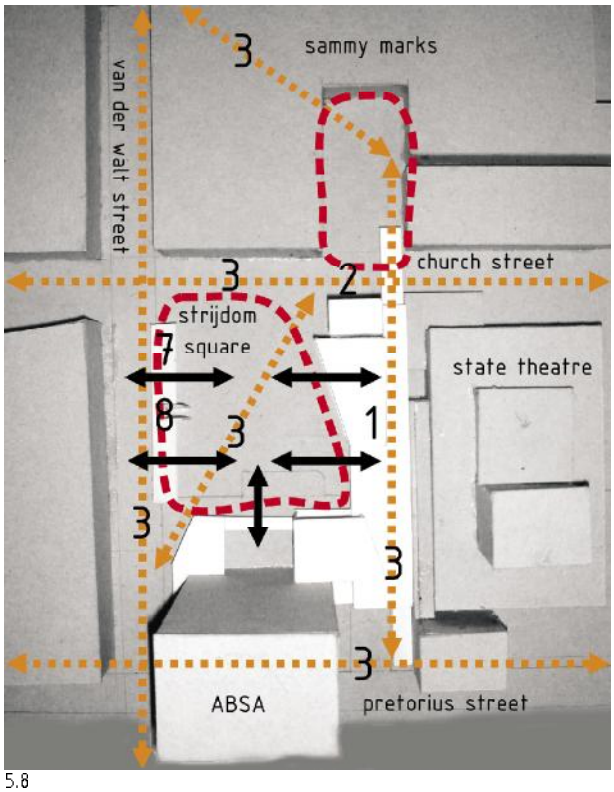
Several design solutions evolved.

>> A parasitic structure attached to the western façade of the State Theatre. A parasite building by definition would be a building which would attach itself onto an existing building and feed off the current activity, use and location for its own benefits. The word "parasite" has a negative connotation attached to it. Only the parasite benefits in relationships and tends to weaken its host. The design needs a solution that would benefit each party involved in the re-programming of Strijdom Square. A "symbiotic" building is needed, where the contribution made by both the existing building and the symbiotic building is mutual. Attaching a symbiotic building onto the western façade of the State Theatre will add another layer to the square. Where previously the State Theatre did not respond to the square, the new symbiotic building will interact with the square. The symbiotic building will be the transitional area like the foyer and café spaces in the cinema complex of Schouwburgplein. This symbiotic building will take the shape of a linear slender building. This will be so that the least amount of intrusion into the square will take place.

>> The symbiotic building will also create a northern edge where is meets Church Street. This will be to define the boundary of Sammy Marks Square.

>> The symbiotic building will tap into, and enhance the existing pedestrian flow through and across the square.

>> The symbiotic building will address the height ratios of the surrounding buildings in order to reduce the square to a more human scale.



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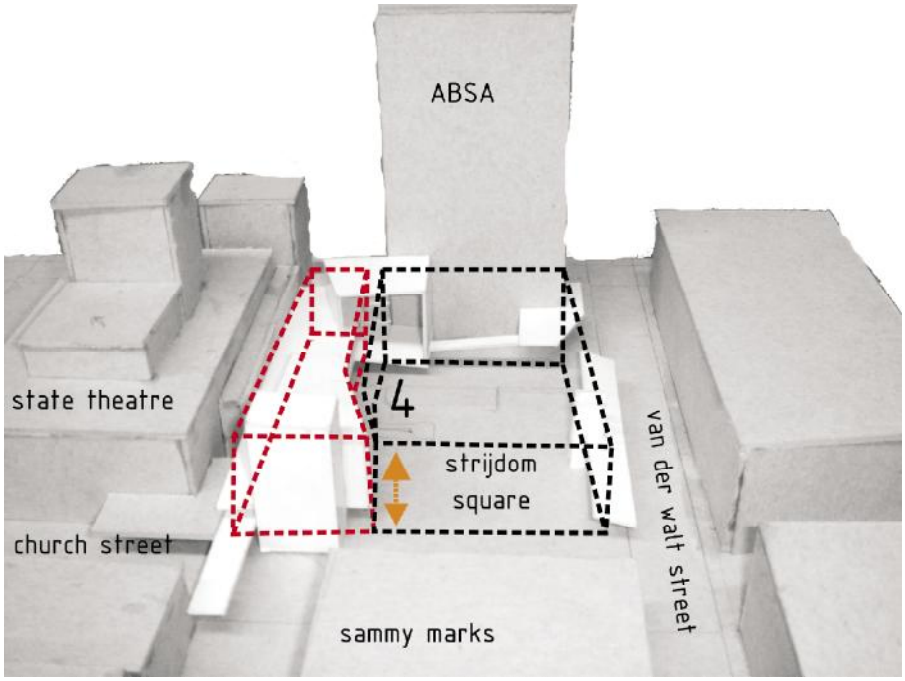
The symbiotic building will be the main focus of the thesis as an architectural intervention. The re-design of Strijdom Square and the various other factors (interventions 5 – 8) that go with the square will be solved on a more conceptual level

>> The accessibility into the square will be dealt with by reducing the level difference on the van der Walt Street side and from the ABSA side by the introduction of specifically placed staircases and raising the floor of Strijdom Square.

>> The square will be re-designed in such a way the surface will be manipulated to deal with the existing and new pedestrian movement across the site. The square will become a more stimulating space to be in i.e. introducing shading through vegetation; areas of seating; places to play and rest. Lastly, it is to be designed to accommodate large quantities of people for live performances, public announcements and entertainment.

>> A structure along the road edge of van der Walt Street will be designed to create a boundary or peripheral edge to the square. This edge will not only be perforated to allow access in or out of the space but will be designed with the intention to benefit the current informal traders already trading there. They will be able to use the space for their trade and gain maximum exposure for their stores due to the current pedestrian movement along van der Walt Street as well as the new pedestrian movement that will occur due to improved accessibility into the square from the side-walk.

>> The existing underground arcade that takes you to the Standard Bank Center will be upgraded to allow access to the staircase from the square level. This will allow easier movement to and from Strijdom Square and the Standard Bank Center.



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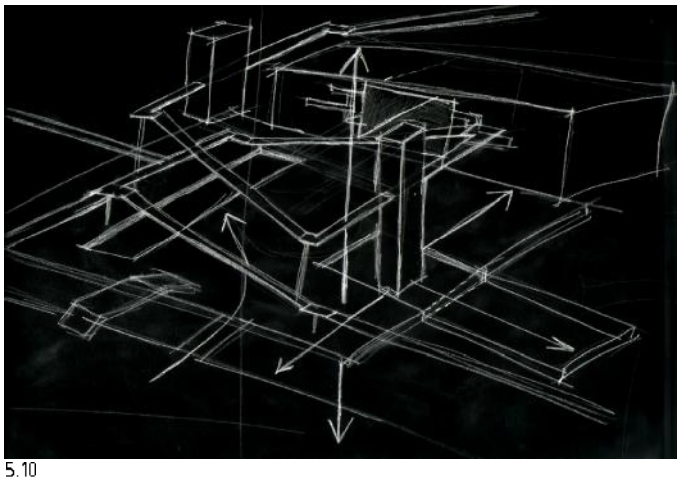


5.10

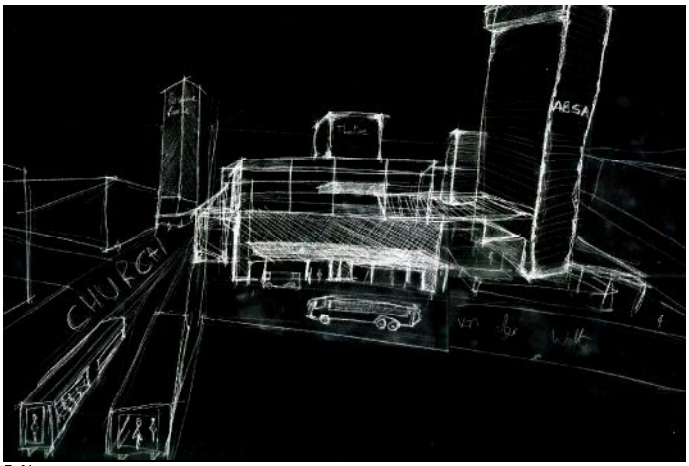
The Symbiotic Building

The symbiotic building's primary intention/function is to layer the harsh and non-interactive western façade of the State Theatre. When conceptualizing what needs to occur in this public space, accessibility and perforation of the square became important. Inserting a new layer, attaching it and even punching into the existing urban fabric became the main generating factors. The initial concept sketches were ambitious as they were trying to express ideas of breaking down the envelope of the built fabric and revealing the very "guts" of their interiors and by doing that, creating an environment that became transparent, interactive and honest. To draw the character of the city out into the open rather than the city functioning inwards and not responding to its surroundings was the key idea in the concept sketches.

Fig 5.9 first concept model indicating how new symbiotic building reduces the height ratios of existing buildings to a more human scale

Fig 5.10 initial concept sketch indicating ideas of movement and punching into the existing urban fabric

Fig 5.11 concept sketch indicating initial ideas for attaching a symbiotic building onto the State Theatre



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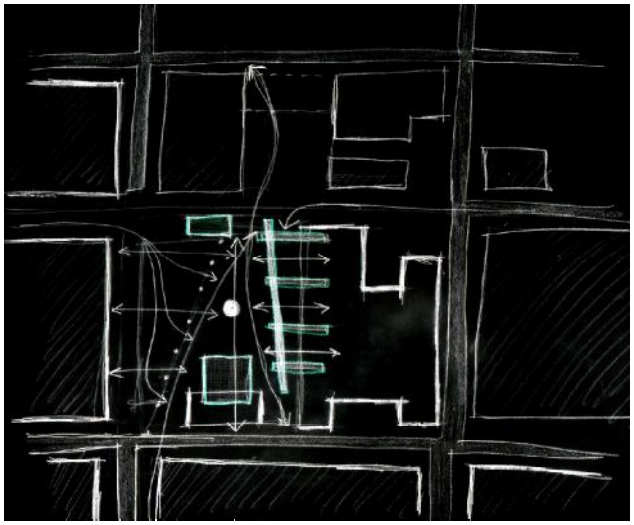


5.12

The linear shape of the building comes about for various reasons. Firstly, as mentioned before, it is to be a symbiotic building attaching itself onto an existing building. Therefore it must assimilate the length of the State Theatre. However, to be non-obtrusive, the width of the building is to be minimised. Secondly, the new building is to tap into the existing pedestrian movement which runs in a north-south direction next to the State Theatre. It can thus take advantage of existing energies and create new activity into the space.

5.13

Fig 5.12 initial concept sketch showing the idea of attaching a symbiotic building onto the State Theatre's western facade. The sketch indicates the attempt to layer and create a transitional space between the State Theatre and Strijdom Square

Fig 5.13 perspective concept sketch of Fig 5.12

Fig 5.14 table by Jan Gehl indicating how the quality of environments affects activities

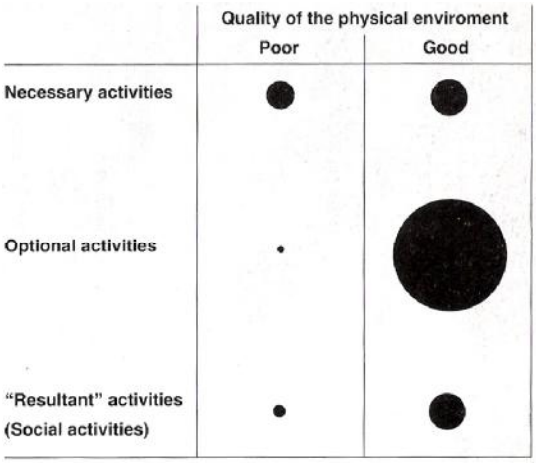
According to Jan Gehl there are three types of outdoor activity that take place:

1. Necessary activities
2. Optional activities
3. Social activities

Necessary activities include those that are more or less compulsory-going to school or work, shopping, waiting for a bus or a person, running errands, distributing mail. In other words, all activities in which those involved are to a greater or lesser degree required to participate. In general, everyday tasks and pastimes belong to this group. Among other activities, this group includes the great majority of those related to walking. Because the activities in this group are necessary, their incidence is influenced only slightly by the physical framework. These activities will take place throughout the year, under nearly all conditions, and are more or less independent of the exterior environment. The participators have no choice (GEHL 1987: 11).

Optional activities are *(only under favourable exterior conditions)* those pursuits that are participated in if there is a wish to do so, provided exterior conditions are optimal, when weather and place invite them.. This category includes taking a leisurely walk, standing around enjoying life, or sitting and sunbathing. . This is particularly important in physical planning because most recreational activities pursued outdoors are found in this category. These activities are dependent on exterior physical conditions (GEHL 1987: 13).

Social activities depend on the presence of public spaces. Social activities include children at play, greetings and conversations, communal activities of various kinds, and finally, the most widespread social activity, passive contacts- simply seeing and hearing other people. They can also be termed "resultant" activities because, in nearly all instances, they evolve from activities linked to the other two activity categories. People in the same space, meet, pass by one another, or are merely within view. Social activities occur spontaneously, as a direct consequence of people moving about and being in the same spaces. This implies that social activities are indirectly supported whenever necessary and optional activities are given better conditions in public spaces (GEHL 1987: 14).



5.14

These three types of activity are going to be discussed here in their influence on the design of the symbiotic building.

Currently, Strijdom Square does not provide a framework for optional and social activity, but only facilitates necessary activity for its users. That is mainly the use of the State Theatre by its employees and movement across the site in order to reach intended destinations.
These include the retail stores in Church Street, the retail stores in Sammy Marks Square and the use of banks around the site, namely the ABSA Bank and Standard bank. The people who work within the inner city in the surrounding offices use the area to move to and from work. On lunch breaks the people move through the square to go to places to purchase food. There are also the students who walk along Church Street to or from Pretoria Technical University, either to the west of the city to their accommodation, or down Paul Kruger Street to reach the train station for public transport if they live outside the CBD.

The intention of the design is to harness that necessary activity and transform it into optional and social activity. People are already moving through the square. Creating optional and social activities requires getting people to pause and stop in the square. Sitting, eating or using the square so that it is not just a corridor through which people move. This can be achieved through providing a good framework on which this activity has the opportunity grow. The symbiotic building has the correct form on which to facilitate and deal with the western façade of the State Theatre, adding a new layer to the existing fabric. It now becomes important how the building facilitates interaction between the State Theatre and Strijdom Square.

Ground Floor (square level/public space)

The portion of the building that is going to be on square level or ground floor has to respond to the square in terms of its program. The square is a public realm and so too must the ground floor level also be. A ground floor food court area can address the lack of basic facilities that are not catered for around the site. In this area you will be able to get something to drink or eat and then sit and enjoy it in the public space. The food court is designed in such a way that it can accommodate various types of food preparation, from take-away meals to a restaurant sit down meal. The food court is located in the pedestrian thoroughfare area of the building. People moving in a north or south direction through the building will be engaged with the food court area where they can buy something to drink or eat and then either continue on their path, or find a place to sit and watch the urban choreography of the people walking or using the re-designed square. They can also walk by without purchasing anything at all.

Next to the food court area on the western side, trees have been introduced with table and seating elements for people to sit under in the shade. The tables are to be designed in such a way that they can also be used as seating and are at a height that a person can stand and eat their food.

To the northern end of the food court are ablution facilities for the public, regardless if they are using the food court or not. This is another element that is needed for a public space, but unlike the ablution facilities provided underneath the ABSA building, they are visually more apparent, not hidden away in an area where you could feel threatened. The new facilities will be maintained by the owners of the food court stores in order to promote an area that is hygienic.

Also on ground floor level will be access to staircases and elevators (public and service) allowing movement to the upper floors. The ground floor is designed in such a manner that movement through the building on this level is as if there were no building at all. In other words the ground floor level is merely an extension of the city floor- not impeding the movement of people through the space, but enhancing activity on the square level. The food court thus uses "necessary activity" (pedestrian movement and purchasing of food) to generate optional and social activity (choice to sit and eat or drink and to do so in the company of others even if they are strangers).

As Jane Jacobs observed in her study of American cities, the activity generated by people on errands, or people aiming for food or drink, is itself an attraction to others. The sight of people attracting other people is something that city planners and city architectural designers seem to find incomprehensible. They operate on the premise that city people seek the sight of emptiness, obvious order, and quiet. Nothing could be less true. People's love of watching activity and other people is constantly evident in cities (JACOBS 1961: 47). This view is also shared by Jan Gehl as he states that we are inspired by seeing others in action. Children see other children at play and get the urge to join in, or they get ideas for new games by watching other children or adults (GEHL 1987: 23).

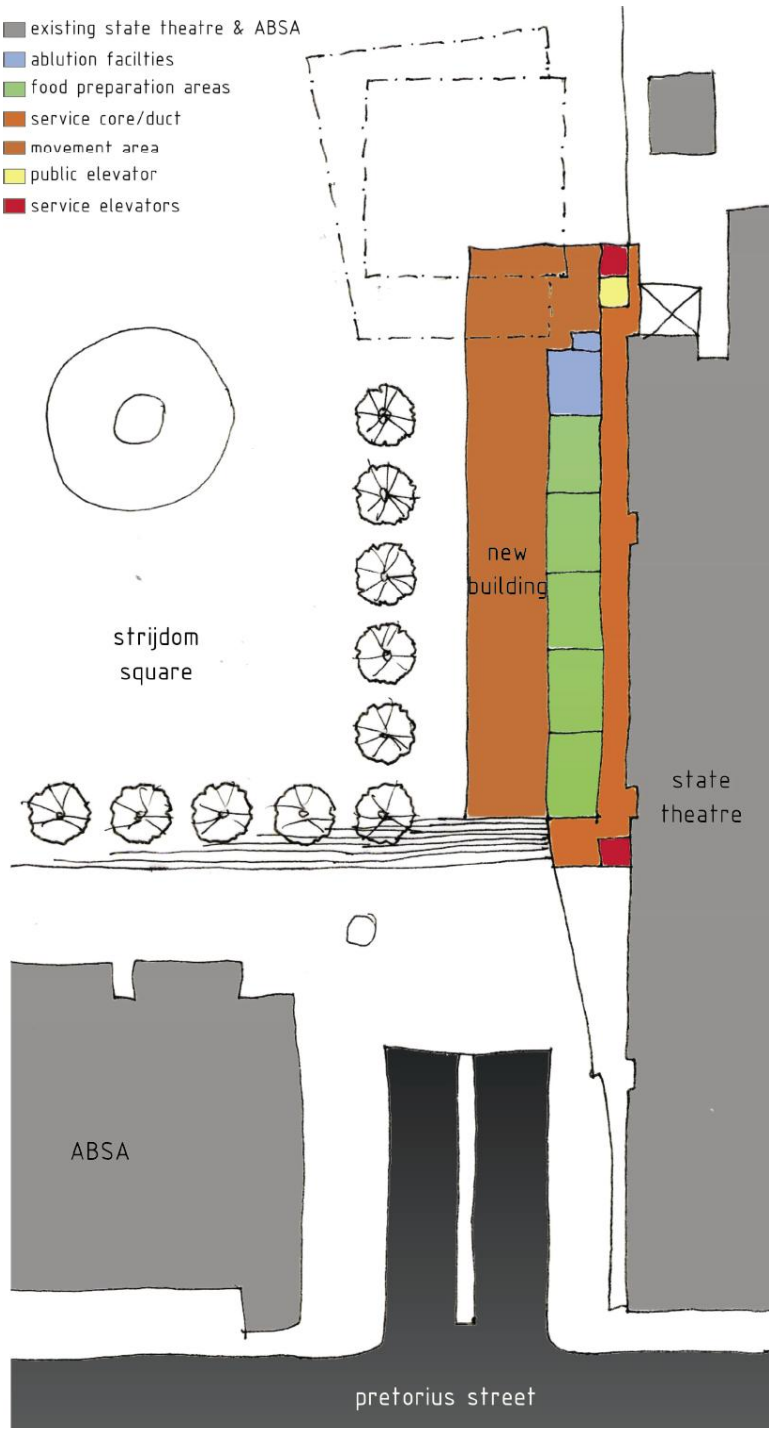


Fig 5.15 diagram indicating the ground floor accommodation

5.15

Levels above ground floor (semi-public/semi-private space)

The main program of the symbiotic building is theatre based. The theatre will be on the second floor of the building and the rest of the building forms the support mechanisms for the theatre. Thus I have not discussed the building program floor by floor as all the functions are related to the theatre. The question that will be asked is why design a theatre right next to an existing theatre? There are two main reasons for this:

1. The initial concept was to break down the barriers of the existing fabric and create spaces where the built environment interacts with the spaces between the buildings, thus exposing the insides of the existing fabric. In keeping with this train of thought, designing a theatre that is a re-interpretation of the current State Theatre and the way in which it functions will do just that. In order to achieve this, the program of how a conventional theatre functions will have to be re-designed.
2. To offer the people of the city choice. The State Theatre offers a very specific, traditional, form of theatre viewing. The new theatre will not be competing with the State Theatre, but rather offer a new take on theatre viewing. The State Theatre has the facilities to house large productions like "Phantom of the Opera" etc... but the new theatre will be able to accommodate a fresher more experimental theatre show. Just as when you go out for dinner or to purchase clothing, you are faced with numerous choices, so too will people be able to choose what type of theatre they feel like viewing. The new theatre will be part of a 'theatre precinct'.

Re-addressing and deconstructing the program of the theatre became the initial step in the design process of the theatre. Deconstructing the program is an interesting way of going about the design of a specific element and structure as the solutions often lead to simple form solutions.

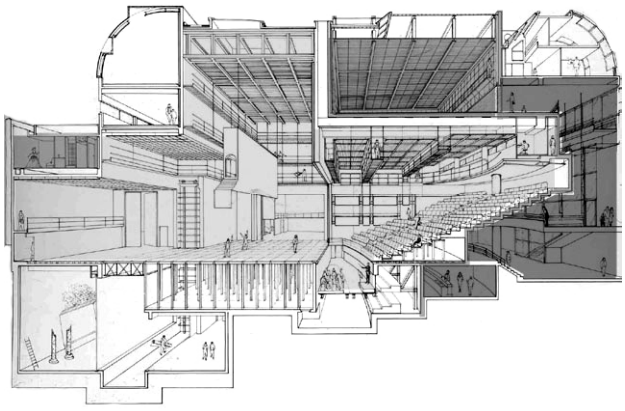


Fig 5.16 section through typical theatre. this theatre is an example of a traditional theatre indicating the how inwardly focused theatres are

5.16

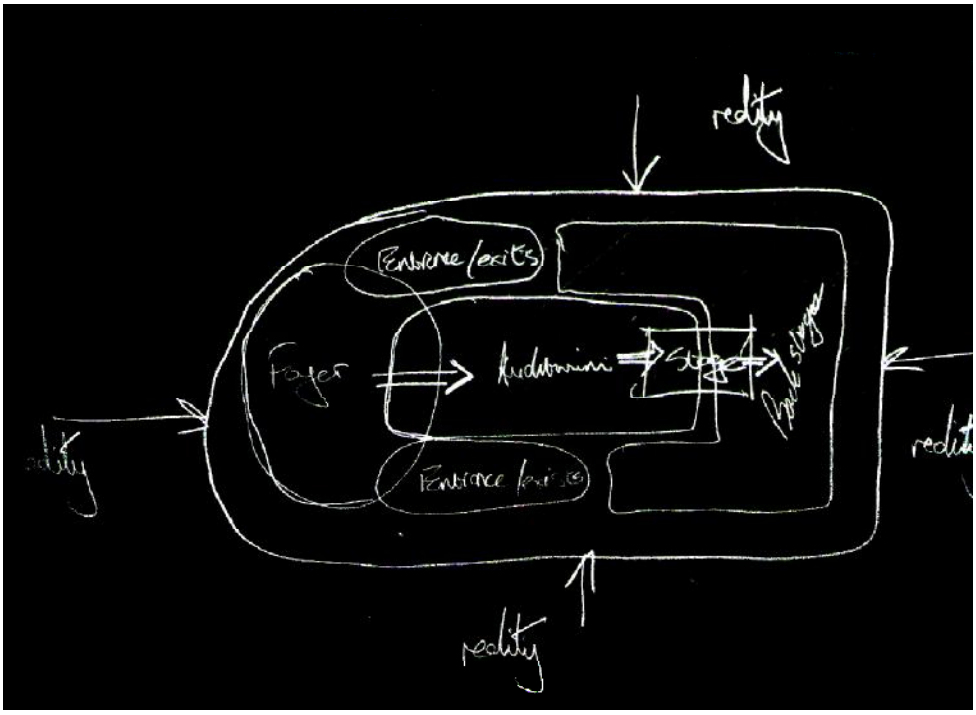
Deconstructing program

In order to deconstruct the program of a theatre, the typical theatre function needs to be understood first. Literature on theatre philosophy is abundant and the complexities that lie in the world of theatre are as interesting as the complexities that lie in the world of architecture. The major function of any building, theatre, or simple dwelling place, is to mark the distinction between inside and outside (MCAULEY 1999: 49). That is the initial function of a theatre building as it creates, in people's minds, a transition between reality and the fictional world. The theatre building or designated place of performance provides a context of interpretation for the spectators and performers alike (MCAULEY 1999: 41). While theatre can indeed take place anywhere (outdoors, in the street, on the bare earth), the point is that it must take place somewhere. If theatre involves communication between live actors and live spectators, then they must be jointly present within a given space (MCAULEY 1999:3).

Within the theatre there are normally a number of thresholds that the spectator must traverse: the purchase of a ticket, verification of this by uniformed staff in the foyer, further verification by ushers in the auditorium who identify the seat allocated. At this stage of the theatre experience the fictional world has usually not yet been activated, although the set may be visible. However, the spectator has been progressively further and further removed from the world outside, permitted to move further into the world within (MCAULEY 1999: 42-43). The experience of any theatergoer is one of penetration further and further into the building until reaching the point beyond which one cannot go. The traditional theatre building emphasizes this sense of inward progression (MCAULEY 1999: 50-51). The specificity of the theatre is not to be found in its relationship to the dramatic, as film and television have shown through their appropriation and massive exploitation of the latter, but in that it consists essentially of the interaction between performers and spectators in a given space. Theatre is a social event, occurring in the auditorium as well as on the stage, and the primary signifiers are physical and even spatial in nature (MCAULEY 1999: 5).

McAuley puts the stage and the auditorium into two different categories- practitioner space and audience space, but he states that there is a third domain within the theatre space, the place constituted by the coming together of the other two. Overriding, yet subsuming the division, the divided yet nevertheless unitary space in which the two constitutive groups (performers and spectators) meet and work together to create the performance experience, is the domain that he calls the performance space (MCAULEY 1999: 26). Manfred Wekwerth has described an experiment in which an actor with a neutral expression stood on stage and did nothing, but spectators nevertheless experienced this in a variety of ways and interpreted what they saw to be occurring. He used this experiment to conclude that "the primary player in the theatre is not the actor but rather the spectator" (MCAULEY 1999: 42).

If the performance event can be defined as that which takes place between performers and spectators in a given space and time, then the spectator has to be seen as a crucial and active agent in the creative process. The spectators are physically present in the theatre space just as the performers are (MCAULEY 1999: 235). The fact that the theatre does not really produce an object, that each performance is the only one possible combination of the variables that that particular production has conjured, and that any text can be staged in countless different ways has always rendered this kind of critical practice highly problematic. Under the influence of postmodern theory it has become possible to acknowledge that the processual nature of the theatre and the dynamic role of the spectator in the construction of meaning are not factors peculiar to theatre but is shared by many other modes of artistic expression (MCAULEY 1999: 16).

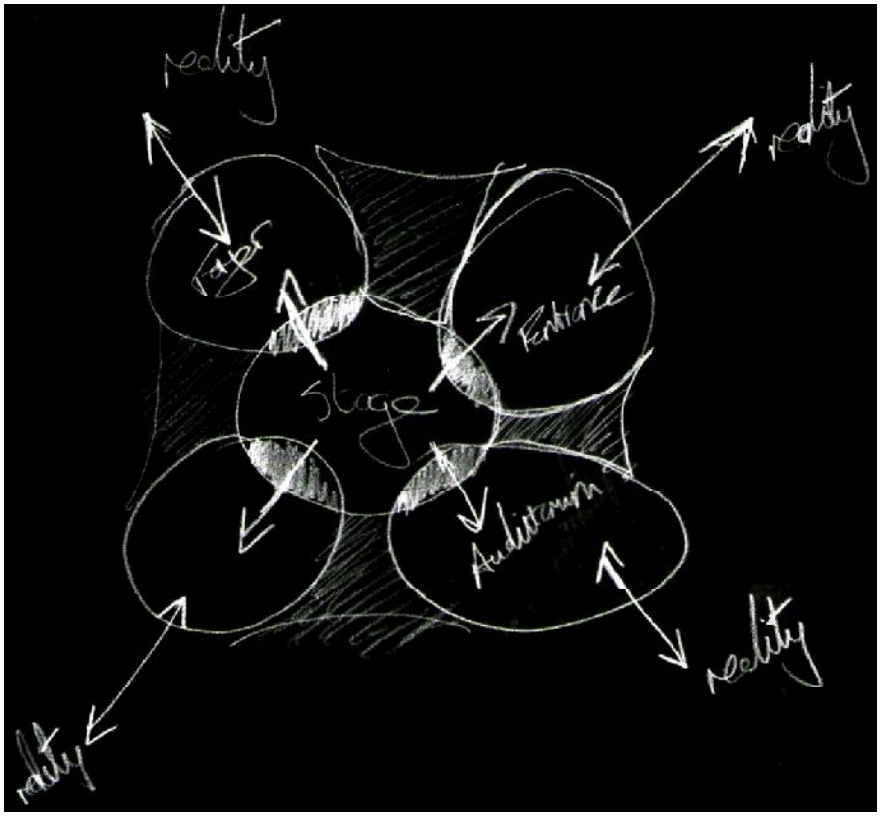


5.17

It becomes evident then that spectators become as important to a theatre production as the performers. The traditional theatre function can be deconstructed provided these two are present. The creation of a realm in which the spectator and performer meet in the fictional world of fantasy or the sub-conscious minds of the people involved become the essence of the theatre. To take the deep and hidden context in which theatre occurs traditionally, turn it inside out so that it can be exposed and viewed in a completely different way, is how theatre can be re-interpreted. Currently the State Theatre is not accessible. Can it not be ripped from the depths of the theatre building and revealed to the public? To take that inward progression of how McAuley describes theatre, and make it visible. The spectator-performer relationship becomes an important underlying design tool when designing the symbiotic building. To create a building that becomes a stage on which the functional choreography is played out to which the people in the square become the spectators of. And yet the roles can be reversed- the square becomes the stage and the people in the building become the spectators to the city's urban choreography.

Fig 5.17 diagram indicating the traditional theatre program. this shows how as someone moves through the different thresholds of the theatre they move slowly inward deeper away from reality.

Fig 5.18 conceptual diagram indicating a possible deconstruction of the theatre program. this diagram indicates a response and interaction with the surrounding environment. reality becomes part of the theatre and not hidden away



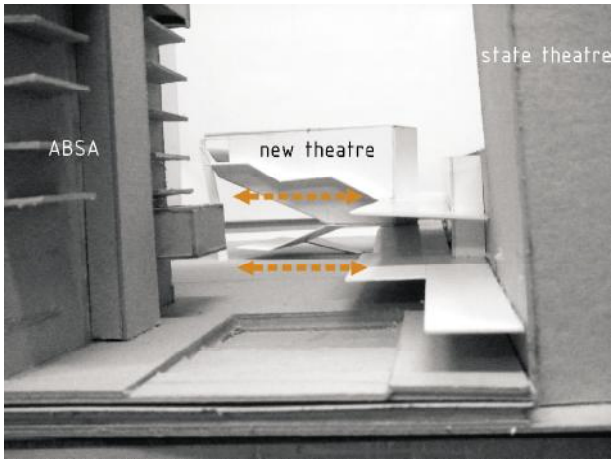
5.18

In an interview with Stephanie van Niekerk, who lectures and stages theatre productions, some interesting ideas emerged about the alternatives to traditional theatre viewing.

Van Niekerk studied drama at the University of Pretoria. She then left for New York where she studied method acting at the Lee Strasberg Theatre Institute. Van Niekerk is currently a lecturer at the University of Pretoria's drama department. In her opinion, as someone who is constantly staging productions with her students, an ideal theatre would be completely flexible, able to change its character. This could be achieved, for instance, by having movable walls and a movable stage. This would allow users to change the size of the theatre, creating varying atmospheres. A movable stage would allow the spectators to be seated in different positions relative to the stage. A stage could be arranged in the traditional manner with spectators on one side and the actors on another. Or the stage could be in the middle of the theatre with the audience surrounding the actors. This would mean to discard the traditional backstage area- actors could get changed on the stage in front of the audience adding an alternative complexity to the play. Experimental theatre and productions, though small, make up a significant portion of theatre produced these days. You will always have large productions occurring, but on daily occurrences smaller, non-traditional plays are abundant (VAN NIEKERK 2006).

Second Concept

The second concept model of the symbiotic building included a service core which ran along the length of the State Theatre's western façade. This becomes the area onto which the symbiotic building could attach itself without disrupting the physical structure of the State Theatre. The concept was to take the theatre and remove it from its internalized structure and expose it to the square. Theatre goers would now enter the theatre directly from the public space, not just the lower parkade. Instead of parking their cars in the parking lot and moving directly to the foyer areas inside the State Theatre, people would now be faced with the city fabric and public activity. The concept theatre still retained a traditional form. This would prove to be the main failure of this concept, to be discussed later. The western façade of the State Theatre supports the linear form onto which the new theatre will attach itself. This linear element will layer the State Theatre, promoting interaction between the symbiotic building and Strijdom Square. The linear building is allowing movement in the north-south direction but is not responding to the square in a significant way.



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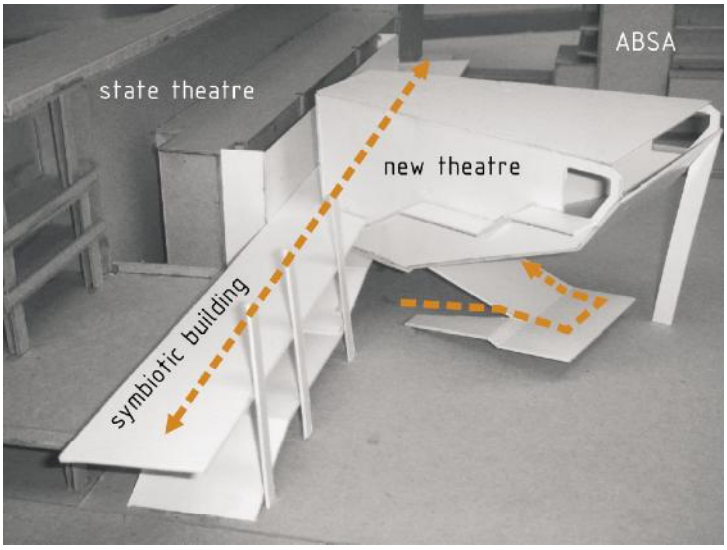

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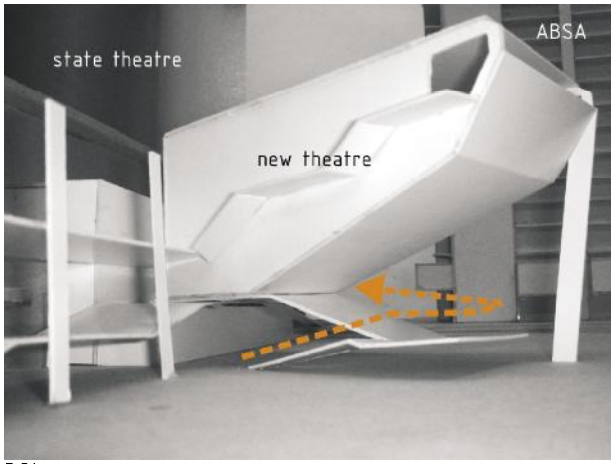


5.21

For guidance to deconstructing program and how it is implemented in reality, the works of Bernard Tschumi and Rem Koolhaas were analyzed.

Tschumi believes that the way in which architecture must be created is to design for "events" rather than "program". A program is a determinate set of expected occurrences, a list of required utilities, often based on social behavior, habit, or custom. In contrast, events occur as an indeterminate set of unexpected outcomes. Revealing hidden potentialities or contradictions in a program, and relating them to a particularly appropriate (or possibly exceptional) spatial configuration, may create conditions for unexpected events to occur (TSCHUMI 1994: 13). This means that when designers undertake the design of a specific function, they are limiting themselves to the functional form of a specific program.

Theatre design is a relevant example. Traditionally, a theatre has to have raked seating in order for the audience to have good sight lines to the stage. This has led to the traditional theatre. As a theatre, the architectural form functions perfectly. The form of the theatre becomes limiting when hosting other activities. The raked seating, stage area, backstage, changing rooms and fly-towers are not adaptable for alternative events. This is where Tschumi believes his theory of "cross-programming" becomes relevant in contemporary architecture. In past times buildings were designed with long life-spans. Today buildings become un-used much more quickly than before. The life-span of a contemporary building decreases all the time. Most buildings, having served their purposes, are converted to serve another activity. Theatres, however, leave little room for adaptability.

In cross-programming, designing for events rather than program forces the designer to take into consideration the use of a space. If a client approached an architect to design a theatre the architect would diagrammatically situate areas needed to accommodate the theatre. With the design of the foyer space the architect may ask themselves, "What is the event of a foyer space?" Some of the answers could be: - a place to wait, have a drink, watch some live entertainment etc. Exhibition spaces or gallery spaces would have similar events. To go to an exhibition of artwork would also involve waiting (viewing the art pieces), having a drink (before, after or during the exhibition), live entertainment (listening to speeches or auctions would take on the same nature). If the foyer space of this theatre could thus be designed in order to accommodate these events, the space becomes useful for more than one event, or is "cross-programmed."

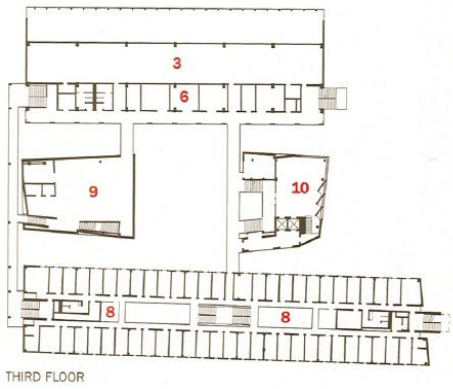
This methodology can be taken through to the design of the whole theatre. As mentioned before, the idea of cross-programming is not just to design an open space that can *possibly* be used for something else. It is the idea of spaces that are well designed and well articulated, good spaces to be in. An open-plan office with dry-walling is flexible in planning, but is not necessarily a nice space to be in. This approach to design will enrich the architecture and prolong the use of a structure.

Fig 5.19 second concept model with linear building but weak response to the square

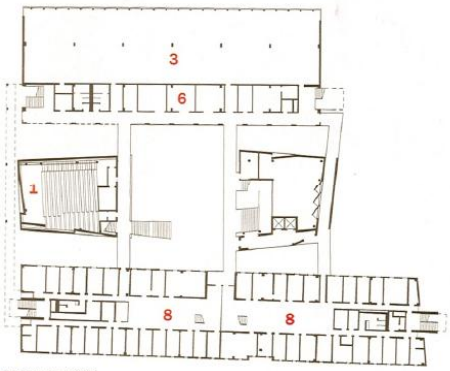
Fig 5.20 second concept model indicating new theatre, a linear symbiotic building dealing with the existing movement. model also shows the introduction of the service duct

Fig 5.21 second concept model indicating the new theatre's response to the square by means of access. new theatre still has static raked seating form

Florida International University had a competition for the upgrading of the architecture department on campus. They decided to undertake a competition exercise in order to create awareness amongst the students, involving them in the process of how an architectural design evolves. Bernard Tschumi Architects eventually won the competition (PEARSON 2003: 103). Tschumi's design inserted two boldly coloured pavilions between a pair of straightforward "bar" buildings. Tschumi stated, "I saw this building in terms of concept and context." (PEARSON 2003: 103). Tschumi shaped the pavilions by analyzing how the people would move around and through them. He sculptured these forms and then wrapped them in red, orange and yellow ceramic tiles to give them that hot Latin flair. North of the pavilions Tschumi placed the design studios in an open three-storey block, glazing the entire north elevation to bring in much daylight (PEARSON 2003: 107).



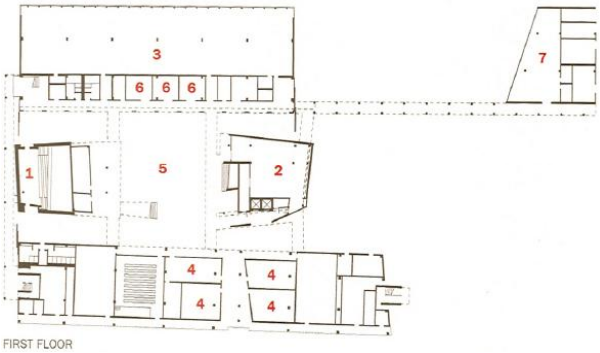
THIRD FLOOR



SECOND FLOOR

Fig 5.22 plans of the Florida International University

Legend
1. auditorium
2. gallery
3. studios
4. classrooms
5. courtyard
6. review rooms
7. model shop
8. faculty offices
9. roof terrace
10. media room



FIRST FLOOR

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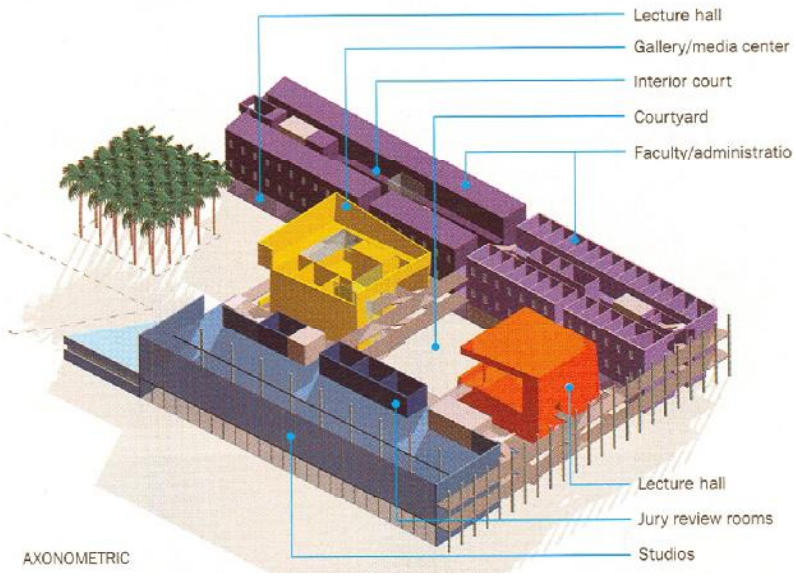

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Tschumi designed these buildings as events by creating areas which facilitated inter-student contact. The studios have wide corridors on which students can socialize while still leaving ample room for people to walk by. The corridors become cross-programmed spaces- functioning as both movement areas and public interaction spaces. These corridors also look onto the courtyard increasing the exposure of users to social interaction. The project is split up into four buildings and are clustered together is a tight form (PEARSON 2003: 107). By doing this smaller social spaces are created for students to linger, instead of leaving the building directly after class.

What can be learnt from this project is that the even a mundane element in a building can be designed as an event, in this case the corridors. The visual interaction the building has with the outside and the interaction between different spaces within the building can create a more interesting and vibrant environment.

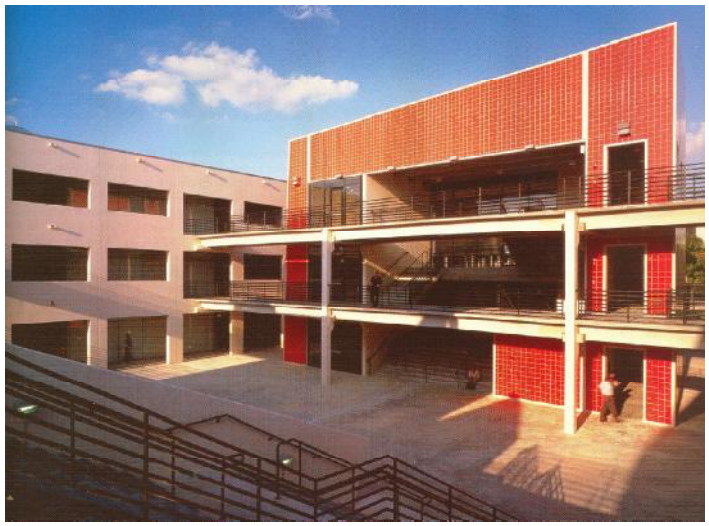

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Fig 5.23 axonometric of school
Fig 5.24 walkways that are wide enough so that they can be used as pedestrian movement and social spaces

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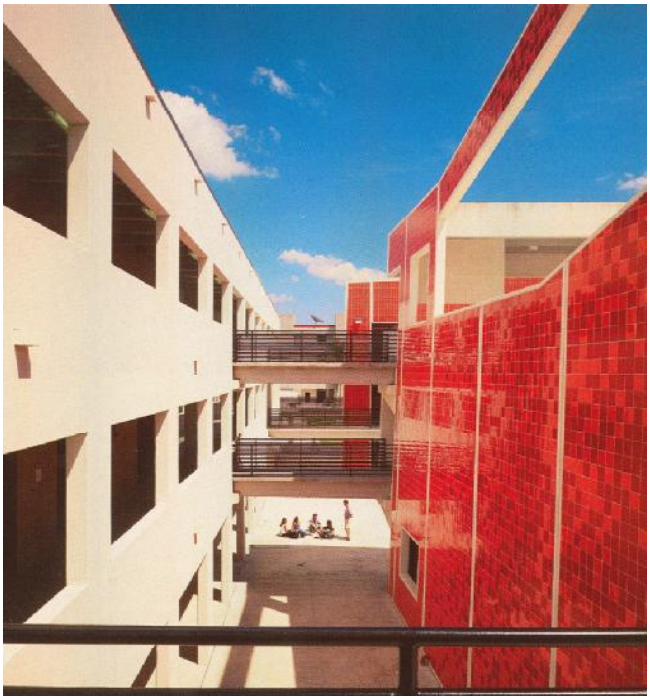

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Fig 5.25 studio spaces in the school. there is a mezzanine floor creating constant interaction between the students. this also creates more intimate spaces which can be used as review areas

Fig 5.26 photo of the wide walkways where students can move or socially interact

Fig 5.27 photo indicating how the different buildings are connected by the walkways, making people move past and interact with each other

Fig 5.28 eastern elevation of the Marne-la-Vallee school of architecture

Fig 5.29 western facade of the Marne-la-Vallee school of architecture at night

Another school of architecture that was designed by Tschumi is in Marne-la-Vallée, France. This was an earlier project to the school of architecture in Florida. Tschumi himself said that he felt under pressure when designing this school. As principal architect on the project he knew that the building would be criticized by those students using and studying in the building (SLESSOR 2000: 63).

Tschumi's own student career was spent at London's Architectural Association. Here he cultivated a recognition of the importance of informal "in-between-spaces,' where students could meet, talk and exchange views. At Marne-la-Vallée Tschumi has endeavored to create a humane, flexible educational environment where the architecture forms an armature for activities that foster both the intellectual and social development of users (SLESSOR 2000: 63). The plan has elegant simplicity and economy: two parallel wings flanking a cavernous central atrium. Studios and seminar rooms are located north of the atrium, with the office and staff facilities to the south. Crisscrossed by walkways and staircases, teeming with student activity, the luminous central hall forms the building's social and spatial fulcrum. Suspended in this heroically scaled space is the lecture hall, its sides clad in expanded-mesh panels (SLESSOR 2000: 66).

Tschumi designed the structure in such a way that all spaces within the building are used for a variety of activities. The atrium space allows visual connection between the different levels of the building at all time. Students are always interacting with other students by being made to move along walkways that connect different parts of the building. The walkways were designed by Tschumi to accommodate the pedestrian movement, while still allowing the students to socially engage with one another. The central auditorium creates a focal point in the building and due to its exposed nature, the foyer space of the auditorium is in the open around it. The foyer space now becomes part of the social matrix of the school. The ground floor atrium space becomes the foyer which is another cross-programmed space.

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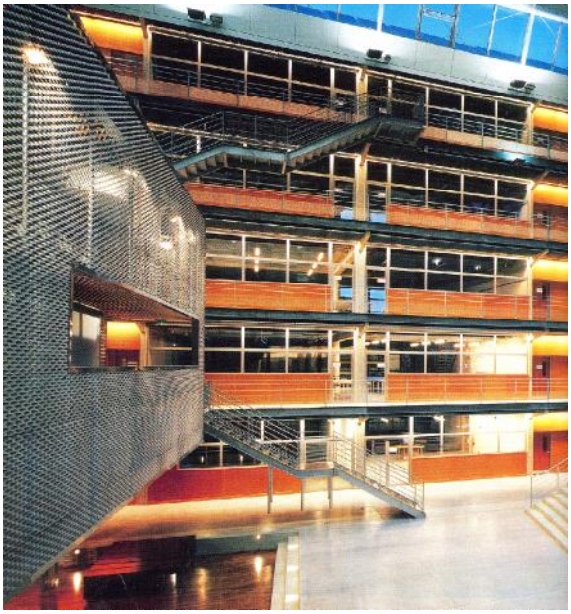

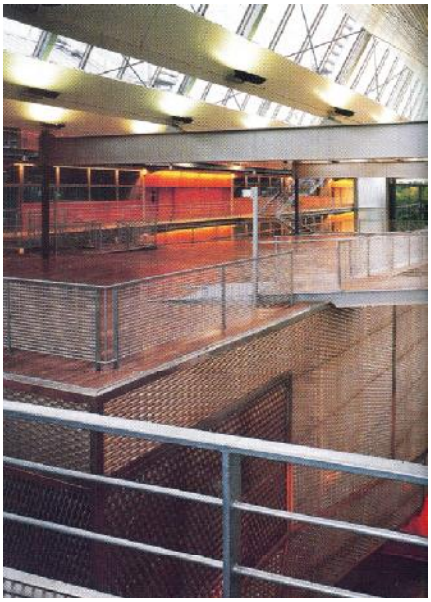

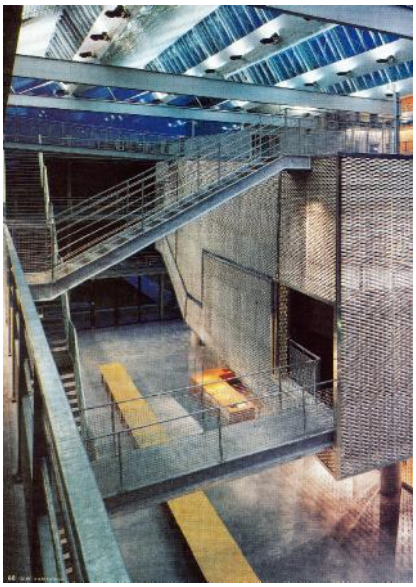

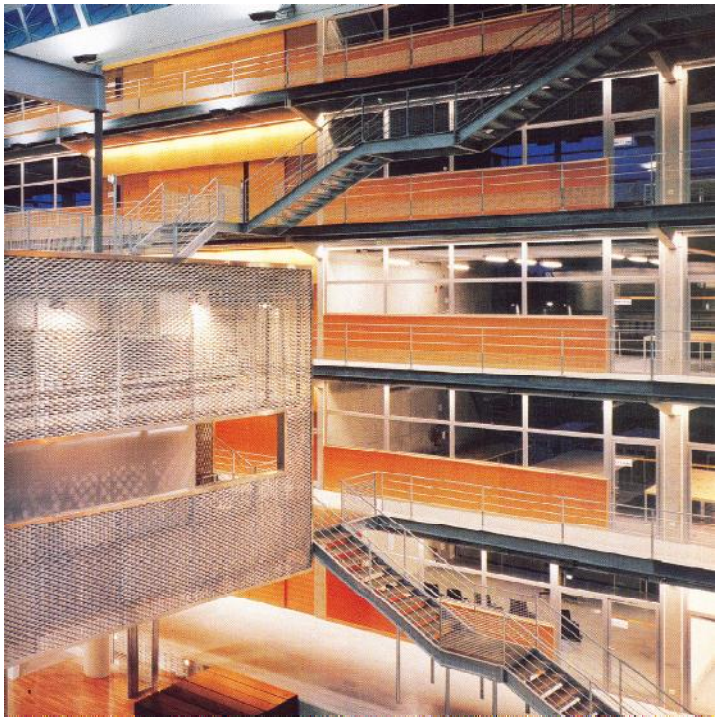

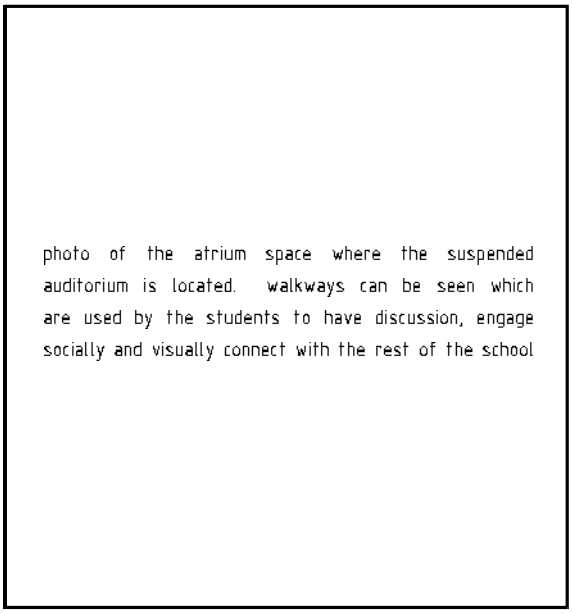

photo of the atrium space where the suspended auditorium is located. walkways can be seen which are used by the students to have discussion, engage socially and visually connect with the rest of the school

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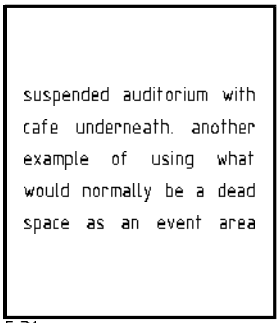

suspended auditorium with cafe underneath. another example of using what would normally be a dead space as an event area

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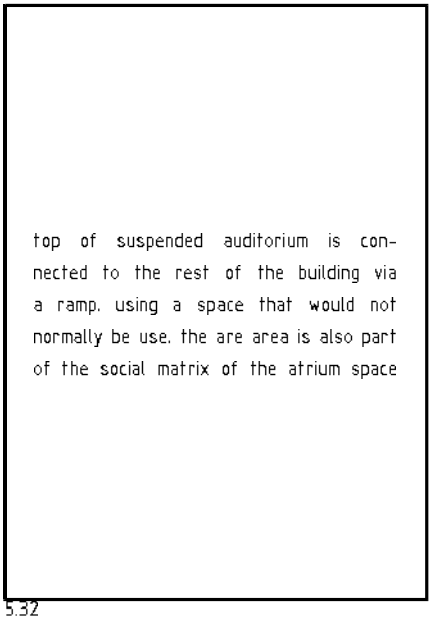

top of suspended auditorium is connected to the rest of the building via a ramp. using a space that would not normally be use. the are area is also part of the social matrix of the atrium space

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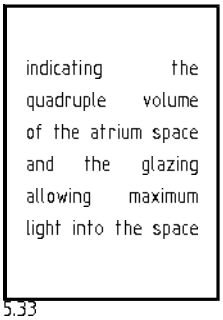

indicating the quadruple volume of the atrium space and the glazing allowing maximum light into the space

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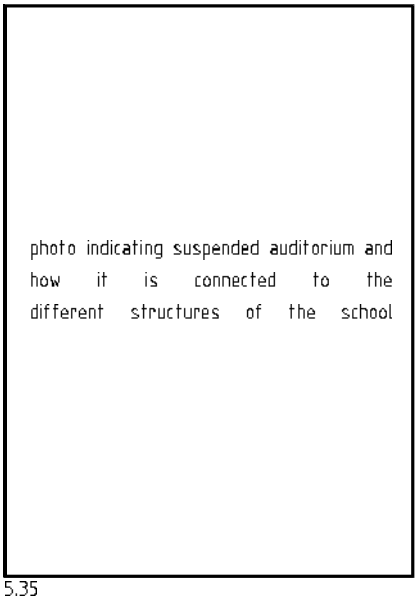

photo indicating suspended auditorium and how it is connected to the different structures of the school

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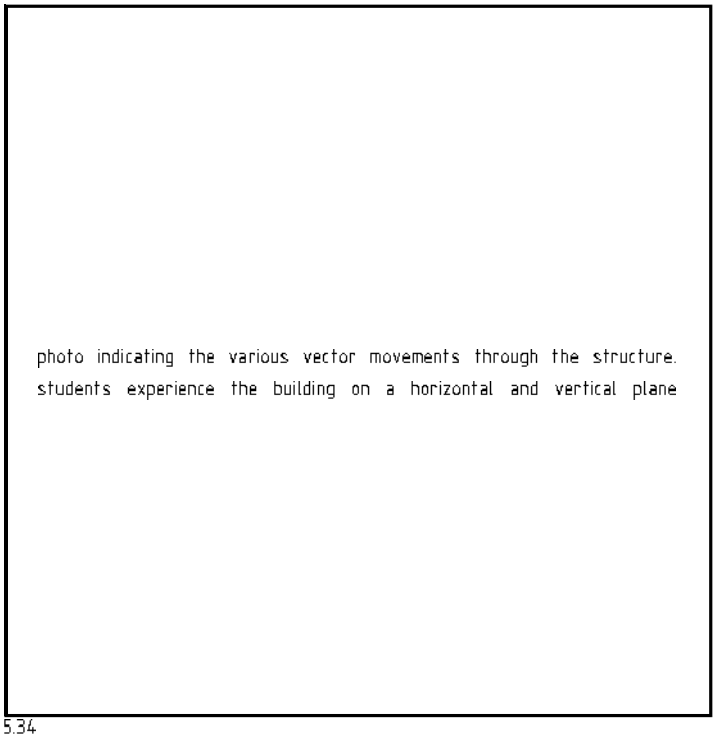

photo indicating the various vector movements through the structure. students experience the building on a horizontal and vertical plane

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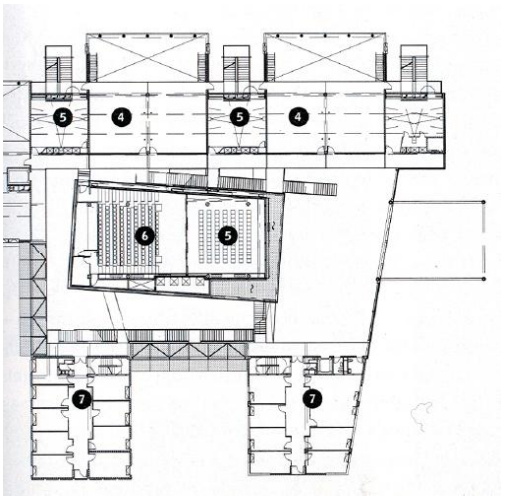

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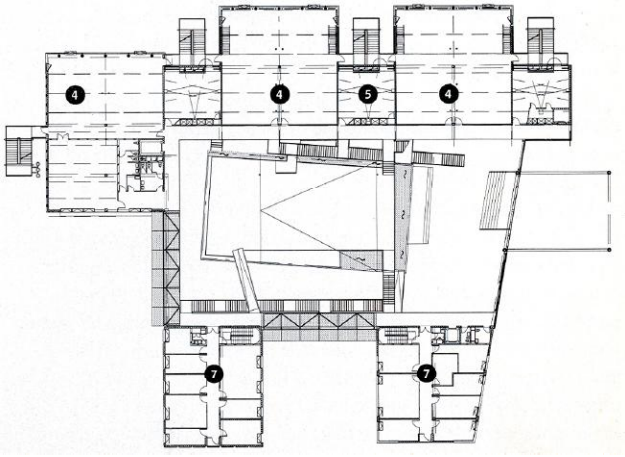

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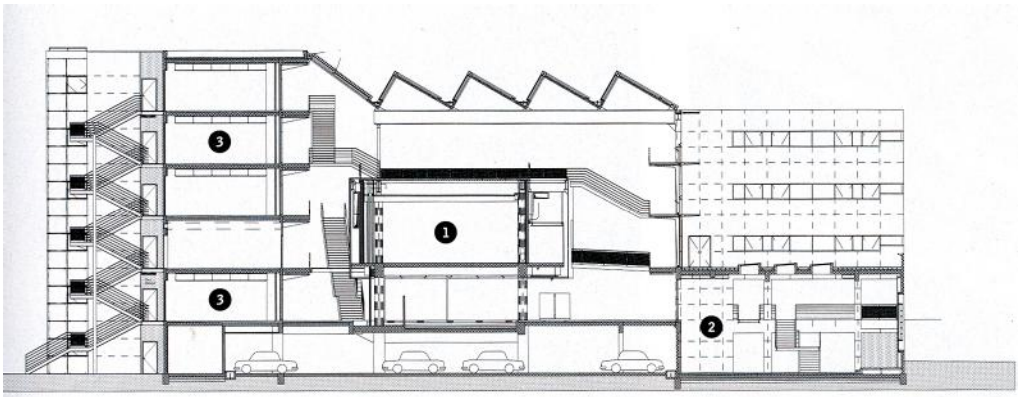

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1 auditorium
2 library
3 classroom

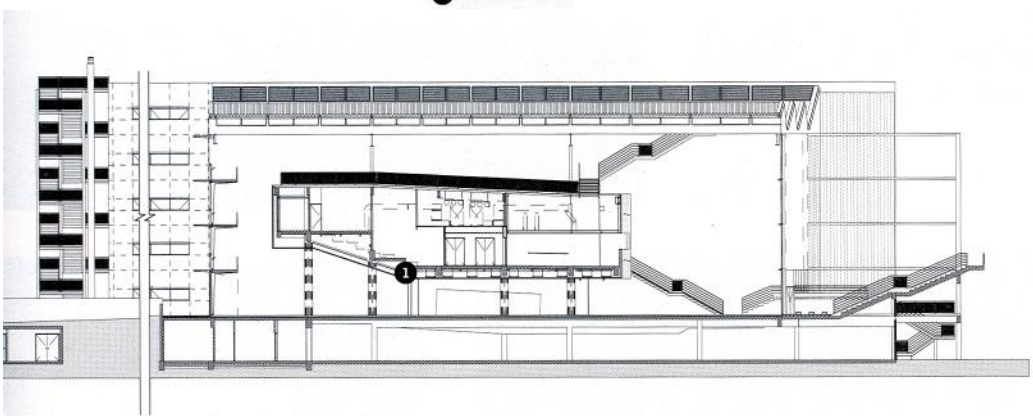

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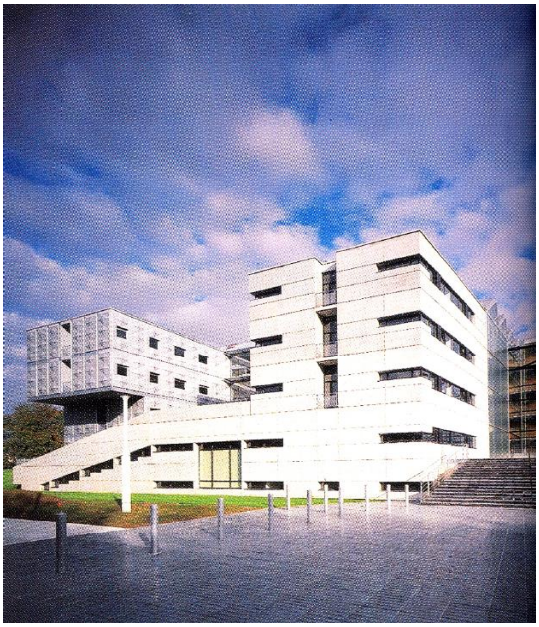
Fig 5.36 fourth floor plan
Fig 5.37 fifth floor plan
Fig 5.38 north-south section
Fig 5.39 east-west section
Fig 5.40 the two wings of the building flanking the atrium space
Fig 5.41 studio spaces with mezzanine floor area, shows the interaction of the two spaces yet allowing different areas for reviews or used as a different studio space

Designing for events was very evident in the building- when Tschumi went to visit the building after completion. "During my visit, the panoramic roof of the lecture hall had been taken over for a crit, with drawings stuck on improvised display panels attached to roof beams." (SLESSOR 2000: 66). The concept of cross-programming the building has led to a place where the students are able to make the building their own. The events that occur within an architectural school are mostly the interaction and discussion of architecture. The building has fully allowed for these events to occur on every level. Like at the Florida Architectural School, walkways are used as places to interact. The atrium space allows contact between the users of the building. A person is never isolated within a space. But mostly, socialization can occur in varying spaces in the building due to its cross-programmed nature.

All the information gathered on the idea of cross-programming up to this point gave the tools with which to test the success of the second concept model (Fig 5.19-21). The form that the theatre had taken in this model contradicted the theory of designing for events. The raked seating floor and high roof for the fly tower, limited the use of the theatre to only that, theatre. The events that can take place in the theatre are only events which share similarities to theatre. That could only be a cinema house. If the theatre is to become a space for the sharing of other programs, the event of the theatre would have to be considered more carefully.



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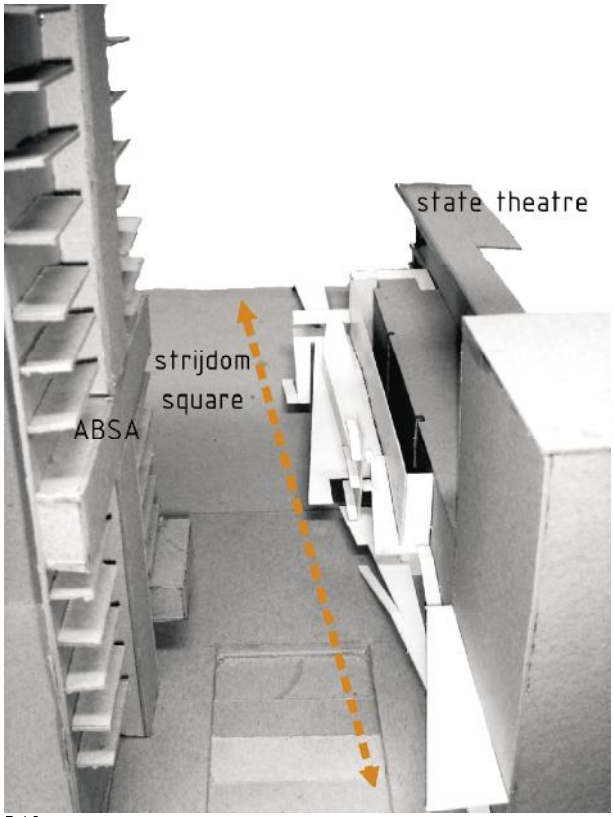
Third Concept

With this in mind the next concept model is developed. This third model indicates an analysis of movement through the site. It explored how people could move through, around and up into the structure. The walkways were an experiment to see how the flow of people can act as a social engager, testing the response and interaction to the square. This model also became the tool to see how a symbiotic building can exist in State Theatre's space and seemingly grow out from it. The open nature of the model and the floating planes are experiments to test fluidity, seeing how it can be achieved through horizontal and vertical planes. Ramp systems are employed to connect various parts of the building and to connect the building to the square. Just to clarify- the third model is not a model of an intended building but rather an experiment of movement. What is achieved through this model is the development of a linear elegant shape, supporting the idea of the building that grows out of the State Theatre. Planes of horizontal and vertical movement became successful in the articulation of the structure. The open western side of the structure gave ideas on further expanding interaction between structure and Strijdom Square.



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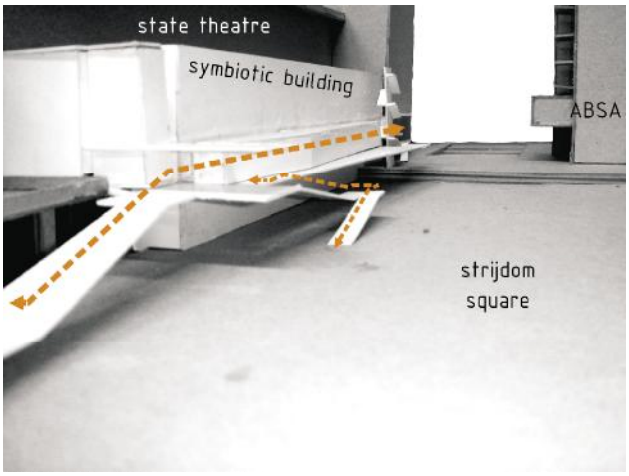

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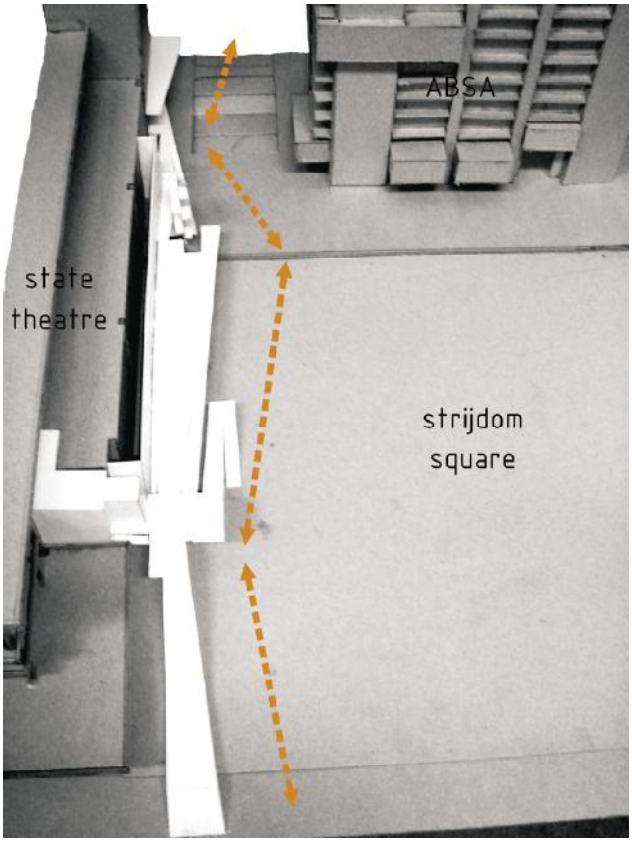

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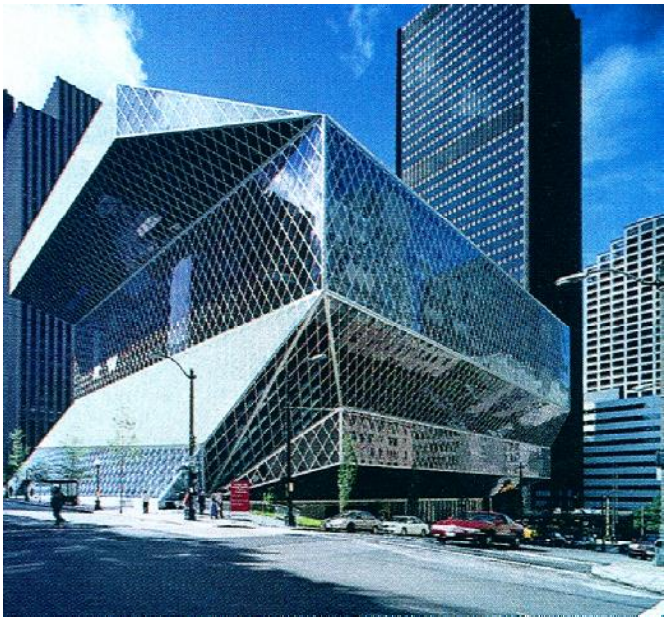
Fig 5.42 third concept model indicating reaction to movement
Fig 5.43 third concept model showing fluidity of the vertical and horizontal planes and how the structure is connected by means of ramps
Fig 5.44 indicating how model grows out from state theatre, emphasising the symbiotic concept

Rem Koolhaas is another good example of an architect that is pushing the boundaries of conventional programming of a building. In the design of the Seattle Central Library in Washington, Koolhaas demonstrates that the form and aesthetic of a building need not govern the success of the space. From the outset, the public were involved in the debate of the design. Koolhaas also held workshops with 11 library user groups and 37 library staff groups (ARCHITECTURAL RECORD 2000: 125). This was to gather as much information on the future of books in order to make informed design



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decisions. Koolhaas believes that the library, as an institution, has moralistically and unwisely positioned itself as the bastion of the book versus the byte. "It's not a matter of and/or," says Koolhaas. "The modern library, especially in a cybercity such as Seattle, must transform itself into an information storehouse aggressively orchestrating the coexistence of all available technologies." (OLSON 2004: 89). There are five programmatic "platform" blocks of floors designed for a unique purpose: parking, staff area, meeting rooms, books and offices (OLSON 2004: 89). The platforms were pushed and pull in directions that allowed them to capture the best light and views. The building was designed allowing for a greater ease of use of a library. The library enters into a large triple volume space that has been nicknamed the living room. This area is where the children can play and amuse themselves with books and other activities. From there you move up into the mixing chamber where all the librarians are situated to provide customers assistance (OLSON 2004: 92). The platforms of the building are done in such a way that there is a constant visual connection between the user and other parts of the

5.46

5.47

library. The large atrium space allows for orientation of the users within the space. The most controversial element in the building is the book spiral. It is less a spiral than a gigantic continuous ramp that inches up across the city-block-size floors and keeps rising for four floors (OLSON 2004: 92). This is unlike conventional libraries that split their floors up onto different levels. The ramp allows continuous flow of books and random moments of discovery (ARCHITECTURAL RECORD 2000: 124). Throughout the climb the users are faced with magnificent views of the city skyline. Access points and

staircases allow direct movement to specific points, whereas the ramp is very much about experiencing the library (OLSON 2004: 92). Other spaces that have been well thought out are movement areas where people are continually in visual contact with others. There is a lecture space which sits in the middle of the library's ground floor. It is open to all around, increasing the event interaction or cross-programming idea. Such elements give the building a unique quality and re-interpret the conventional program of a library. The program must accommodate the everyday events that could take place within a space and make the use of the space as spontaneous as possible.

What can be learnt from the principals applied in the library is that any new design can re-interpret the conventional program of an event without having to drastically alter the form of the building. To re-interpret form does not solve the question "How can it be different?" The spatial and experiential quality of a space gives the answer to that question through the re-discovery of space use.

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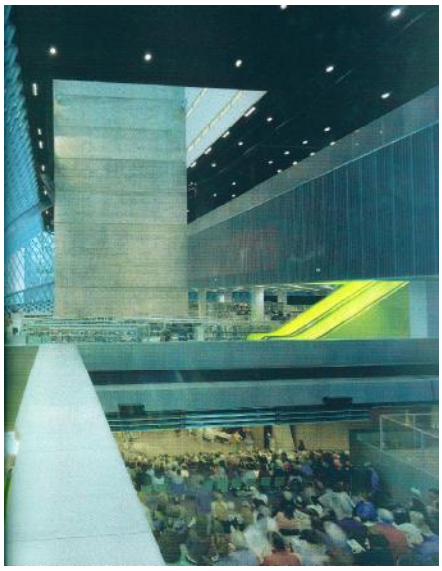

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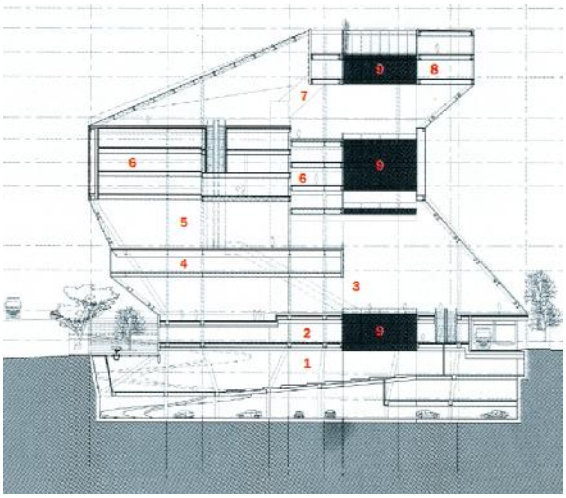

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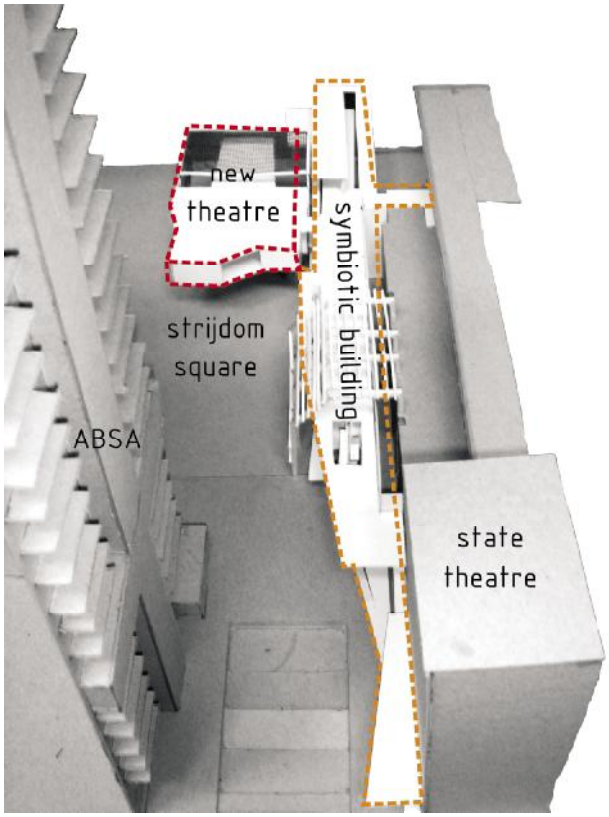
Fig 5.45 exterior view of the Seattle Central library
Fig 5.46 exterior view of the Seattle Central library
Fig 5.47 model done by OMA as a designing tool
Fig 5.48 view from the mixing chamber into the living room. this photo indicates the use of double volumes and platform extending under or over each other in order to achieve a constant visual connection between different parts of the library
Fig 5.49 photo of the lecture hall that sits in the middle of the library emphasising the use of cross-programmable spaces
Fig 5.50 section through the library. section shows how floor platforms are pushed and pulled to create the best view of the city skyline and to increase visual connectivity between different parts of the building

Fourth Concept

After studying Koolhaas' building, a fourth concept model is built and explored. This model dealt with the idea of re-thinking what a theatre program could be. The symbiotic building retained its slender linear shape- the movement and fluidity of the previous model was sufficient and dealt with all the necessary issues that the symbiotic building had set for itself. The theatre now becomes the main focus- looking at ways that theatre as an event can be designed. Initially the theatre space is calculated according the number of people to be accommodated. This space is then designed in such a way that the theatre space can be split up into three smaller theatres. Theatre activity can thus make use of either smaller, intimate spaces or be opened up to become a larger theatre. This planning resulted in a theatre that had a central stage and fly-tower area. Attached to this would be the smaller theatres sharing the stage, but if needed the theatre could be used in its entirety. Other solutions included making the theatre adaptable so that it could be used for other activities. These include activities like the conference facilities, or being converted so that cinema films could be projected when the theatre was not in use. With this is mind, the model grew into three separate theatres. One theatre still retains the raked form, and the other two being joined (with the idea that they could be opened or closed at will) having a flat surface for theatre and other activity.



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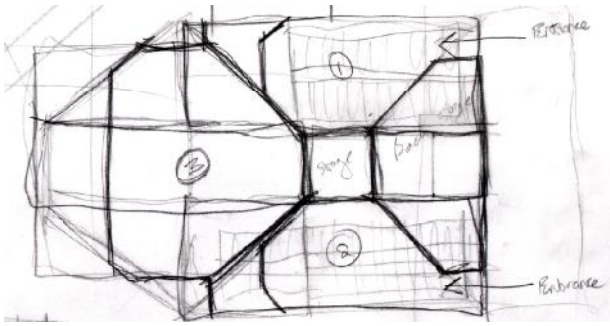
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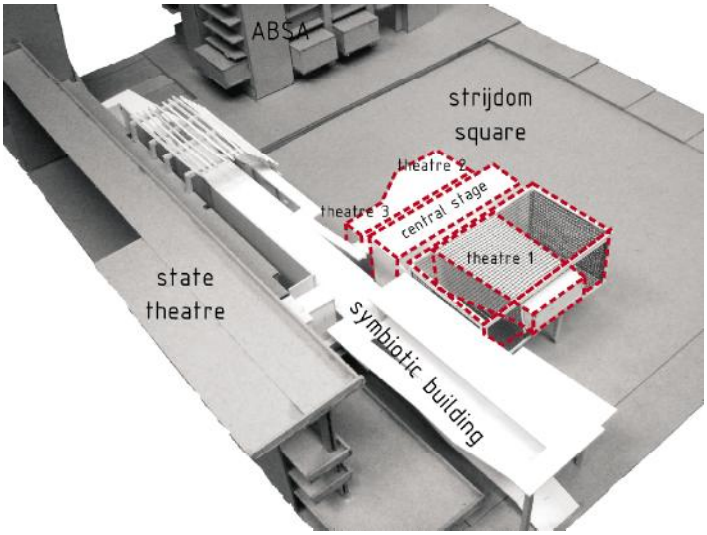

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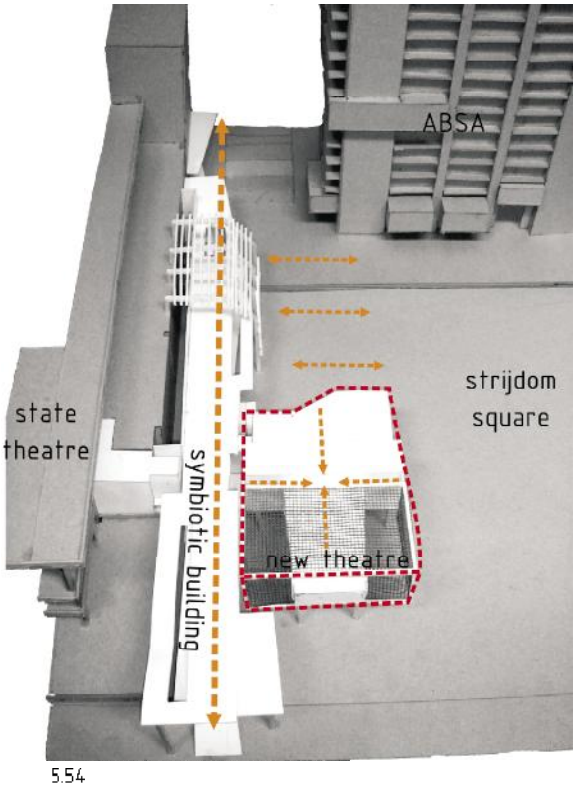
Fig 5.51 fourth concept model indicating the symbiotic building with the new theatre attached to it

Fig 5.52 concept sketch exploring a plan of a theatre that could contain three smaller theatre spaces and able to convert into a larger theatre space

Fig 5.53 fourth concept model with the new theatre. the model shows the design of 3 smaller theatres attached to a central stage area.
theatre 1 is the traditional form theatre with the raked seating. theatre 2 & 3 are the theatres that have a flat floor surface. these can be converted for use as conference facilities or similar functions. they can also be combined as a larger space.

Fig 5.54 fourth concept model indicating that the symbiotic building works well in form. however the theatre still very internalized, not responding to the square at all. the theatre's shape does not compliment the symbiotic building and becomes obtrusive in the square



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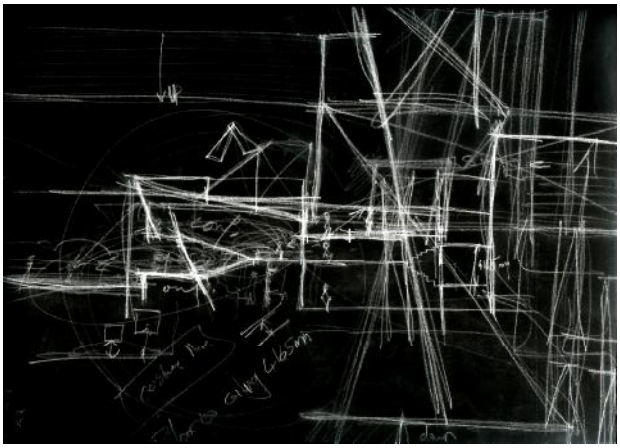

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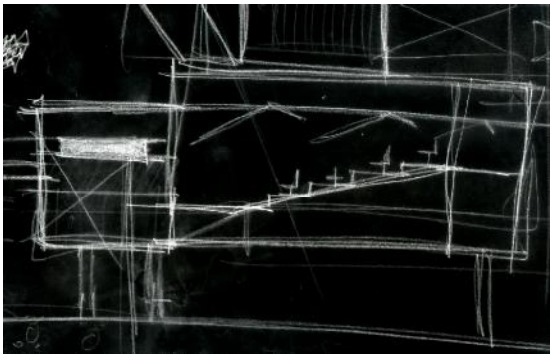

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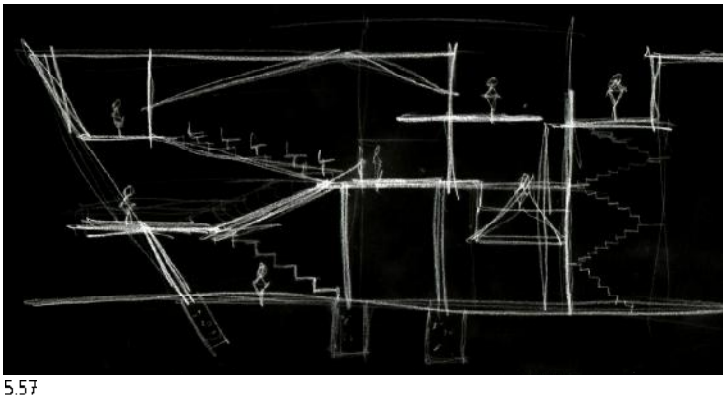

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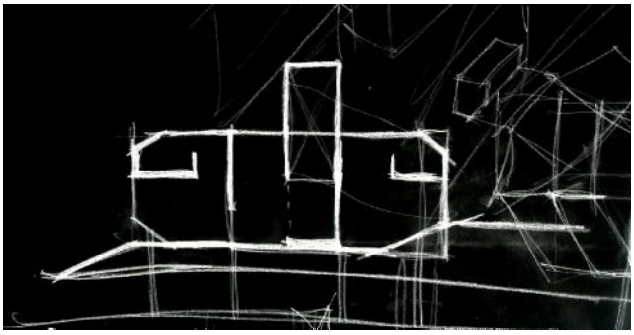
Fig 5.55 – 5.60 concept sketches exploring various theatre forms. all have taken on the shape of the traditional theatre form. in all instances the theatre is being designed to interact with the square. the shape of the traditional form is limiting in its cross-programmable use. ways of trying to interact the theatre with the square were rudimentary as this was done merely by physical connections. the theatre needs to be explored for an event-flexible use



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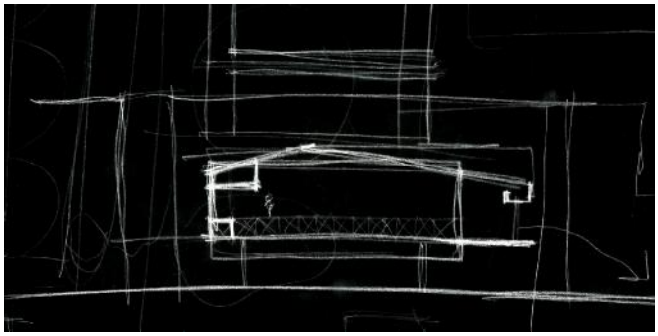

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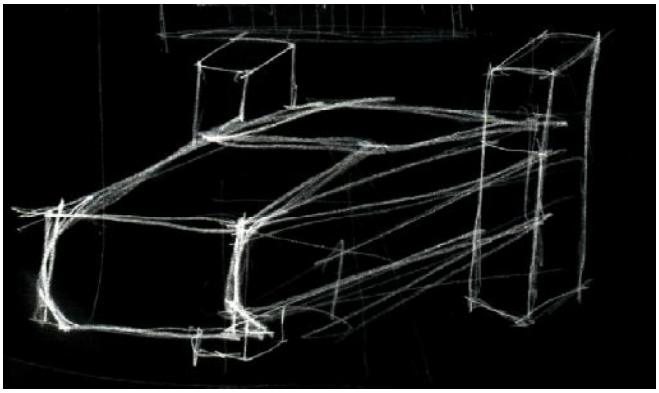
When analyzing the fourth model, it can be seen that the planning resolution of the theatre again did not satisfy the concept of cross-programming. Concept sketches explore differing theatre form, most of which still retain the traditional theatre form. These sketches attempt to mould the traditional form into something which would suit both Strijdom Square and the symbiotic building. These include lowering the lower side of the raked theater onto the square level or simply trying to resolve the connection to the square by means of physical access. The overriding idea in the sketches was an attempt to create visual and physical interaction with the square. The theatre however remained too rigid in its form and the use of the space for other events became the limiting once again. As Tschumi and Koolhaas had demonstrated through re-thinking, the solution need not be complicated. This fourth concept model highlighted issues such as how to address movement, and how the form of the symbiotic building should take shape in the context of the site. But the theatre was not responding well, it remained too internalized. A solution has not been found but the concepts engaged are moving towards a resolution.



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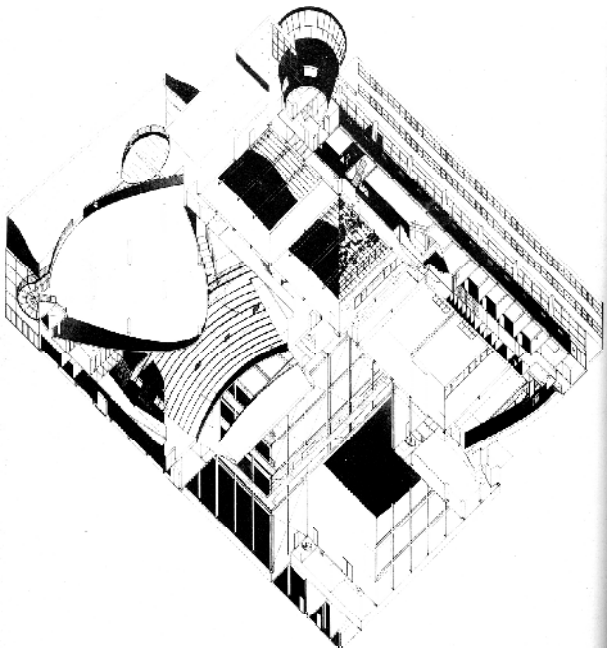
An analysis of theatres with unconventional programs was undertaken in order to see working solutions.

The Netherlands Dance Theatre in The Hague is a theatre house designed by Rem Koolhaas. The theatre from the exterior is rather mundane. The façade is quietly recessive, predominantly monochrome corrugated steel and glass, except for the mural of dancers on the fly-tower, the wavy-edge roof over the auditorium and the "golden ice-cream" that accommodates the box office and cafeteria (BUCHANAN 1988: 34). The interior is also unconventional. Rather than being spatially articulated, accommodation is, as characteristic of Koolhaas, simply zoned into strips (BUCANAN 1988: 34).

The dancers' common rooms are located in the strip adjacent to the square, so putting their daily life on display through slightly tilted floor-to-ceiling glazing. The foyer strip next to the rear auditorium strip reaches right to the roof and bulges sideways under the sloping floor of the auditorium. The foyer too is an unconventional space. The archetypal theatre or opera foyer extends into the street with colonnades and street lamps inside and upwards. Progression from the exterior inwards becomes a parade of people displaying themselves and watching each other (BUCHANAN 1988: 34).

Like the foyer, the auditorium achieves considerable drama with the bare minimalism of form and detail. With its charcoal painted walls and ceiling and black studded rubber floor it is literally a black box. There is none of the usual architectural articulation, nor any mediation between the auditorium and stage. The audience is put on display in balconies and boxes that also sweep the eye forward, integrating performer and audience in a singular event (BUCHANAN 1988: 34). The wavy curves of the roof are surprisingly striking when they are spot-lit. The ceiling is simply the underside of the roof. Two layers of corrugated steel with insulation sandwiched between are warped over exposed truss to rise and fall as waves out of phase with each other along either side. Cheap, yet very efficient structurally, the roof highlights a crucial aspect of the building and how, despite its cheap insubstantiality, it is not an archetypal decorated shed. Its outer volume is directly related to the spaces within and even expressive of their function (BUCHANAN 1988: 37).



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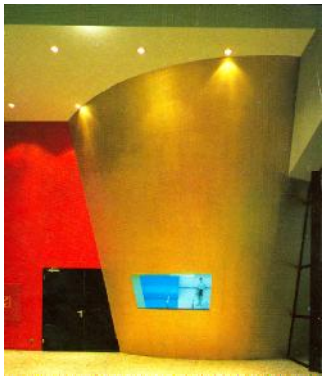

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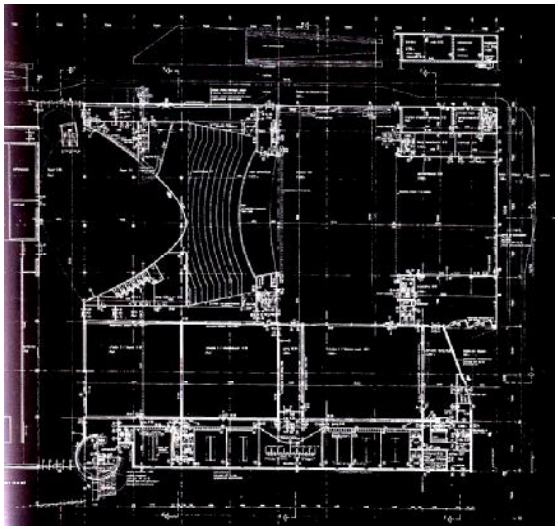

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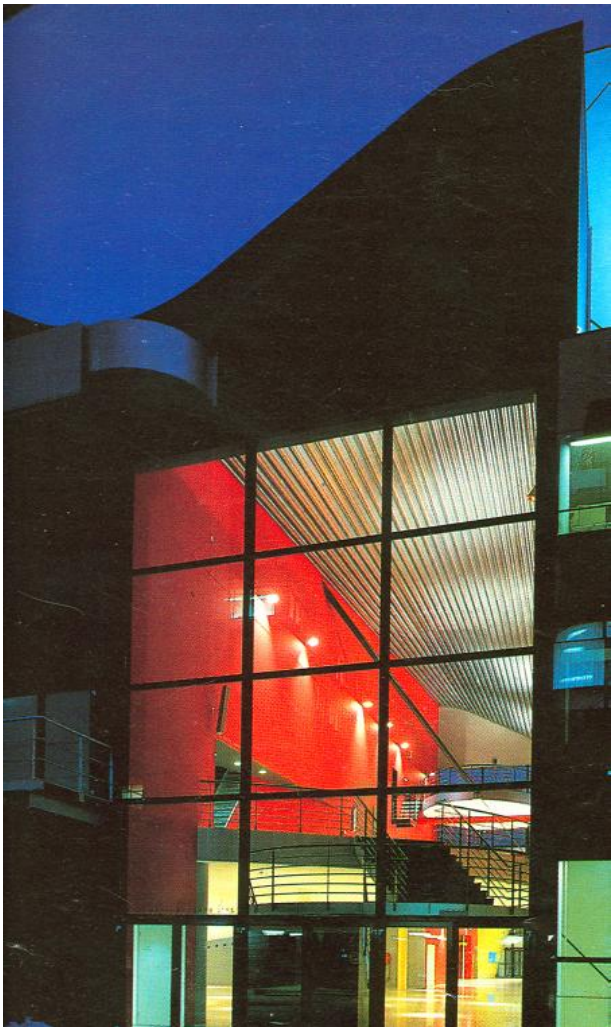

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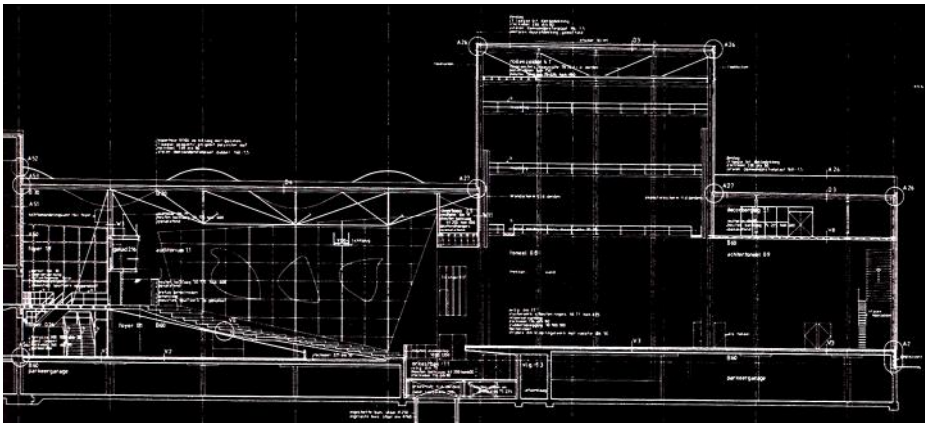
Fig 5.61 isometric section of Netherlands Dance Theatre
Fig 5.62 outside view showing the "ice-cream" box office with cafeteria above it. also can be seen is the dancers common rooms and the studios above that. the mural on the fly-tower is also seen (done by Koolhaas' wife)
Fig 5.63 ice-cream box office from the interior
Fig 5.64 ground floor plan of theatre. foyer space can be seen bulging into the auditorium space
Fig 5.65 northern view of the wavy roof which extends into the theatre space
Fig 5.66 section through theatre showing the wavy roof in the theatre space



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What Koolhaas achieved in the Netherlands dance theatre was a new approach to theatre programming. Avoiding architectural stereotypes, he took mundane program elements and simply changed our perception of them. The manner in which the foyer space meets up with the rear of the auditorium, through decreasing the headroom as you approach the space. How people enter into the foyer, designing an experiential transition between exterior and interior. The theatre itself was not typically executed. Where, in most cases, the theatre receives the main emphasis of the design, Koolhaas re-interprets how the theatre should function. By introducing the wavy roof form into the theatre space, the structural identity is revealed. The purist theatre form was discarded. Acoustics and lighting need not overpower the form design of the theatre. Koolhaas created intriguing spaces in the theatre building and although it has been described as a cheap alternative to regular theatre design, it has been widely accepted by the users.

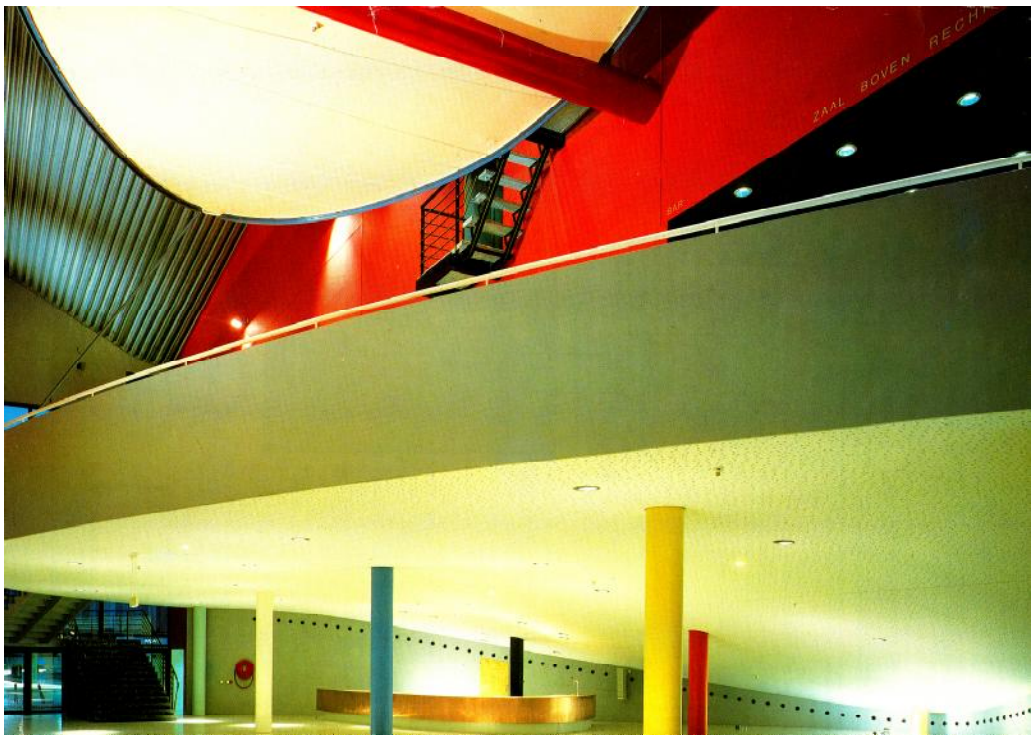

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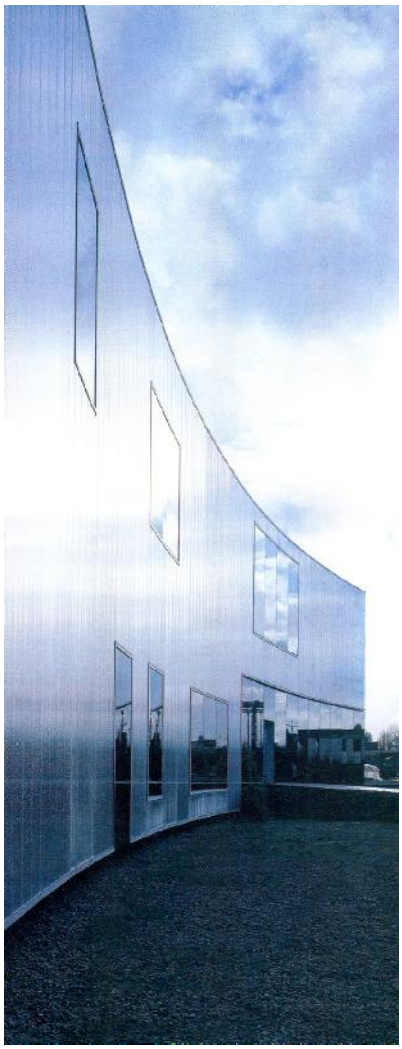
Fig 5.67 foyer space of the Netherlands Dance Theatre where the floor-to-ceiling bulges up against the rear of the auditorium

Fig 5.68 exterior view of Laban Centre for Dance and Movement. photo shows the translucent polycarbonate skin with glazing punching in at specific area for views into the building

The Laban Centre for Movement and Dance is another example of an unconventional theatrical space. Designed by Herzog and de Meuron, the structure is an inflected box with a curved face, masking the principal entry hall or "animated slot". It is a departure from pure geometry- the Laban's curve embraces a zigzag pathway and mounds of recycled earth designed by landscape architect Gunther Vogt. Kaleidoscope reflections of the immediate context register on the concave elevation's sweep of the glass panels, as in a hall of mirrors. The Laban's exterior also consists of a polycarbonate skin and a taut inner membrane of milky glass, tinted with blurry swatches of colour like lime, turquoise and magenta (RYAN 2003: 132). Areas of clear glass occasionally punch through the polycarbonate material allowing the outside to peek into the internal happenings inside the building.

After dark the building emerges as a coloured light-box, a beacon of renewal (POWELL 2003: 42). The building's interior is a network of streets or corridors and chambers on two full stories with an interstitial mezzanine. The Laban's programmatic heart is the 300-seat performance space that rises through the center of the building. The entry level of the building accommodates more hybrid functions and casual gatherings; the second floor is less public and dedicated to the dance studios (RYAN 2003: 132). Dancers are silhouetted against the translucent polycarbonate external wall, displayed to the transparent internal corridors of the building. The combined effect enhances the form and the movement of the dancers, offering up an irresistible spectacle to fellow staff and students as they circulate through the building (BUILDING 2002: 34).

The Laban Centre comes with an agenda to reach out to the local community. The surrounding community of Deptford is poor and the Centre is situated in a run-down area. It is surrounded by housing developments, barges and tugboats that get stranded at low tide (RYAN 2003: 130). The building is hoped to be a catalyst for urban regeneration. According to one of the directors, the new elegant centre with its visible practicing dancers will help to attract students in the area to the centre, therefore uplifting the community (BUILDING 2002: 38). The Laban Centre has made a dance school into an interesting program. What are normally rectangular areas, hidden away within in a skin, Herzog and de Meuron have brought out, expressing the beauty of. The translucent polycarbonate facade has excluded the use of mullions, creating a clean façade. The translucency gives a shadow display of the dancers rehearsing. The dancers are forced to be internally exposed to other students while rehearsing and thereby allowing other students to observe and learn. The studios are located around the periphery of the building allowing light to enter rehearsals spaces all the time. What is normally a hidden art up until the night of a performance can now be viewed by the public.



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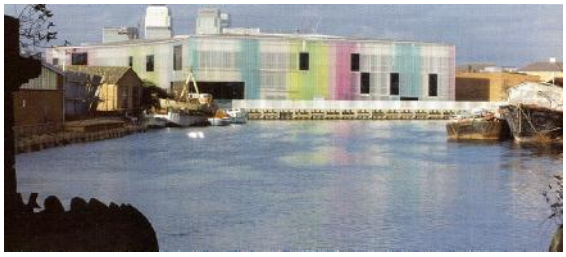

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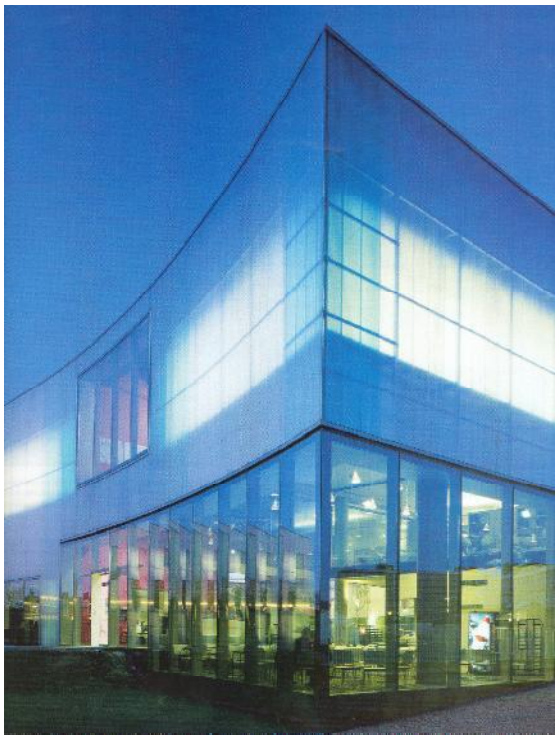

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Fig 5.69 exterior view of Dance Centre with the translucent polycarbonate skin in the various colours. what can also be seen is the concave shape of the facade

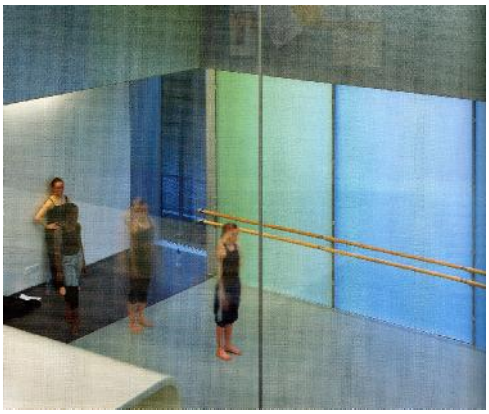
Fig 5.70 view of the building from the river showing the run-down context within which the building is situated

Fig 5.71 exterior view of Dance Centre with the translucent polycarbonate skin in the various colours at night. building reveals its interior after dark

Fig 5.72 dance studio space. photo taken from the interior of the building. dance studios are separated by partitions of glazing therefore rehearsal spaces are exposed to everyone inside the building

Fig 5.73 first floor plan where the dance studios are situated

Fig 5.74 section through the building



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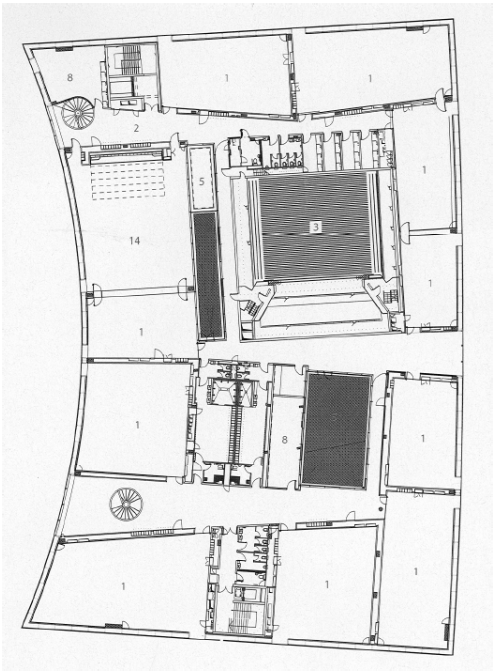

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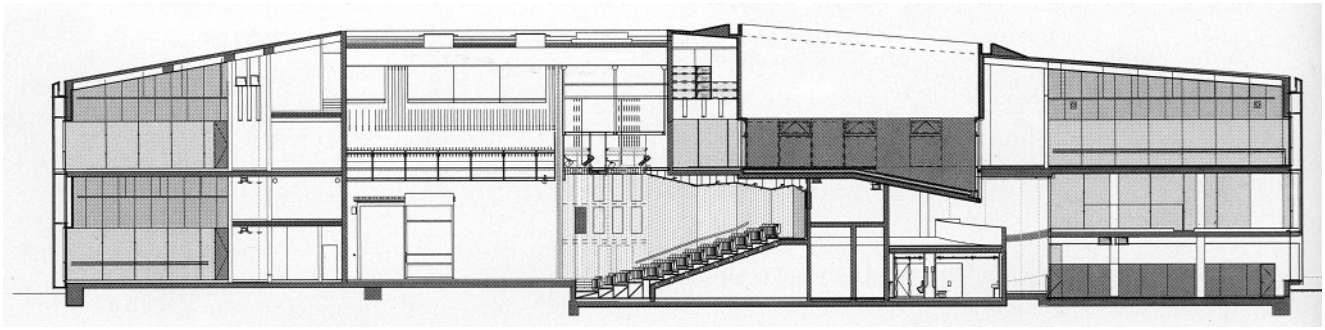

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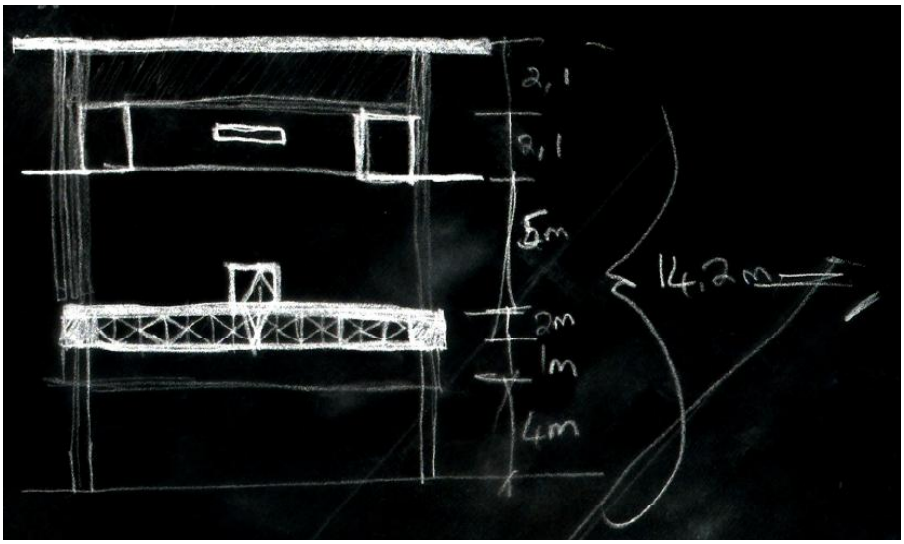
The analysis of the Netherlands Dance Theatre and the Laban Centre for Movement and Dance aids in a further exploration of conceptual ideas for the symbiotic building. The main focus of the design process at this point is to conceptually resolve the theatre space. The resolution of the theater assists with the design of the rest of the building, becoming the support event to the theatre. However, the main focus of the building is not the theatre alone- the entire building functions in the resolution of the dissertation problem.

Unresolved items at this point:

- The traditional theatre form will not be a sufficient resolution of a cross-programmable theatre space, as it is too rigid.
- The theatre program as a whole is too rigid.
- The theatre needs to do more than just have physical access to the surrounding environment.
- Traditional theatres have an inward progression of program and all amenities for the theatre are contained within one shed-like space. The new theatre must break away from this notion.

Keeping in mind that the solution to the most challenging design questions is normally the simplest, concepts were sketched of a space able to satisfy all the requirements made apparent through the analysis.

So the questions were slowly answered. An open theatre space is required to allow for flexibility of audience and stage arrangement. This also requires a flat floor surface as a sloped floor lacks the versatility required for divisibility of the space. The answer: a square space. A square space does not create hierarchy in how it can be divided. If the space is divided centrally, there is an equal half remaining. If a stage is placed in the middle of the space, the area remaining around it would be equal. This solved the problem of what shape the space planning should take. In terms of planning, the theatre's level surface area can now host any form of event able to fit the space. A conference meeting, annual corporate office meetings, media shows, television studio space, dance recitals, corporate office parties, cultural competitions, lectures, fashion exhibitions, art exhibitions, commercial



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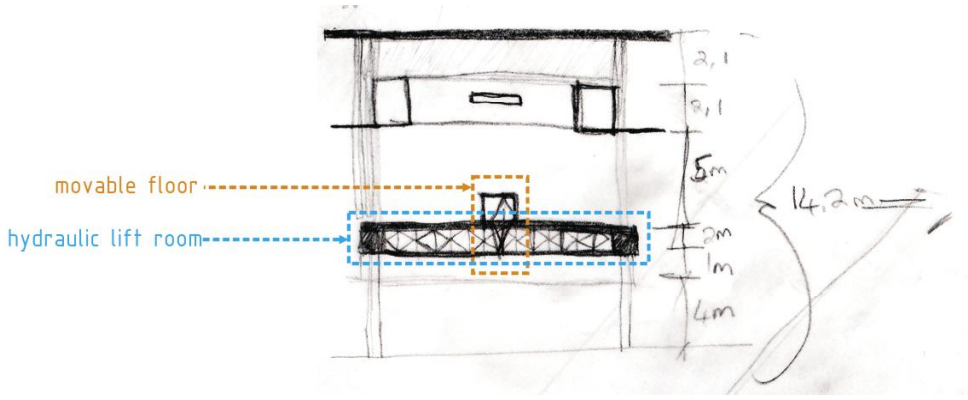
exhibitions and theatre can all be accommodated within the space. In concept sketches explored, a box-like form shaping the theatre evolved. What remains important is the need for performers to be able to elevated, making themselves visible to their audience. However, elevating a portion of the floor would defeat the object of having this versatile space able to change its character so easily. What if the floor could move up and down? Not as a whole but in smaller components so that portions of the floor could elevate. A 2 meter x 2 meter grid floor was designed with the idea that each 4m^2 portion of floor could rise and lower independently. A platform could thus be created by raising panels in a specific area. In the case of a sculptural exhibition, the floors could be raised individually in various areas of the space as exhibition platforms. If a fashion show needed to be put hosted, the floors can be raised in a T-shape to create a backstage area and the length would become the ramp on which the models would walk. As the area is to primarily function as a theatre, floor panels can be raised to create stages as the need arises. With the flexibility of the floors, a stage can be created anywhere the director feels it is necessary.

As mentioned previously in the interview with Stephanie van Niekerk, she would love a theatre where she can place a stage anywhere, creating differing dramatic scenes.

Next, the accessibility of the theatre was considered, in order that it may function differently to the State Theater and address the square. Ideally, the theater should be open to all sides to achieve this. The solution is to provide sliding movable panels that can either enclose the theatre entirely or move where the theatre is exposed to its surroundings. The panels, on the side facing into the theatre, are finished with timber while the exterior is a non-permeable material such as steel sheeting. This provides the theatre with adequate protection from the weather, as well as providing physical protection. It is intended that the movable panels slide on individual railing systems so that they can be moved to any position necessary. This controls the natural light into the space. Some panels can be open while others will close off certain spaces to achieving different effects. The movable panels now create the opportunity for un-choreographed urban plays to take place.

Fig 5.75 concept sketch of box theatre. sketch explored possible heights needed for each space
Fig 5.76 same sketch as Fig 5.75 indicating idea of movable floor system



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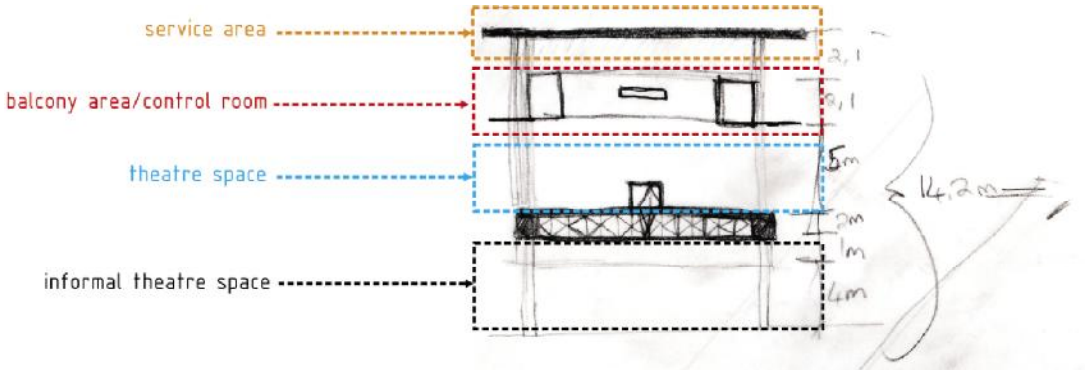

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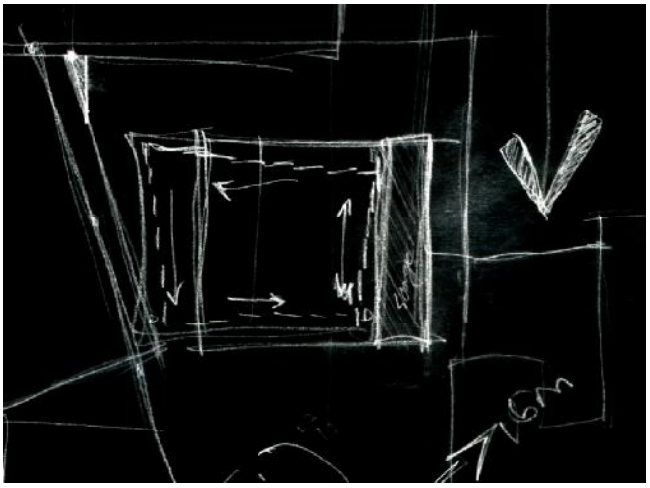
The surrounding city environment now becomes the backdrop of plays. Because all four sides of the theatre can be opened to the square, a play can use the city environment as live scenery. Different lighting conditions will occur at different times of the day and year. People moving in the city backdrop will constantly change. Weather will create different atmospheres. The possibilities become endless. The theatre event will never remain the same even for the same production. An alternative theatre experience will be available to the people in the industry and the audience.

Next, the floor to ceiling height of the space is to be determined. A balcony area above the theatre floor follows the perimeter of the structure. This area was conceived with two ideas in mind. Firstly, a control room is needed to operate the sound and lighting required by theatres and other forms of exhibitions. This balcony is to take on that role. But what was also needed is for the control room to be able to move. A control room needs to be directly opposite the stage area so that the operator can fully understand what is happening on the stage in order to make decisions. The problem is that the theatre will be able to erect a stage anywhere in the space. In order to get the sound booth directly in front of this movable stage requires the sound booth to have the same flexibility. The balcony area fulfills this need. The sound control equipment can be located wherever necessary relating to different stage positions. The remaining balcony space can be used as a gallery area for spectators.



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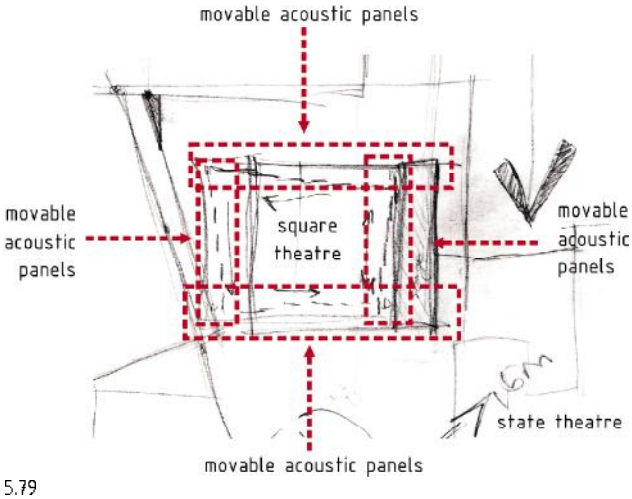

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Audience seating needed to be solved to adopt the same versatility of use as the rest of the theater. A retractable seating system is to be employed. This system allows normal seating arrangements but the whole seating system can retract into a smaller stack. These stacks can then be wheeled to wherever needed. The retractable seating system comes in widths to suit the space, either to be stacked next to each other or maneuvered to suit the stage setup (www.audiencesystems.com). Above this space is the service area. Sound and lighting crews will be able to access this area from the balcony through service hatches. The service area will be equipped for temporary fixing of lighting elements at various points. Steel bridges will allow access the entire area.

Fig 5.77 same sketch as Fig 5.75 indicating zoning of theatre function
Fig 5.78 concept plan sketch of box theatre
Fig 5.79 same sketch as Fig 5.78 indicating where the sliding panels will be located

As discussed previously, the ground floor square level is a food court area with public movement through the symbiotic building. This is the public zone of the building. But as people move vertically through the building a transition occurs through semi-public to semi-private. The building will never be entirely private as it opens onto a public space. The theatre is on the second floor of the building in a semi-private area. The space underneath the theatre is still open and is on the public square level. Just as Tschumi programs every space to be a possible event (space under the auditorium in the School of Architecture, Marne-la-Vallée, being used as a cafe as an example) so too is the space under the "box" theatre.

Theatre has traditionally been an event only available to the selected few. There are many people performing informal street theatre around the city as a means to generate an income. In an interview with one of these performers, Bheki Lukhele, he said that they move around from public space to public space in the inner city trying to attract crowds to watch them (LUKHELE: 4th April 2006). Bheki is homeless and wanders the streets in anticipation of opportunities to entertain people. Bheki said in the interview that he would like to be able to perform in Strijdom Square but did not because there were not enough people in the space and that there is no space to perform (LUKHELE: 4th April 2006). The space under the new theatre is designed to accommodate this type of informal/street theatre. It is not merely an open space with shelter affording people space to perform. The space will be designed to accommodate events. It will have in its roof space a structure that can support lighting or speakers. Electrical points for the equipment will be provided. As indicated in Fig 5.15, the ablution facilities are located to the north end of the building. The dash-dot-dash line in Fig 5.15 is the line-over of the theatre's position on the second floor. The space on the ground floor forms the informal theatre space. The ablutions are positioned in this area so that they can function as changing rooms for the street performers.

The last element is the light-weight steel structure that wraps around the theatre. This structure is designed to contain the theatre in its space. As the theatre is open to the square it was felt that it needed to have an element that provides some privacy. The light-weight steel structure is to be clad in a mesh material. This allows the theatre to remain visible while a threshold is created. The mesh structure can open in certain areas, revealing the space within. The structure is also to create a void between the "box" like theatre and the mesh. This would become one of the foyer spaces to the theatre.

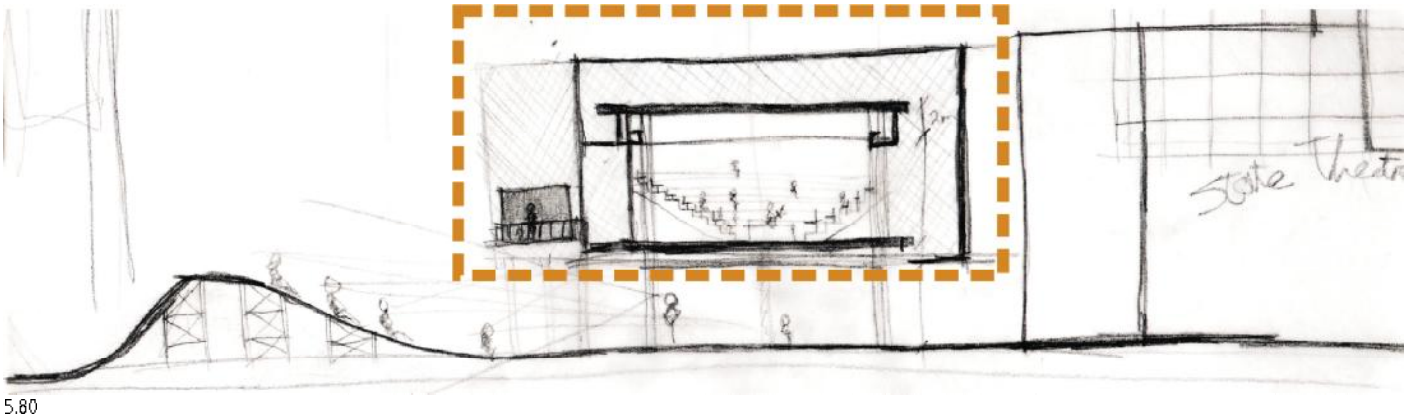

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Fig 5.80 east-west concept section looking north showing the new theatre next to the State Theatre. concept of manipulating the square surface to create seating for the informal theatre on square level is explored. light-weight structure containing the theatre with the foyer space sitting between theatre and light-weight structure is indicated

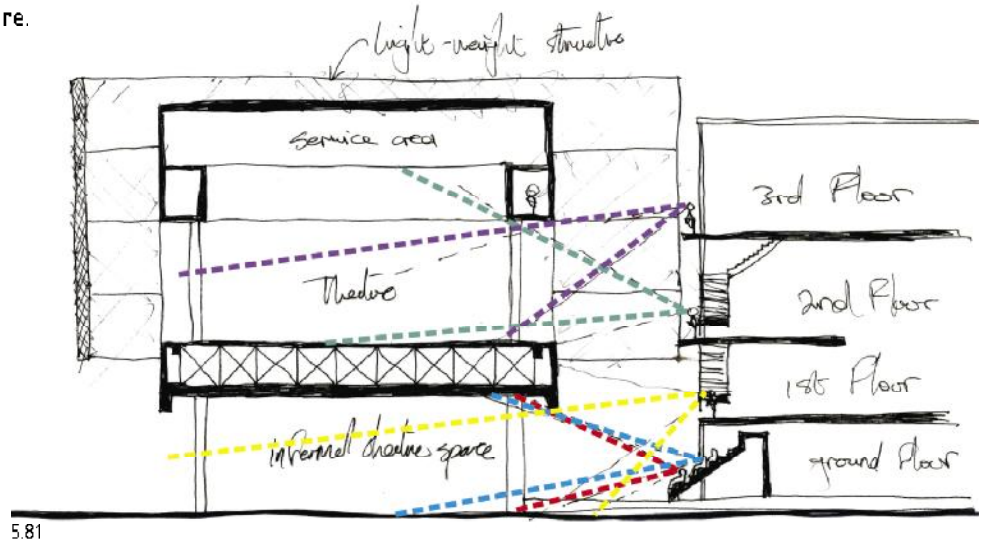
It was designed again with the re-interpretation of the traditional theatre program- instead of the foyer space being contained; this foyer space is exposed to the square. The whole experience of the theatre thus becomes part of the city life. The area between the theatre and the steel structure is open to anyone who uses the building. However, access into this space can be controlled if the space needs to be more restricted.

The vertical circulation of the building is also designed so as to accommodate events. The northern staircase has been made wider with large riser and treads. It is positioned so that people can sit on the staircase and use it as seating to view the informal theatre space. The staircase also has normal tread and riser dimensions for people who merely want to move up to the first floor.

As someone climbs the staircase, the theatre remains constantly in view. If the sliding panels are open, views into the theatre are possible, allowing plays to be watched. The landings of the staircase become viewing platforms and, depending on a person's level, different vantage points are available. This further develops the duality of spectator and performer in the building. The people moving through the building become the performers for the people on the square. Simultaneously, those in the building become spectators to the actors in the theatre.

The resolution of the rest of the building explores which events would best suit the theatre; the design of the building is to support the theatre to a certain degree. The building is to become a foyer space to the theatre. This will occur on the first and second floor levels. As mentioned before, the literal foyer space is the area around the theatre within the light-weight steel structure. But this does not mean the entire structure cannot function as a foyer space.

The events occurring in a foyer space include waiting, socializing, and being entertained, drinking, and eating/ snacking. The program of the building can allow for the entire theatre experience to flow throughout the spaces. So that going to the theatre does not solely involve moving directly to the theatre, but becomes an experience through the spaces. Other events that can be supported by this program are exhibitions. It allows people to flow through spaces, to entertain themselves, drinking and eating. Movement to the theatre can involve moving through an exhibition, standing and gathering, viewing art and it all becoming part of the theatre experience in the building. Exhibitions will not be limited to the times when the theatre is functioning. The spaces will function independently so exhibits can take place on their own.



5.81

Fig 5.81 north-south concept section through the theatre looking east. sketch shows staircase being used as seating for viewing into the informal theatre space. also shows differing views on different levels

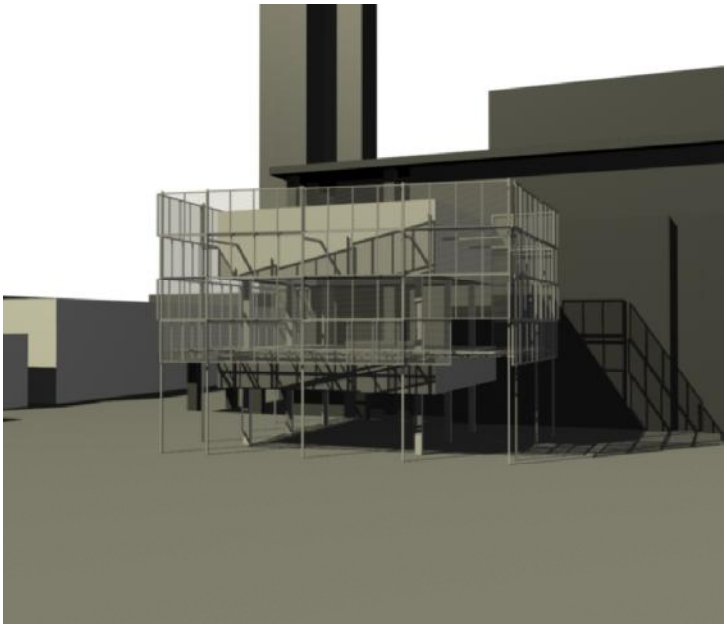


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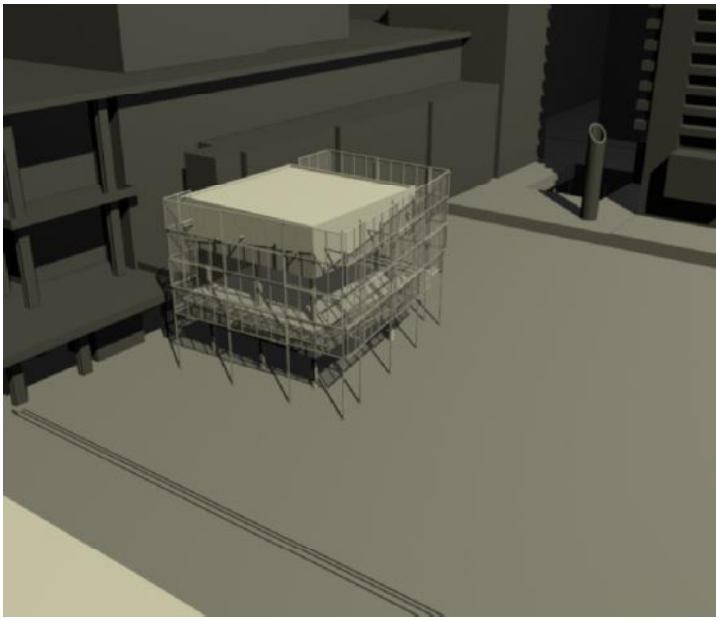
Fig 5.83 west elevation of new theatre showing opening section of mesh
Fig 5.84 north-west elevated view of new theatre
Fig 5.85 fifth concept model indicating the new theatre
Fig 5.86 fifth concept model looking north indicates improved interaction between symbiotic building and Strijdom Square
Fig 5. 87 fifth concept model indicating how new symbiotic building fits into its surrounding context



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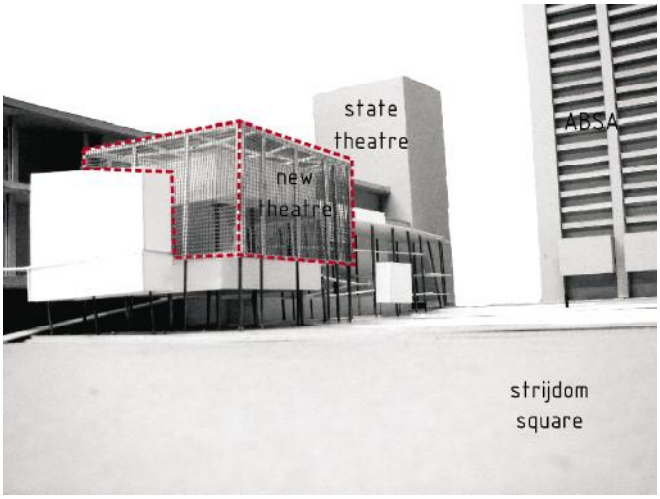
state
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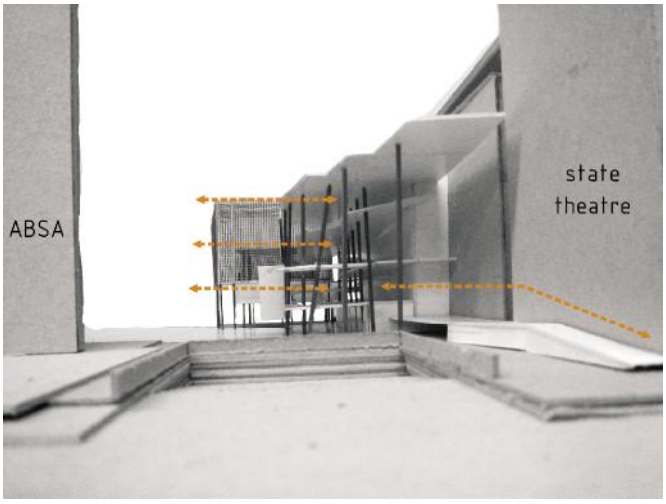
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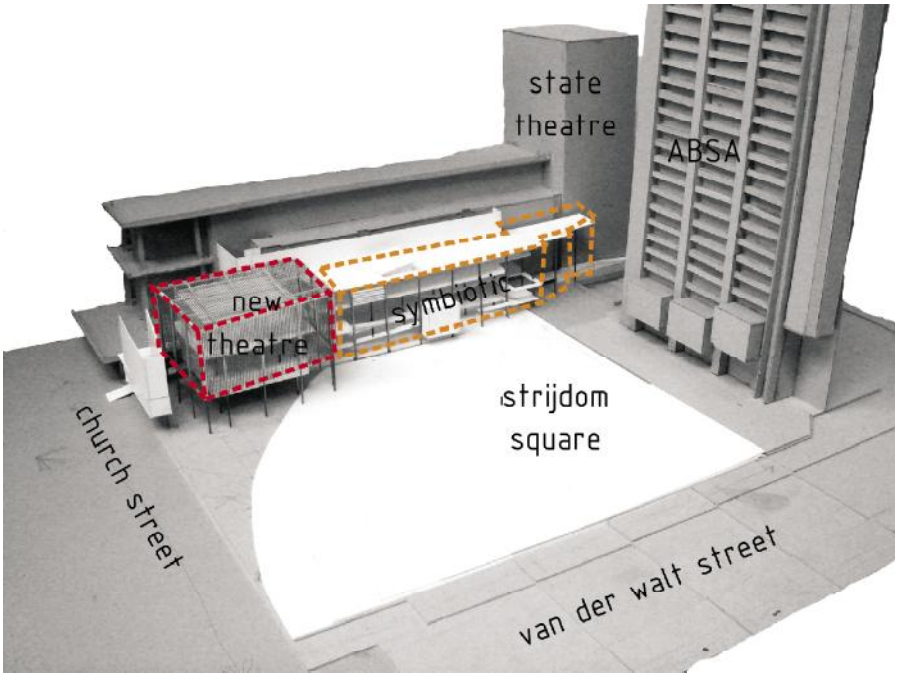
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church street
van der walt street

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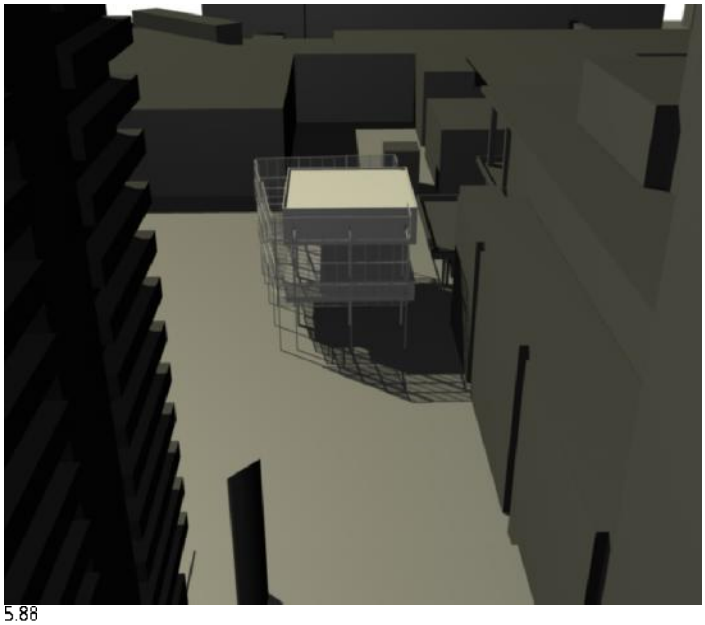
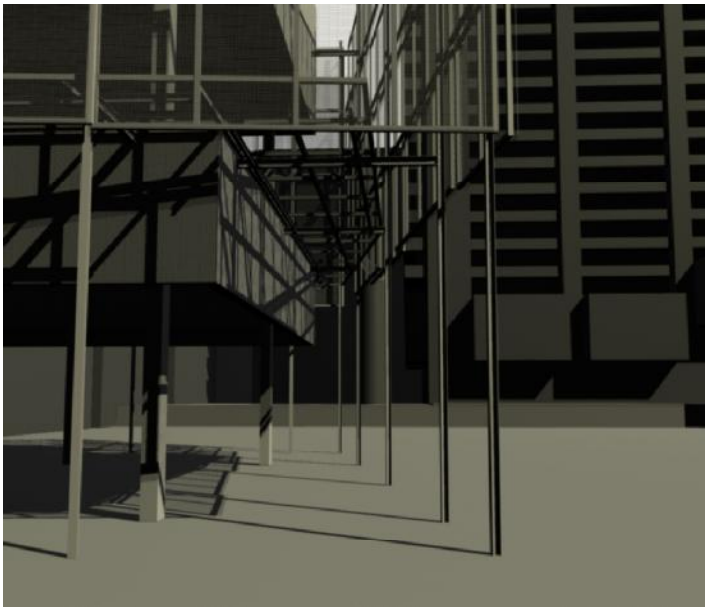


5.88

Fig 5.88 elevated southern view of new theatre
Fig 5.89 view of theatre & light-weight structure from below looking north
Fig 5.90 fifth concept model indicating floor for Strijdom Square to create better accessibility to the space
Fig 5.91 fifth concept model indicating horizontal & vertical movement through the building



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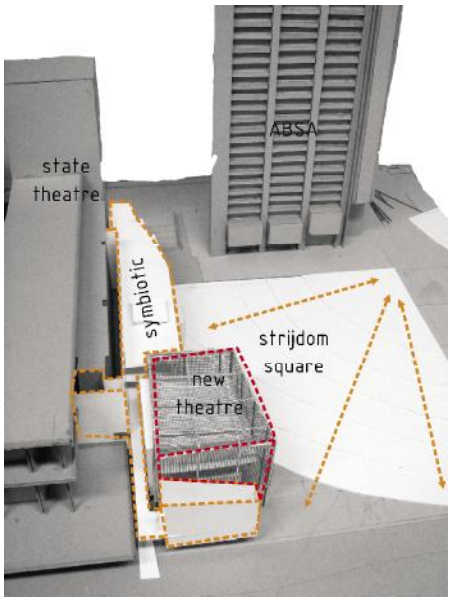

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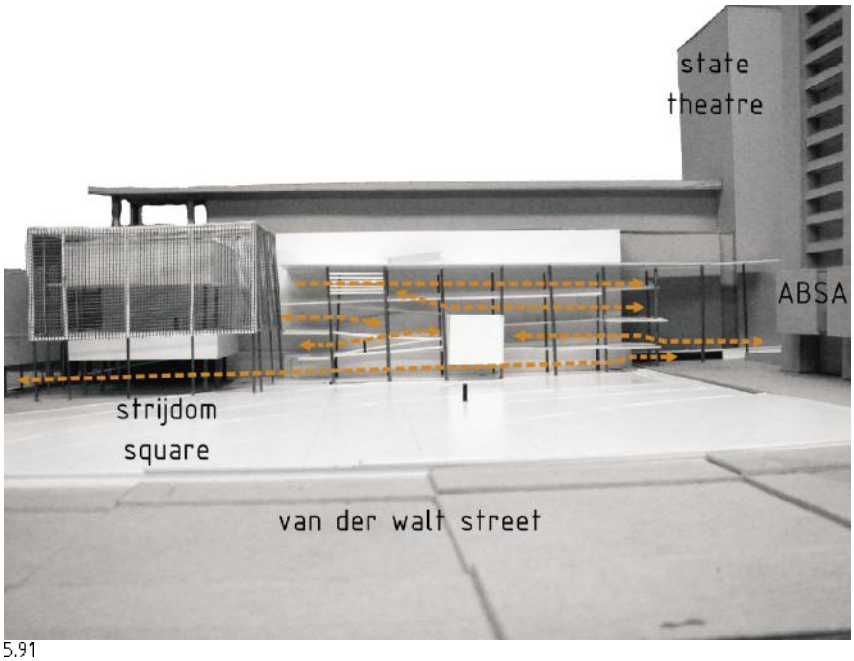

5.91

With the theatre conceptually resolved and the idea of temporary exhibition for the rest of the building emerging, a working example of a theatre/auditorium space that also opens up to the public is studied.

In the Netherlands, Rem Koolhaas designed a structure for temporary exhibitions called the KunstHal. Unlike a museum it has no permanent collection. Rather, it serves as a warehouse-like venue for a diverse lineup of temporary exhibitions ranging in subject matter from car design to avant-garde jewelry, from modern painting to the traditions of Indonesian royalty (METZ 1993: 68). As a reaction to the buildings apparent lack of program, Koolhaas created a bold structure, one that may at times overwhelm the work presented inside (METZ 1993: 68). The glazed west façade reveals the auditorium with its sloping floor and the restaurant with its sloping ceiling. The exterior is a horizontal Modernist composition reminiscent of Mies van der Rohe's Neue Natoinalgalerie in Berlin (METZ 1993: 68). The interior is completely different. The circulation route is tautly organized, ingeniously, leading visitors down through the auditorium (METZ 1993: 68). Koolhaas has incorporated inexpensive industrial materials such as corrugated plastic sheeting and light-metal framing next to the elegance of travertine and broad expanses of glass, thus varying solidity and transparency (METZ 1993: 68). As daylight fades, the KunstHal becomes a translucent box perched over Museum Park. What Koolhaas achieved in this building was to invite the public into the space through the use of transparent materials. As in the façade of the auditorium space, the public is allowed to gain visual access in and the users of the auditorium can bring the public into their space. Koolhaas also employs subtle suggestions of movement for circulation through and around the building so that understanding of exhibition spaces is fully experienced.

Koolhaas uses visual connection between differing parts of the building transforming people into exhibitions themselves. This can be seen in his use of the steel corridor which places people below and above to be in a constant state of exhibition or viewer.

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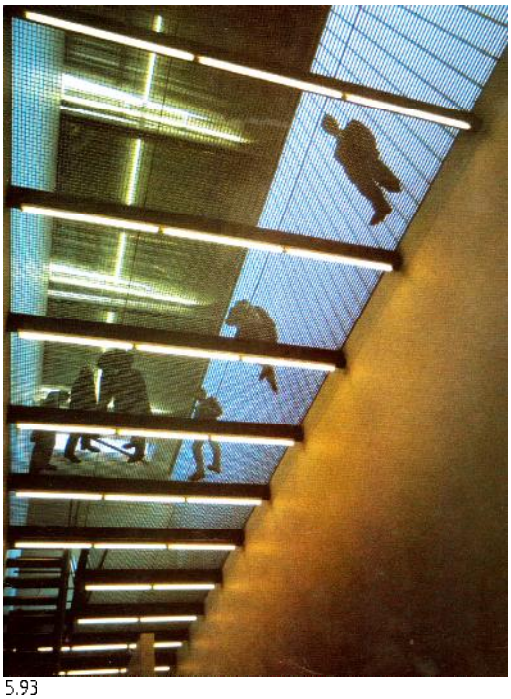

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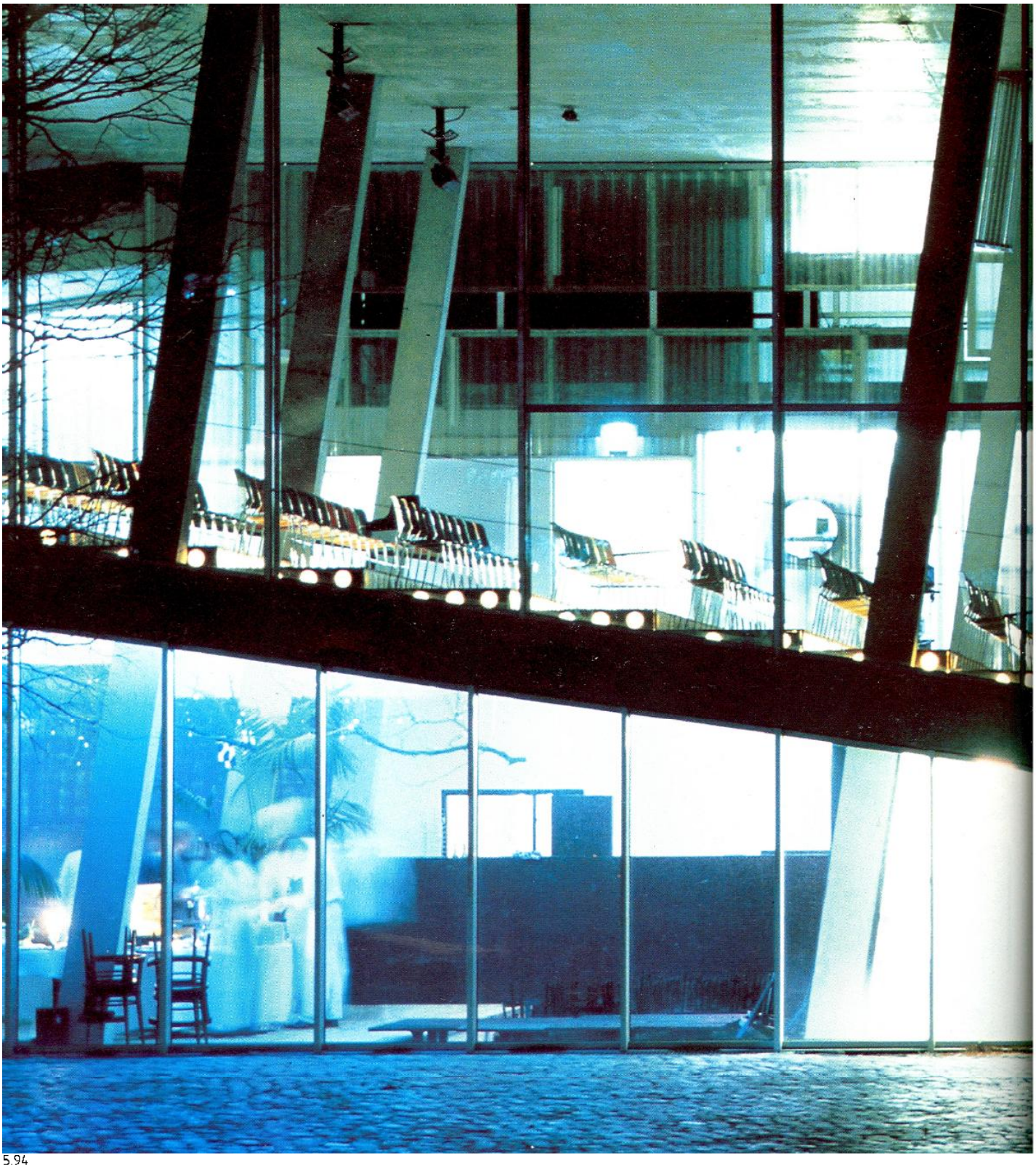
Fig 5.92 southern elevation of the KunstHal
Fig 5.93 photo of the steel bridge allowing people to see upwards or below
Fig 5.94 western elevation showing the glazed facade of the auditorium



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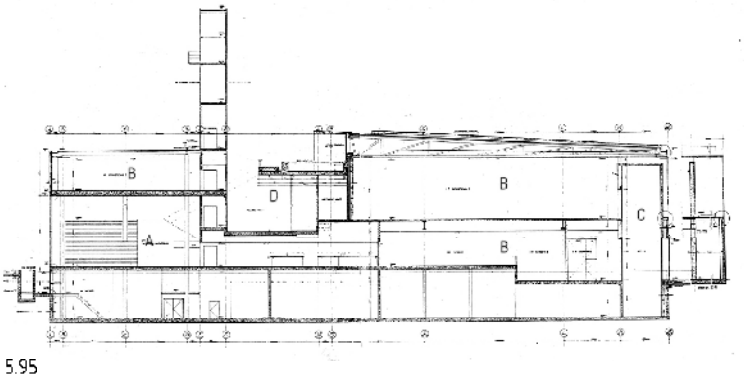

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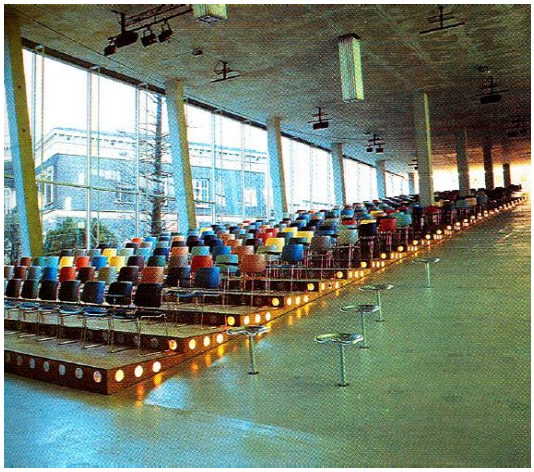

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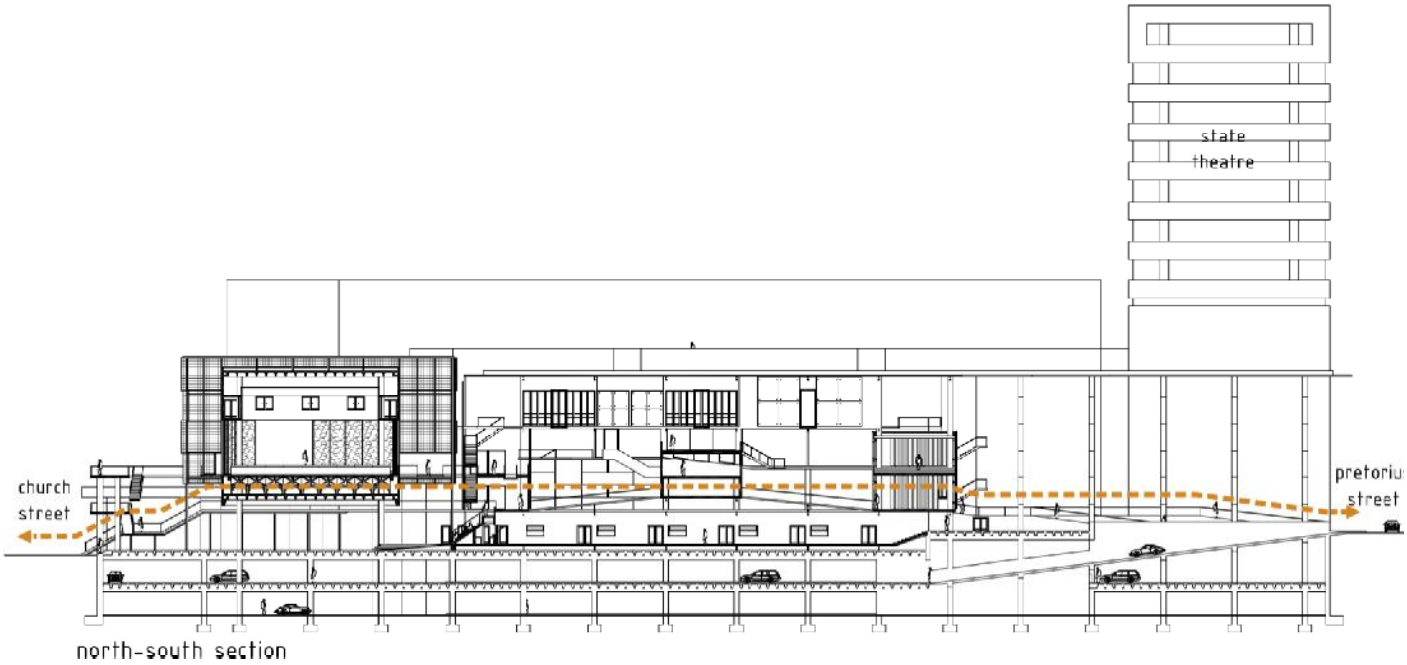
Fig 5.95 east-west section looking south through the building
Fig 5.96 interior view of a exhibition space
Fig 5.97 interior view of the auditorium
Fig 5.98 interior view of a exhibition space
Fig 5.99 section through symbiotic building indicating movement from the ABSA platform level onto the first floor

5.98

What can be learnt from this building is that forms and programs need not always follow traditional thought. To glaze an entire façade would be unheard of in typical auditorium spaces. The acoustics would not be up to standard. The space would have a constant flow of natural light from the day which could be seen as limiting. But as Koolhaas has proven- it all depends on what that space is going to be used for. If excellent acoustics is not needed for the auditorium and the transparency adds quality to the design, it can be done. Problems arising from the glazing can be solved, and should thus not be a limiting factor.

The design of the rest of the building maintains the idea of un-programmed space. As the design evolves, a distinction between the theatre and exhibition levels of the building (first and second floors) emerges. The theatre, although designed to accommodate various events, becomes more programmed than the rest of the building.

The level difference between the ABSA building platform and Strijdom Square is of sufficient height that it allows easy transition from the southern end of the site onto the first floor of the building. The current steps used to enter the State Theatre's administration building are replaced with a ramp. This improves the accessibility of the State Theatre, also taking people onto a level from where it becomes easy to access the first floor of the symbiotic building. From this platform, another ramp takes people up onto the first floor exhibition level of the building. Another staircase operating on the southern side of the building will take users right up to the third floor. A second ramp is also provided allowing users to move to the ABSA building via a ramp system, without having to pass the State Theatre ramp which takes you into Pretorius Street.



north-south section

5.99

First Floor (semi-public level)

The first floor of the building is designated as exhibition space. The exhibition space is not going to be designed simply as an open floor plan in which artwork is displayed. As unprogrammed space, it will be used not only for exhibitions but also for other events, by providing the right infrastructure. Columns rise up to roof height along the length of the building. This defines that which is inside and where the square is. This transition space has a subtle edge, keeping the building open to the square, while containing people in the space. The colonnade will define the outer skin of the building which will respond to the square. Everything to the inside becomes the "guts" and inner workings of the building.

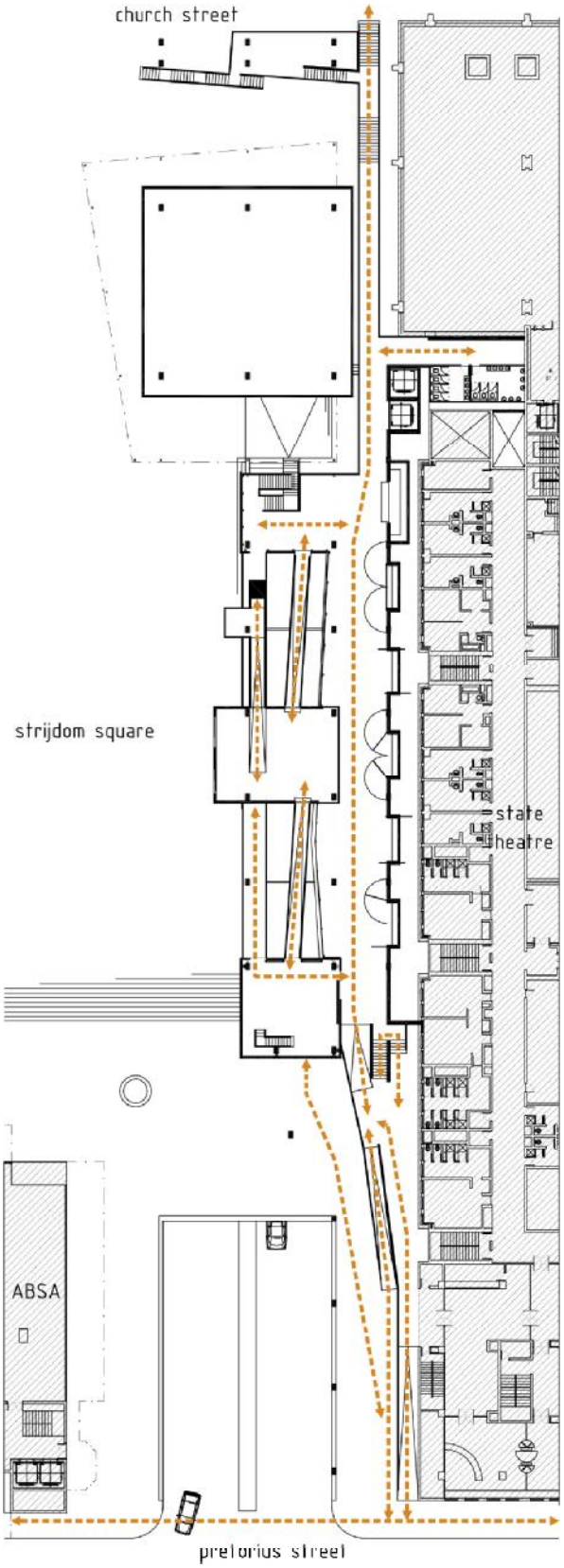
The inner workings of the building can be zoned into the movement areas and stationary or still spaces. The movement areas are the systems that encourage vertical movement, while the still spaces encourage horizontal movement. The vertical movement areas such as the ramps and staircases sit on the western outer edge of the building whereas the still spaces are located deeper inside the skin. This is for a number of reasons. The movement areas are located on the outer skin and even punch through that envelope because it displays the people using the ramps or staircases to the square and to the city. Landings become viewing platforms out onto the city. Looking into the structure from the outside, people using the movement systems animate the building. The movement systems are also exposed to the natural elements of the weather.

The inner still spaces will have a non-penetrable envelope, thus protected from wind rain etc... The ramps cause constant movement of people from inside to outside as they make their way through the different levels of the building. The ramps punch into the still spaces of the building, emphasizing the movement and the transition. Another reason why the still spaces sit deep inside the building is due to the west facing façade. The western sun is problematic (will be discussed further in the technical report) therefore, by placing the usable spaces deep in the building, they are afforded more protection. The ramp systems will also stop some of the direct western sun into the still spaces.

The layout of the first floor is simple, but certain areas have been enclosed to create spaces within spaces. If a person moves through the first floor from the southern end of the building they will encounter on their left, a wooden box. This space is enclosed with a timber clad structure and is separate to the rest of the space. It is designed to create hierarchy of space on the floor level. The space can either keep more important art displays, and locked if something of value is kept within. The wooden box is open to the natural elements. The timber cladding, with gaps between each slat will allow wind, rain and sunshine into the space. The lighting that will come through the space though will be surreal and will change with the movement of the sun. The space will feel as though it is part of the first floor but it is actually situated outside. Inside the box is a staircase that will take a person into a similar space on the second floor, directly above them. From this box there is access to a ramp into another exhibition area as well as access to a bridge, running along the outer edge of the building's envelope. The bridge does not take a person to anywhere specific, but provides a platform for views out onto Strijdom Square.

From the wooden box, still on the first floor, are niches that cut into the service duct wall. These were designed so that artwork can be displayed in them. They are large enough so that sculptural art or multi-media art can also be placed comfortably. If they are not being used for display purposes, these niches act as seating which can be used if waiting for the theatre to commence or while just moving through the space. Next to the niches are slits in the wall into which steel panels can slide. These panels were designed so that they can be used to display art. They can be slid out as far as needed, and can also slide all the way out. In this position they can swivel in any direction.

Fig 5.100 first floor plan indicating possible movement through the level
Fig 5.101 first floor plan indicating the theatre and the more isolated exhibition spaces



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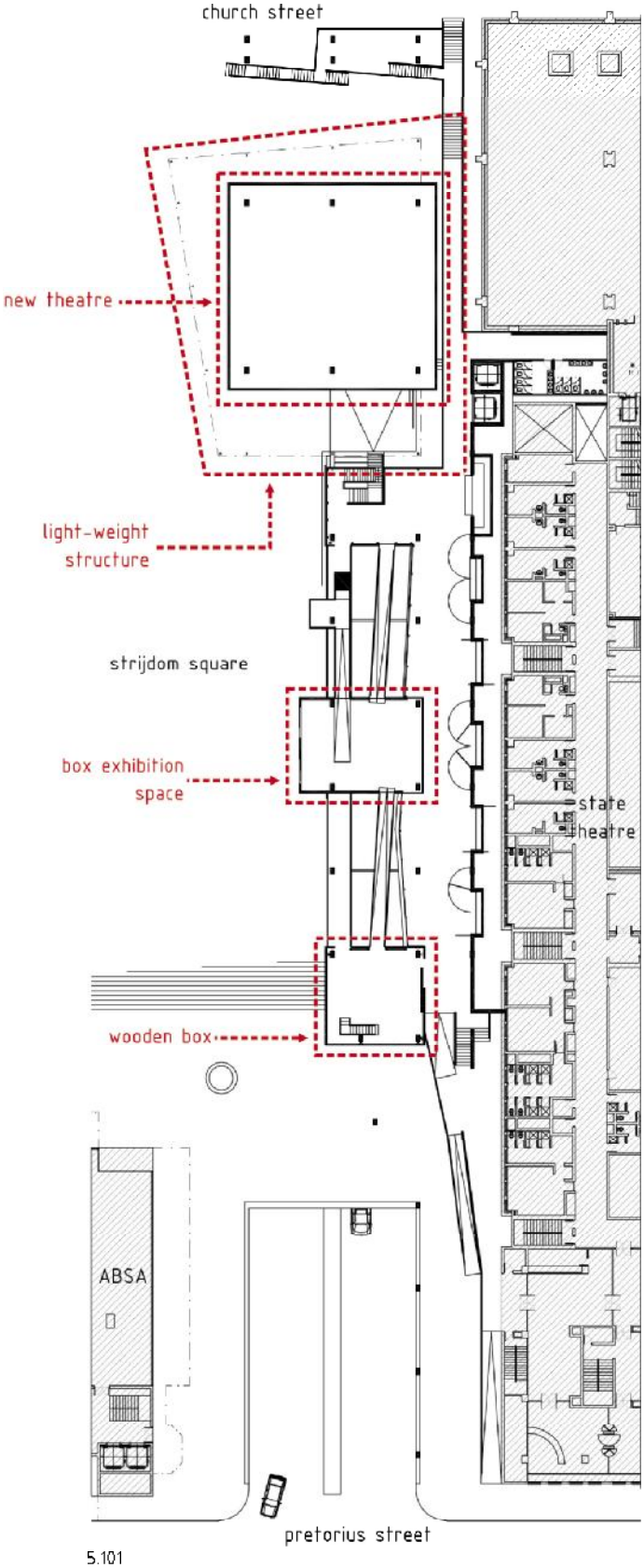

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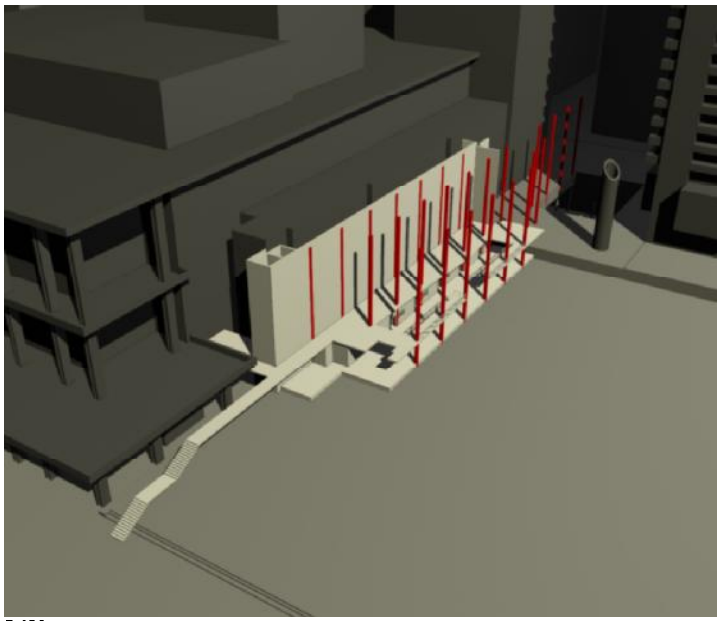
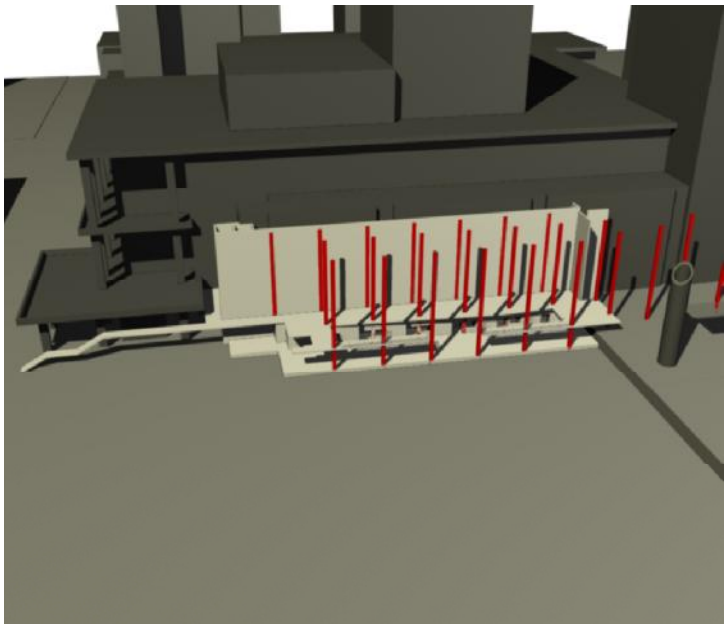


5.102

Fig 5.102 north-west view of column grid creating the colonnade
Fig 5.103 plan view of column grid
Fig 5.104 elevated western view of colonnade
Fig 5.105 elevated northern view of colonnade

5.103



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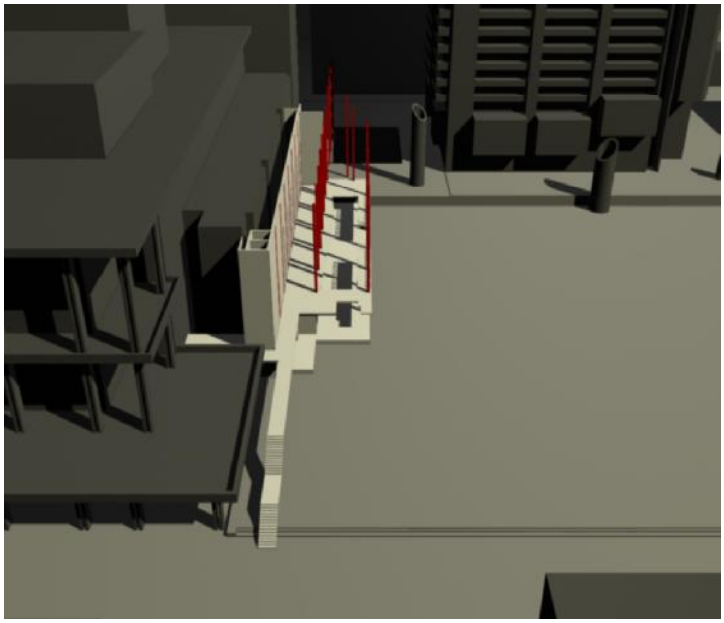

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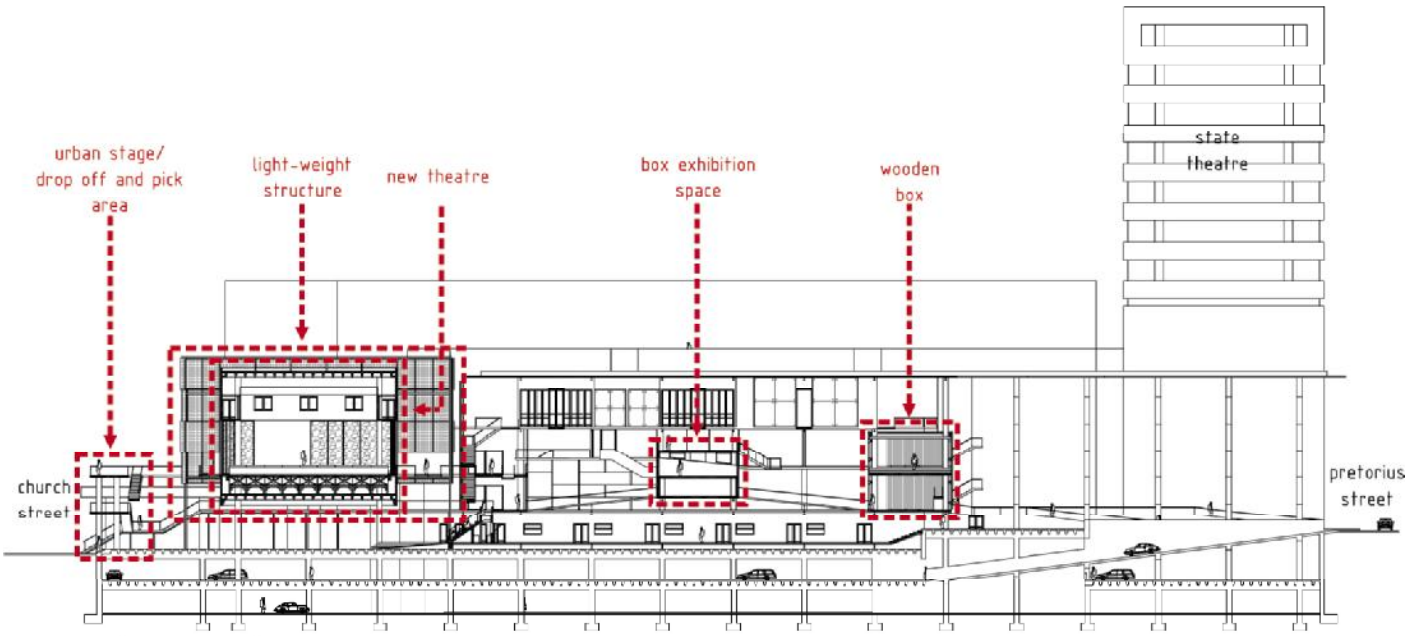


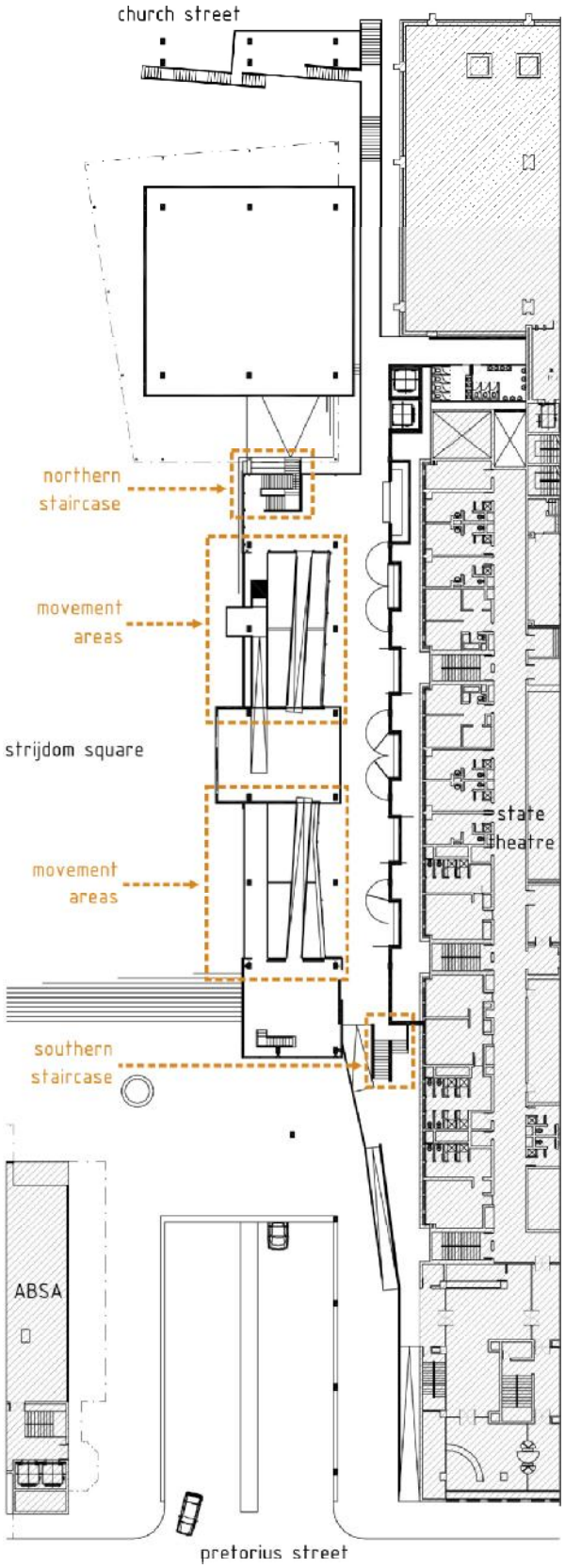
5.106

Fig 5.106 section through symbiotic building indicating the theatre and isolated exhibition spaces as in Fig 5.91
Fig 5.107 first floor plan indicating the movement areas on the outer edge of the building and northern & southern staircases
Fig 5.108 first floor plan indicating the still area which will have a skin around it

This creates a panel that can display in different positions. The panels can swivel so as to enclose the niche which can be locked over night if valuable art is on display. Some of these panels can be removed and hung from the roof space so that art work can be displayed overhead.

Moving northwards through the building, to the left is another exhibition space. It is also a box space but different to the wooden box as it is almost entirely closed. The box is situated on a split level (1,53m above the first floor level) between the first and second floors. It is open to the eastern side which faces onto the first floor area. This space provides an alternative exhibition area as it is slightly removed from the rest of the building. On the first floor you are visually connected to the space and can hear those in it. All that separates a person from the area is a balustrade. Even though a person can see into the space, it can only be accessed from one of the two ramps that enter into the space. Because the ramps are on the exterior of the building, a person must leave the interior space of the exhibition space to get to this enclosed box. From this box another ramp takes you onto the second floor, where the theatre is located. Inside the box is another split level that responds to the second floor- a food preparation area that is to service entertainment on the second floor.

Below the food preparation level, still in the box space, a more intimate area is created. The rest of box is a double volume and the low floor-to-ceiling (1,95m) lends the space a more intimate atmosphere. It will allow a person of average height access. It is not meant for general access but as an alternative exhibition area within the double volume. Roller-shutter doors are provided to each ramp to control access into the box. The western side of the box has an opening cut into it which is then layered with a steel mesh surface with sliding opening sections. This allows the space to be open through the mornings and midday. As soon as the sun starts to lower in the west, they can be closed for protection.



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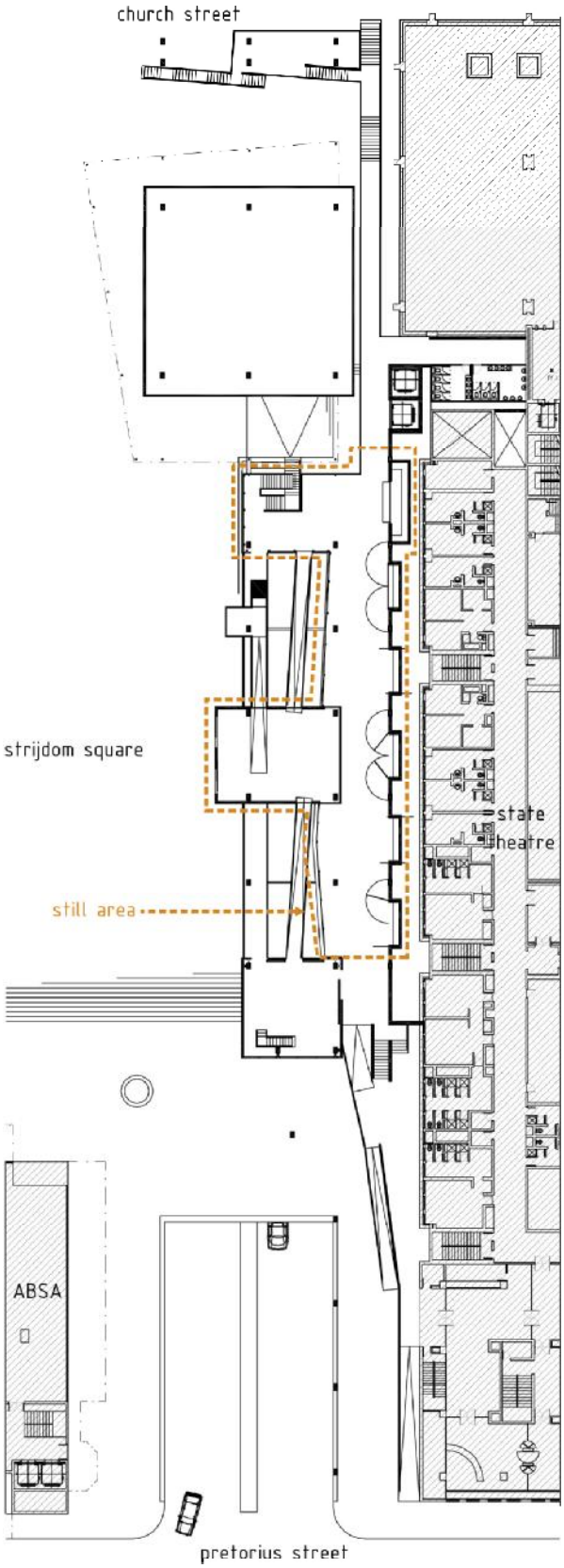
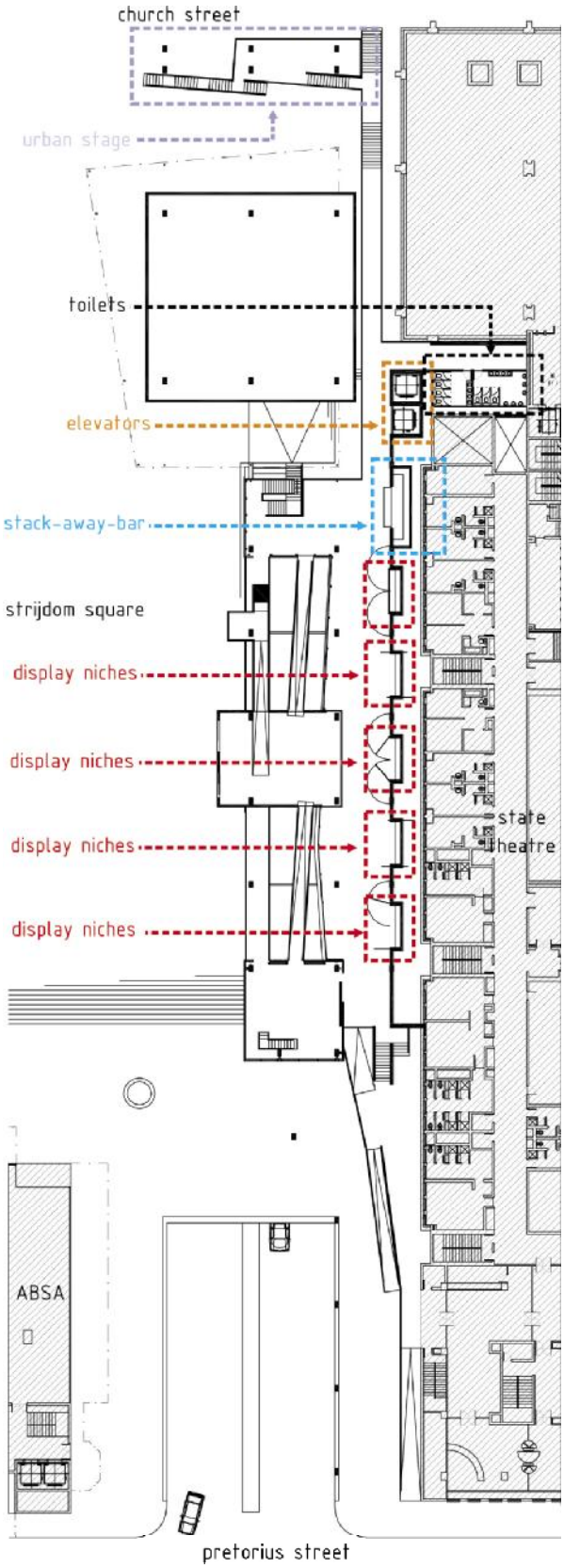


5.108

Moving back to the first floor north in the building you find the last niche inside the service duct wall. It is larger than the other niches and forms a stack-away-bar. Depending on the function occurring in the building, it may be an exhibition, theatre show or both, allowing people to mill through the spaces and levels. The bar creates flexibility in the use of spaces in the building. It is duplicated on the second floor as well.
Public and service elevators move from the two basement levels up to the third floor. Public toilets are situated on the first floor. They are meant for all the users of the building including people coming to the theatre. Continuing north one moves past the State Theatre balcony, on a higher level. To the north of the building is a staircase which takes you down to ground floor (Strijdom Square level) and you can either move east-west into Church Street or across Church Street to Sammy Marks Square.

Lastly, a platform accessed by a staircase that flanks the theatre. This platform ends the building and contains the theatre. This platform becomes an urban stage from where announcements can be made or performances can be staged- ideal for Sammy Marks Square. The staircase runs down to the ground floor and is entered from the western side, following the flow of pedestrian movement in Church Street. Under the urban stage is a pick-up/ drop off point. According to the GAPP Architects urban inner city framework, a "tram-type" transport system is to be installed. The concept of this framework is to pedestrianize Paul Kruger Street from Pretoria Train Station up until Church Square. Church Street east of Church Square is already pedestrianized, up until Prinsloo Street (see Fig 2.15). A public transport system will run back and forth along the pedestrian routes. Drop-off and pick-up points will need to be designed and Strijdom Square is an ideal area for one such point. It places people in what will become the theatre precinct area and into a public space. The activity of a public space allows people entering into the space to feel comfortable, not isolated. Public spaces are also ideal areas from where people can orient themselves. Inside the drop off/pick up area an information area is provided for tourists and people not from the city.

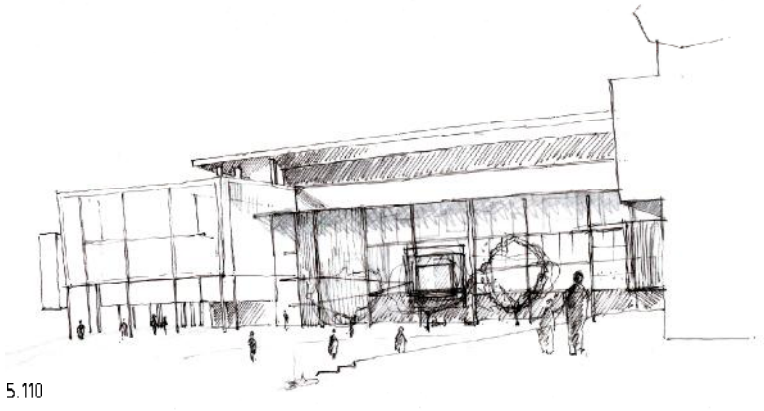


5.109

For example, the spaces could be used as following:

The theatre is being used for a show. At the same time a local artist is exhibiting. Working together, the artist and producers of the play use each other's activities to enhance their respective events. People arriving at the theatre may park their cars in the basement. They will take the elevator up to the ground floor. Instead of arriving within a foyer space, as would be the case if they were using the State Theatre, the people are presented with Strijdom Square. This allows them to experience the city fabric and they are not hidden away from the outside world. From here the people will use the staircase up onto the first floor. The bar is open and serving drinks while waiters walk around with snacks fetched from the food preparation area in the split level box. On the first floor, the artist's work is on display. People are caught by the artwork and move to see more. Access to the staircase entering the theatre has been denied so that people are forced to use the ramps into the box on the split level. This encourages movement outside the exhibition envelope to the outside ramps. Along the ramp, views of the city and of Strijdom Square open up providing different vantage points to the ground floor. Moving into the box space people are drawn back into the interior, though somewhat isolated from the rest of the building. More of the artist's work is on display, the double volume space creating a different atmosphere. They then realize that the east side of the box is open allowing them to re-connect with the first floor. The west facade of the building is also open, presenting more views of the city (if after dark, the western sun has set, allowing the sliding panels to be open). From there they move up another ramp, taking them outside the building once more. At the ramp's landing a viewing platform is presented. A person can pause there gaining a more intimate view of the city while others continue to walk by. Continuing up, one will reach the second floor on which the theatre is located. On this landing area more of the artist's work is displayed. Then you will move into the light-weight structure around the theatre and be able to gain views of the theatre's interior through open sections of the structure while waiting to move to your seat. During intermission, because the bar on the second floor is closed, people will have to move back down the same way to the first floor. This creates a continual experience of views level changes and of movement. Theatre viewing has now become a different experience from traditional theatre. All the aspects of the theatre program are now experiential and have been re-programmed. The building can be adjusted in different ways to create varying affects.

Fig 5.109 first floor plan indicating the display niches, elevators, public toilets, and urban



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5.111

Fig 5.110 exterior concept sketch of the building from the south western end of the site

Fig 5.111 interior perspective sketch of the first floor exhibition space indicating the polycarbonate sheeting. also showing possible use of the space and the ramp system up to the theatre.

Second Floor (semi-private)

The second floor can be accessed from the ramp inside the box area or via the elevators and staircases. The second floor provides a continuation of the exhibition space on the first floor. The theatre is located on the second floor. Across from the theatre are the public toilets. Past the toilets is a staircase that goes up a level onto the third floor to the theatre storage. This storage area can also be accessed from the service lift. The service lift allows larger and heavier props or objects to be taken down onto the theatre level. The entertainment/exhibition area on the second floor is on a higher level than that of the theatre. A staircase is provided up onto this level. The floor slopes down in a ramp section as you move south through the level to get back onto the same level as the theatre. This is done to provide the exhibition space on the first floor with different volumes and separating the entertainment level slightly from the theatre space. The entertainment level is intended to be a continued exhibition space, but also hosting a cocktail bar or informal club with sit-down areas. This creates a space where people can sit down, eat and drink prior to and after the theatre. Speeches, auctions or similar events can also occur here.

A section of the first floor is cut out along the service duct wall creating a double volume area to the first floor. This allows a visual connection to the exhibition area below. The food preparation area, on the split level below the second floor can be accessed from a staircase on the second floor level. The staircase, unlike the rest of the staircases and ramps, which have steel balustrades, is designed with a solid balustrade. This conceals any food or dink spilled by waiters when on the staircase. The top of the exhibition "box" can also be accessed from a staircase on the southern side. This area is to be used as an outside lounging area for the cocktail bar/informal club. It is on the exterior skin of the second floor space, so exposed to the elements. The vantage point allows clear views out onto the city and the square. The "wooden box" second floor space is also on this level. The staircase takes you up or down through the wooden box allowing the flow of exhibition to continue between floors.

The northern end of the second floor, past the theatre moves down a staircase to the urban stage. From this area, access to the State Theatre is to be provided by a staircase onto the State Theatre balcony. As the symbiotic building is an extension of the State Theatre and will thus be run by the State Theatre, access to the respective buildings must occur. Users of the State Theatre and the symbiotic building can move through each of the buildings. This improves the layering of the State Theatre. The inclusion of the symbiotic building makes the State Theatre more accessible. If the foyer spaces of the State Theatre are opened up to allow people to move from one building to the other, the accessibility of the State Theatre will be improved. The entrance to the State Theatre contains beautiful murals and artwork and has a style of the past that can be shared and become available for the public to see, demolishing the stigma of the State Theatre only being used for the elite few.

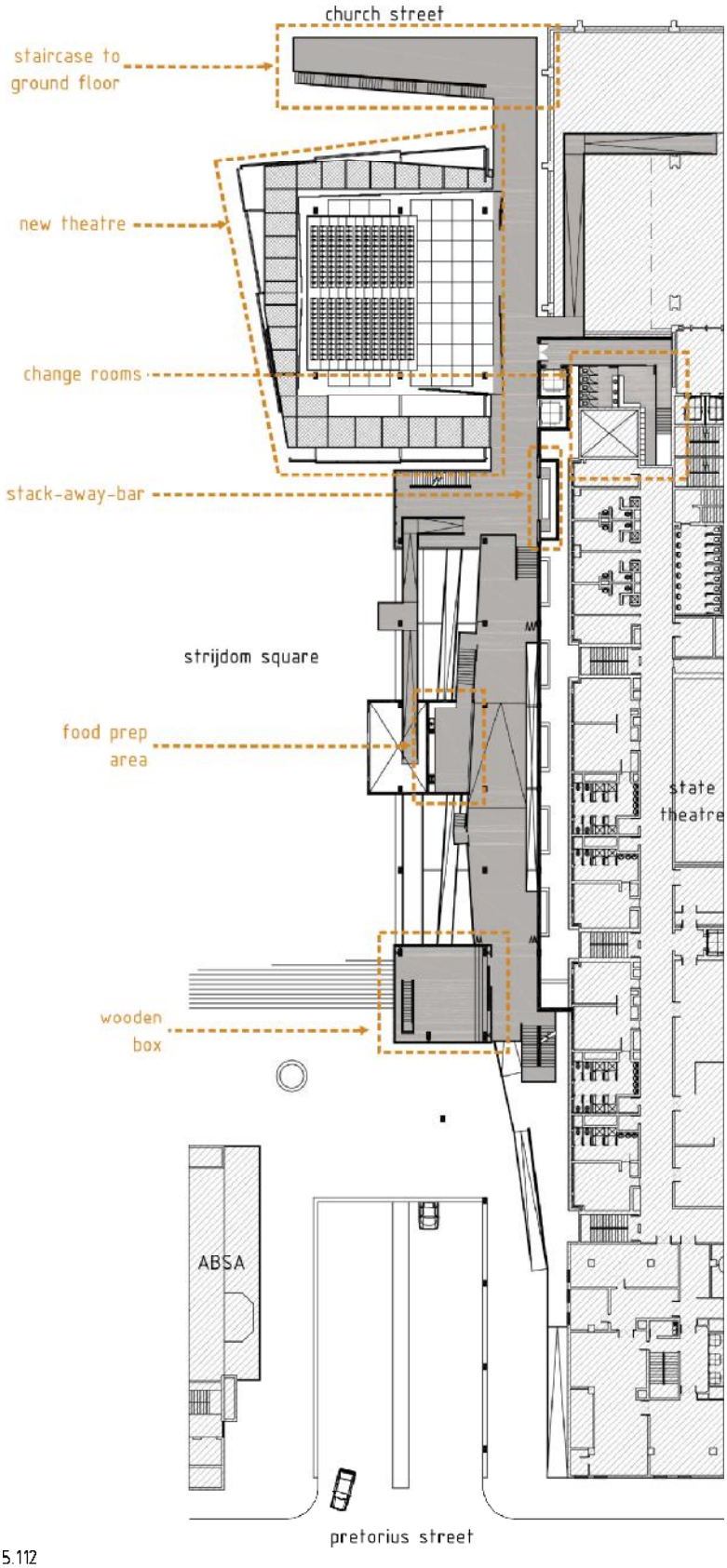
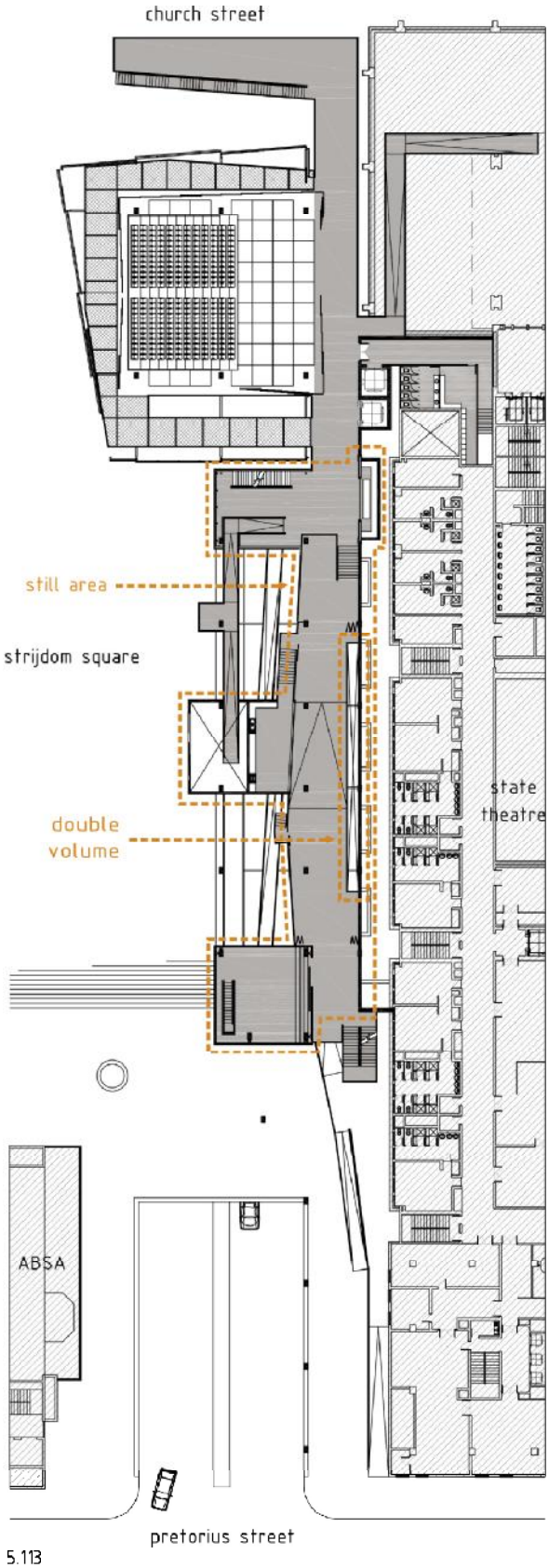


Fig 5.112 second floor plan indicating various space
Fig 5.13 second floor plan indicating still spaces
Fig 5.14 second floor plan indicating movement areas

5.112



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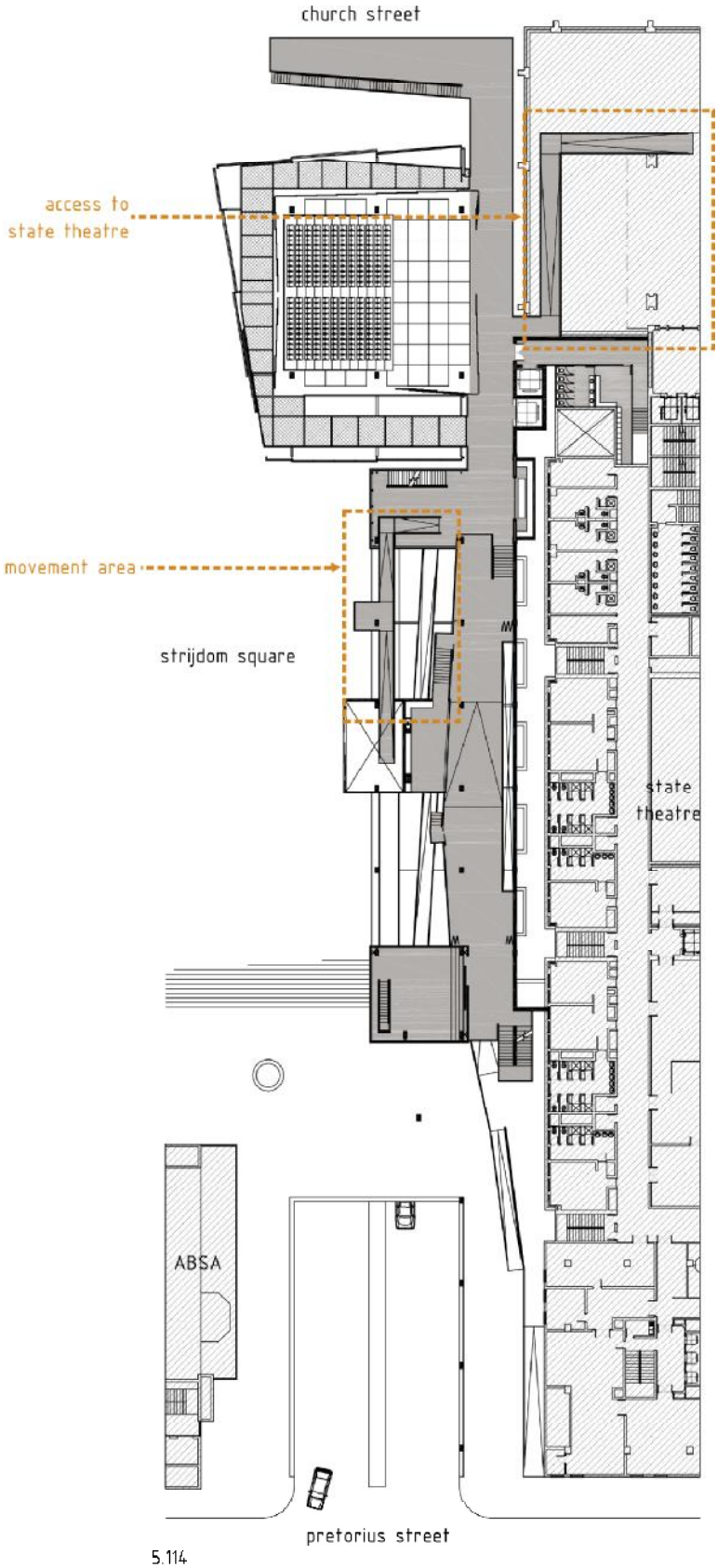

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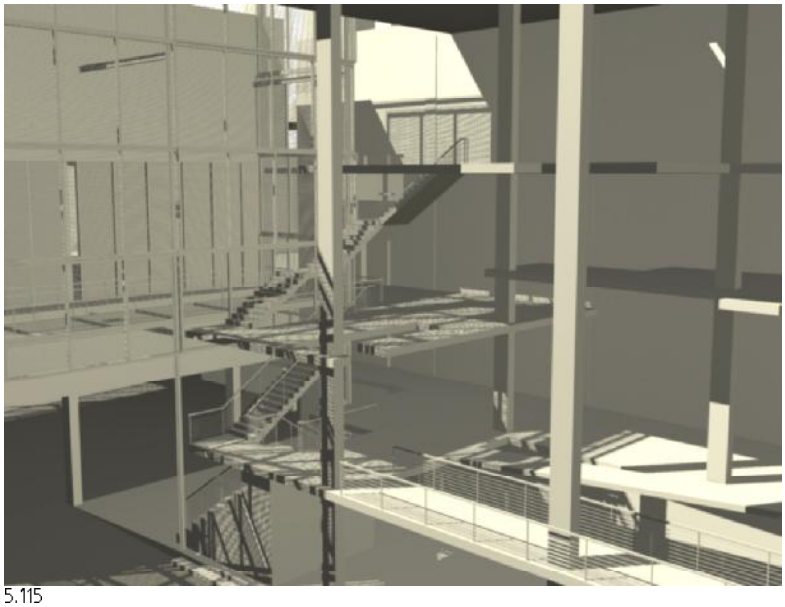
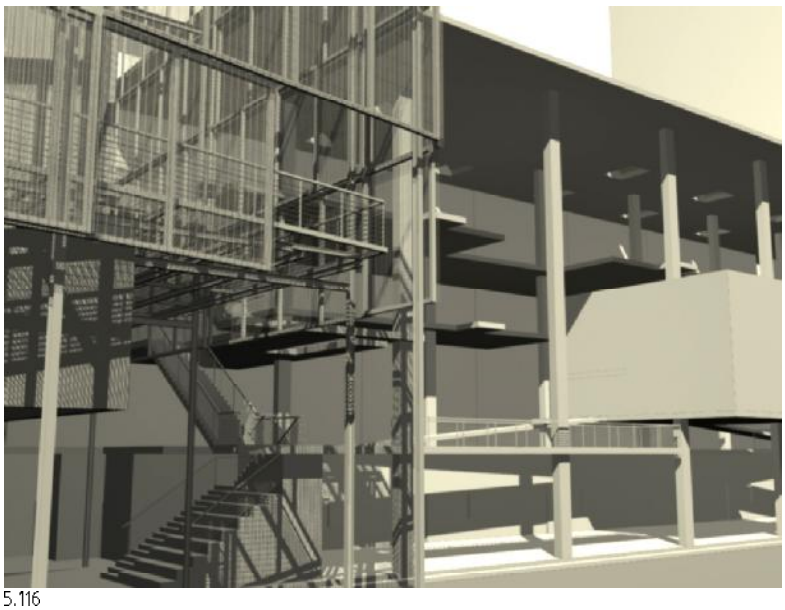


5.115

Fig 5.115 3D image of theatre, staircase and ramps
Fig 5.116 3D image of theatre and building looking from the north west
Fig 5.117 third floor plan indicating usable spaces

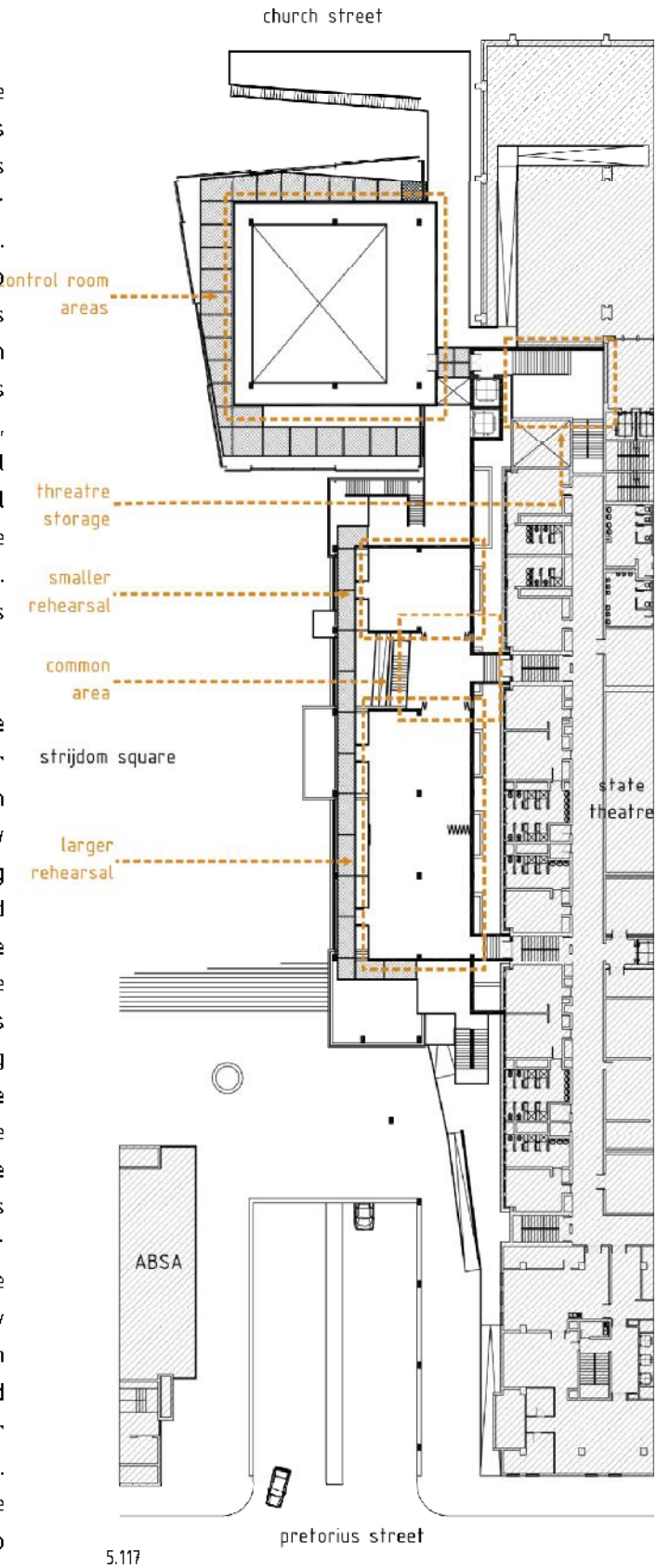


5.116

Third Floor (private level)

The third floor is the private level due the function of the space. The third floor is to be occupied by rehearsal spaces for either dance or theatre. As the new theatre provides a new look at how theatres can function, a new look at how rehearsal spaces can be looked at in the same way. Rehearsal spaces, like in the State Theatre, are hidden deep within buildings and they are never seen by other students or the public. Just as with Herzog and de Meuron's Laban Centre for Movement and Dance, where the dance studios were transparent, allowing the public to view into this world, so too is the same concept implemented for the rehearsal spaces in the symbiotic building (BUILDING 2002: 34). Rehearsal spaces were allocated to the third floor as it reinforces the connection between the State Theatre and symbiotic building. The symbiotic building, as a new layer into Strijdom Square, is to increase the accessibility of the State Theatre.

Because the symbiotic building is an extension of the State Theatre, placing the rehearsal spaces on the third floor and exposing them to the public actually draws once hidden activities in the State Theatre out into the public. A new rehearsal space has not been created but rather, the existing rehearsal spaces have been exposed. The attention received by human activities was illustrated by observations around the expansion of a department store in Copenhagen. While the excavation and pouring of foundations were in progress, it was possible to see into the building site through two gates facing the pedestrian walkway. Throughout this period, more people stopped to watch the work in progress on the building site than those stopping in front of the display windows of the fifteen department stores. In this case, it was the workers and their work, not the building site itself that was the object of interest (GEHL 1987: 31). As Gehl has noted, people are fascinated by the sight of others, partaking in an activity that they are not used to seeing. The rehearsal spaces on the third floor will be glazed allowing people to look in and the performers to see out. As they are on the third floor it will not be a complete invasion of the space by the public. The rehearsal spaces will have a physical connection to the State Theatre. Access is gained via enclosed bridges into



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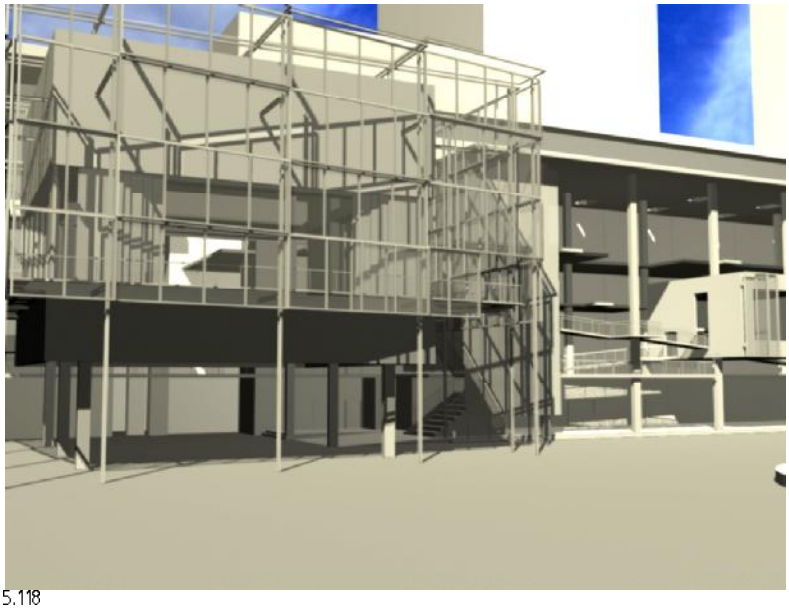

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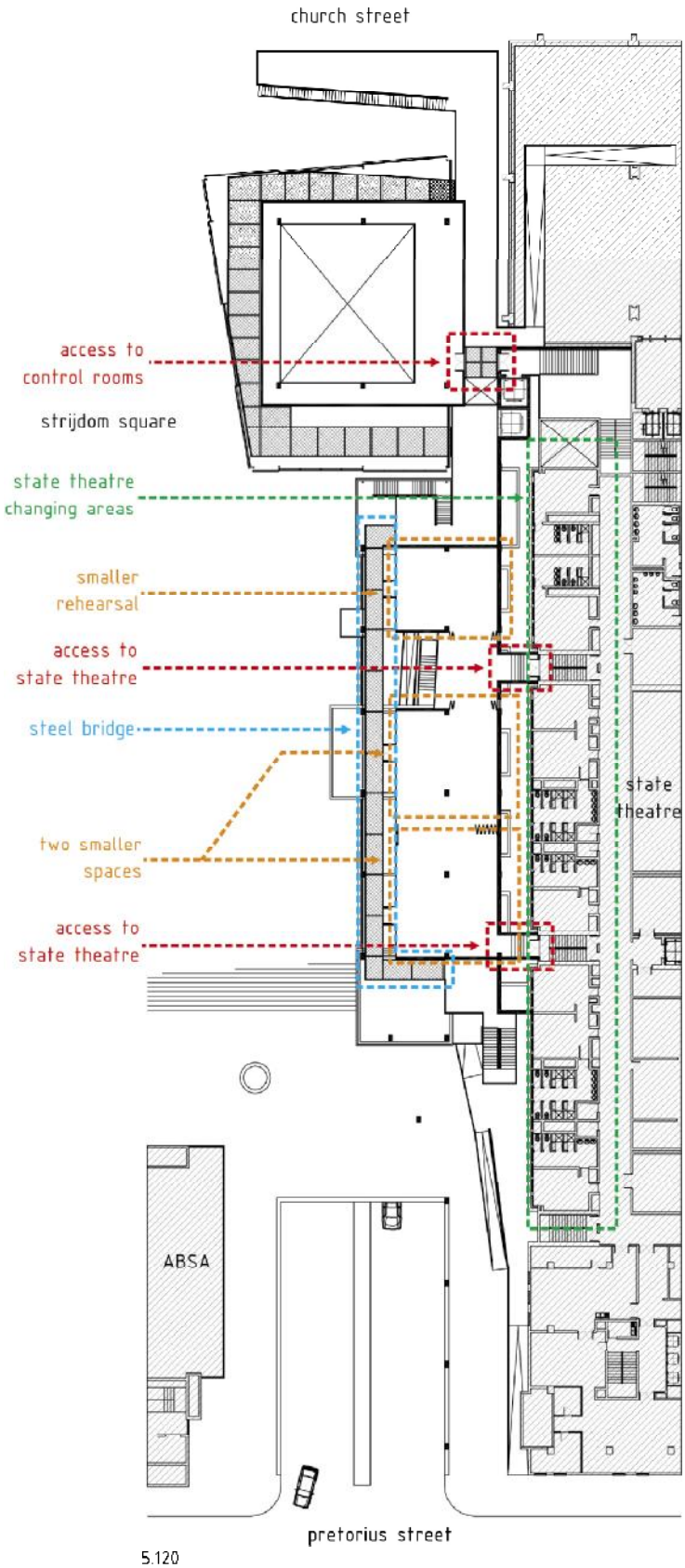
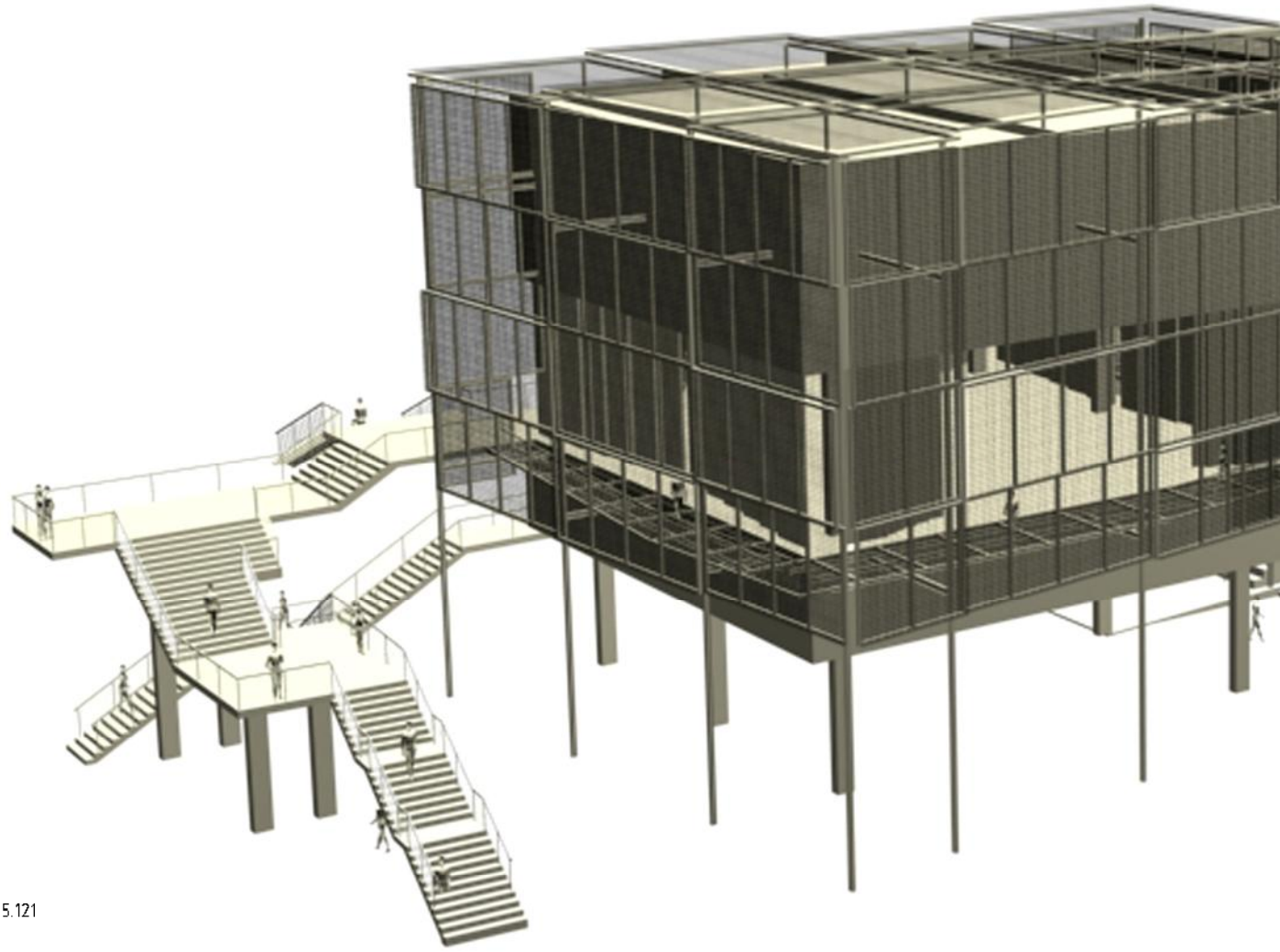
the existing staircases on the western facade of the State Theatre. This access point arrives on a split level of the staircase and movement up or down is possible. The rehearsal space is not provided with change rooms or ablutions as these are available in the State Theatre in areas adjoining the symbiotic building. Movement into these spaces is mostly via the State Theatre; however access from the symbiotic building is also available. The rehearsal spaces are entered from the symbiotic building from a steel bridge running along the western edge. There are two rehearsal spaces, one large one small. Between the two is a common area from where students enter or exit the State Theatre. This shared area is a place where bags can be left and things stored. There are two bridges into the State Theatre, one in each rehearsal space. The common area separates the rehearsal spaces with sliding stacker doors. The two spaces can thus be combined as a larger rehearsal space. Sliding-folding doors can also split the larger rehearsal space into two smaller areas.



5.120

Fig 5.118 3D image of theatre's steel mesh
Fig 5.119 3D image of building from the south western side of the site
Fig 5.120 third floor plan indicating access to the State Theatre. also shown is the steel bridge access to the rehearsal spaces and how the larger rehearsal space can be divided. plan indicates the State Theatre's change rooms
Fig 5.121 isolated elevated north-western 3D image view of the symbiotic building
Fig 5.122 isolated elevated south-western 3D image view of the symbiotic building



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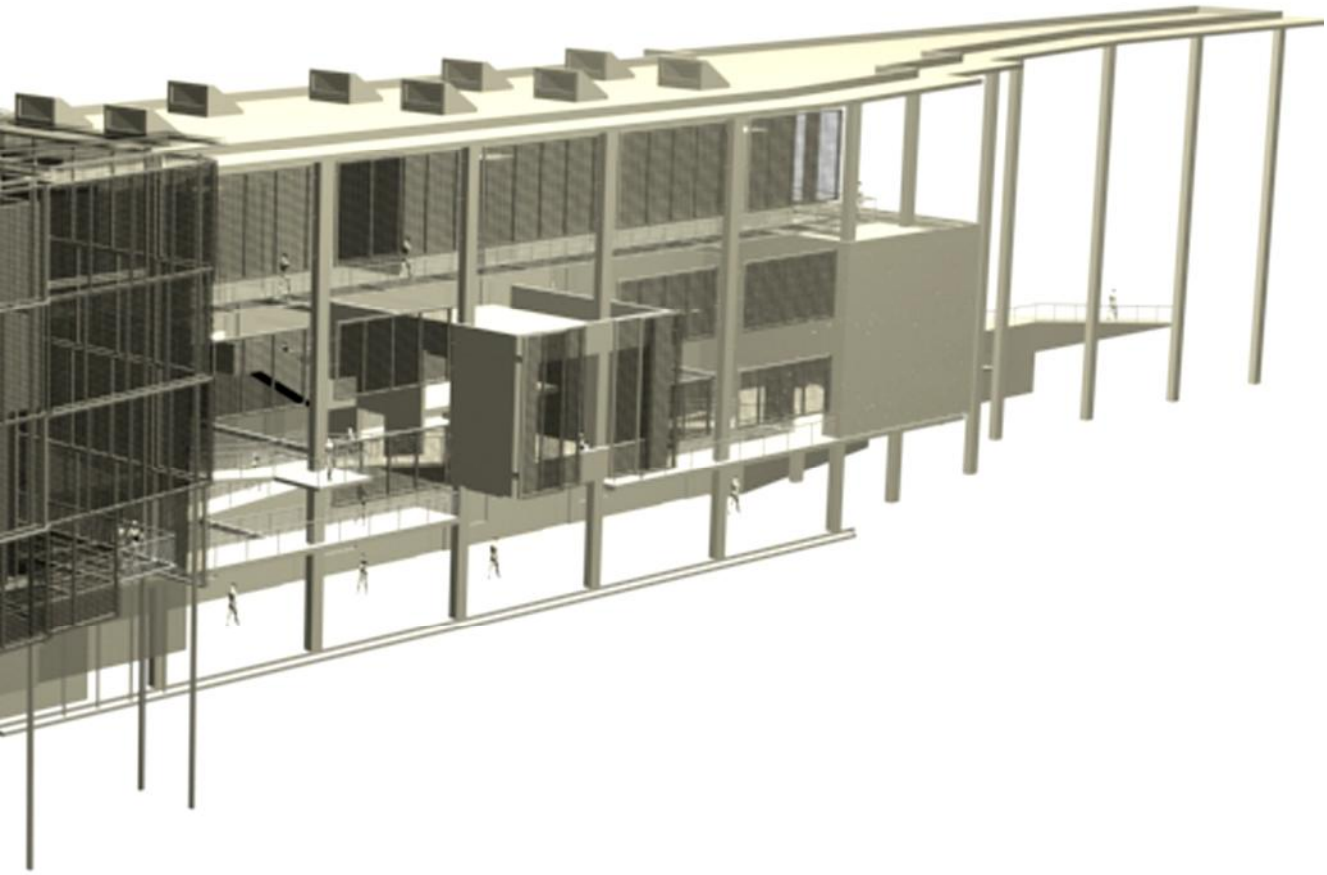

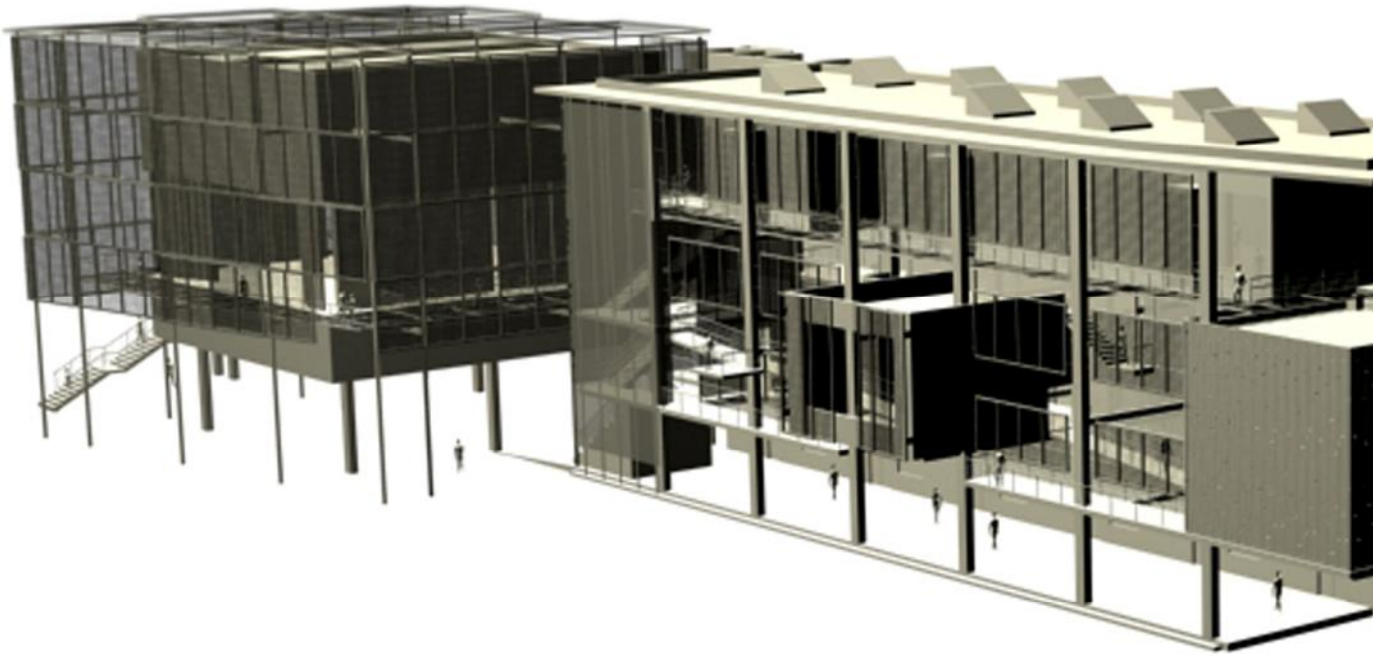

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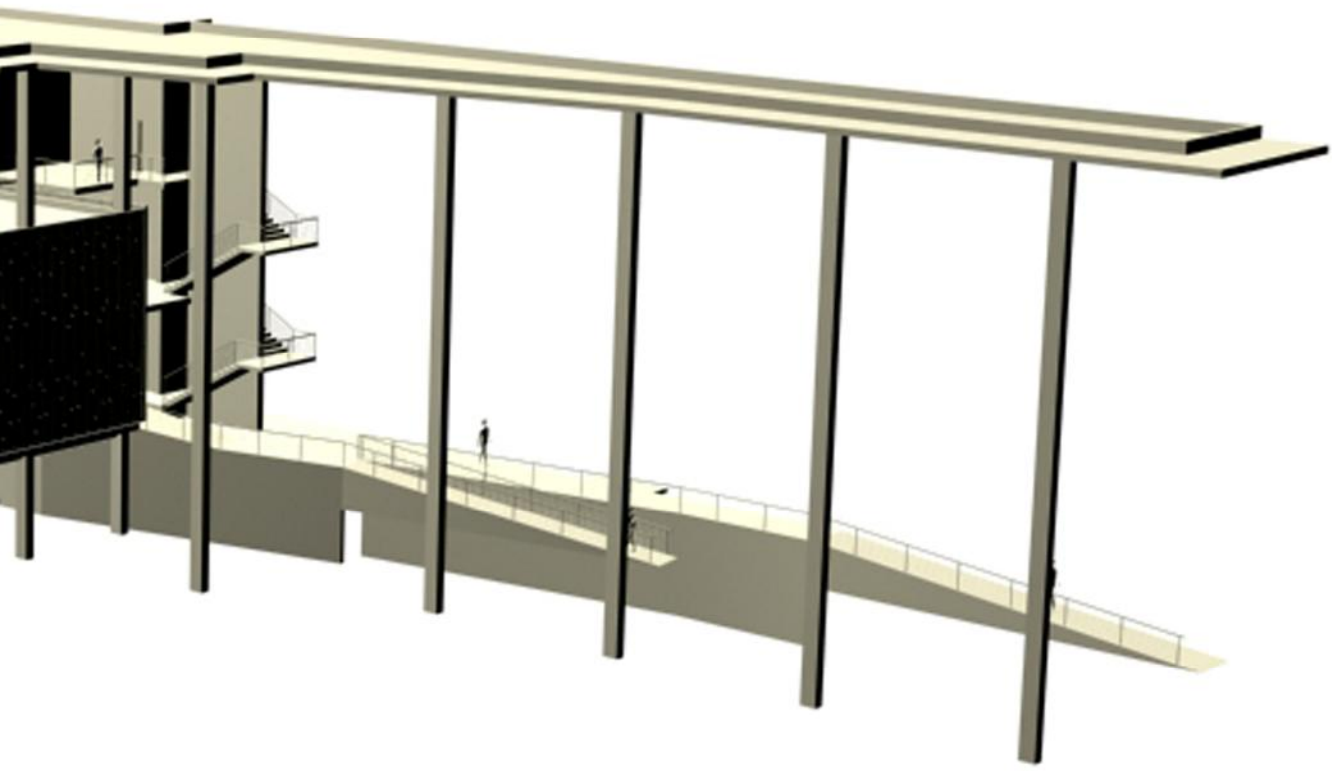

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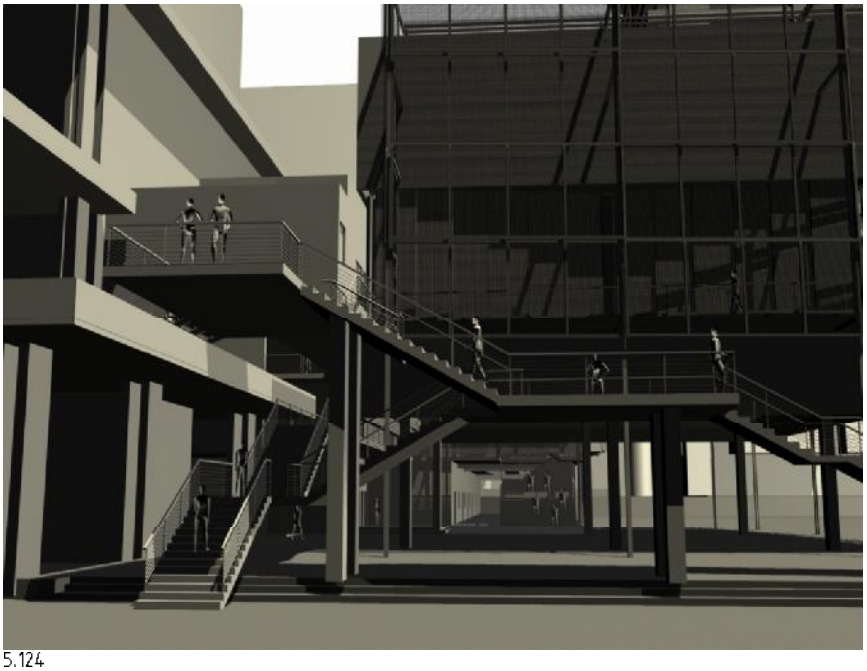

5.124

Fig 5.123 photo looking south along western facade of State Theatre

Fig 5.124 3D computer generated image of what Fig 5.123 will look like after symbiotic building is inserted into space

5.125

Fig 5.125 photo looking at western facade of State Theatre

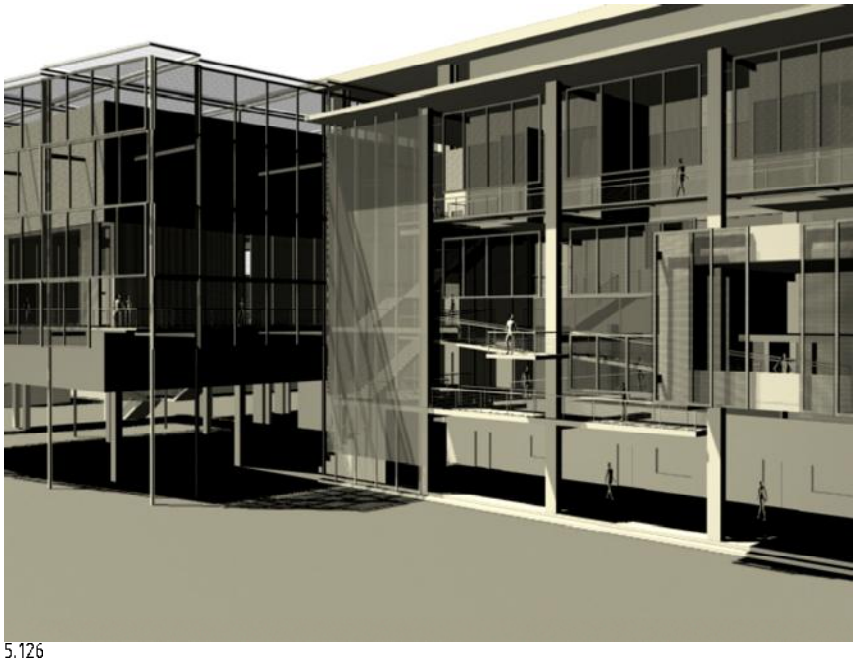

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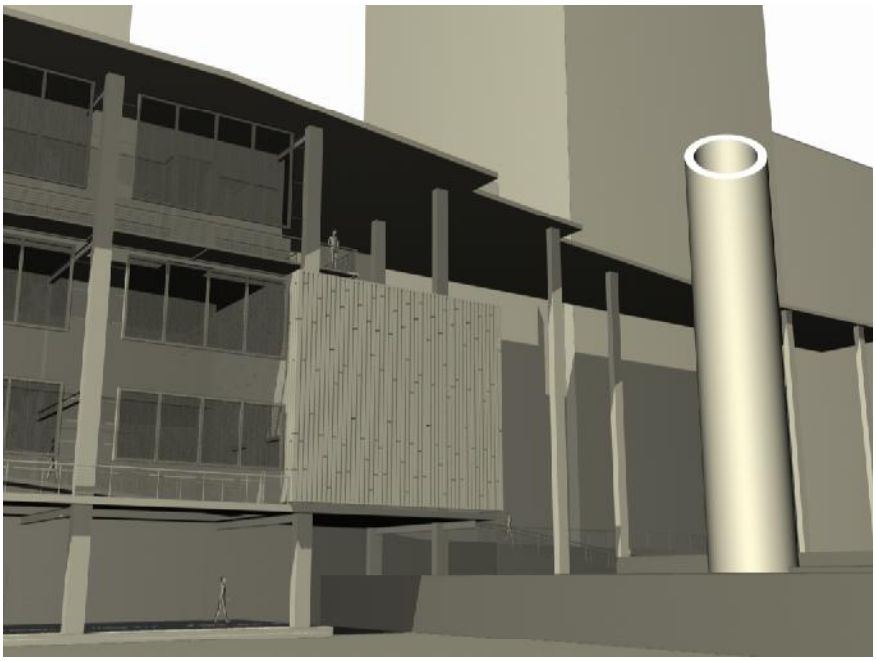
Fig 5.126 3D computer generated image of what Fig 5.125 will look like after symbiotic building is inserted into space

5.127



5.128

Fig 5.127 photo looking along western facade of State Theatre

Fig 5.128 3D computer generated image of what Fig 5.127 will look like after symbiotic building is inserted into space

5.129

Fig 5.129 photo looking at western facade of State Theatre

Fig 5.130 3D computer generated image of what Fig 5.129 will look like after symbiotic building is inserted into space

Design of Strijdom Square & Informal Trade Structure along van der Walt Street

The re-design of Strijdom Square and the structure that will come along van der Walt Street will be solved on a conceptual level. The symbiotic building as a is of sufficient size for the architectural dissertation.

Strijdom Square, as a public space is the most important space in this thesis. As mentioned in the introcuction, the architectural intervention on the site is to regenerate and re-activate Strijdom Square, and by doing so, re-program the space. By introducing the symbiotic building on the western façade of the State Theatre, the building is layered, creating interaction between the State Theatre and the square, using the symbiotic building as a transitional space.

The intentions for re-desigring Strijdom Square have already been discussed. The design and design theory will be dealt with from here on. The main issues that need to be dealt with for Strijdom Square are:

- >> Accessibility
- >> Provision of shelter (shading)
- >> Places to walk, stand and sit
- >> Creation of usable spaces

Public spaces allow the coming together of strangers, who seek a comfortable place to pause and either become involved in the activity or become a spectator thereto. Jane Jacobs likens the city sidewalks to a dance, "We may fancifully call it the art form of the city and liken it to a dance – not to a simple-minded precision dance with everyone kicking up at the same time, twirling in unison and bowing off en masse, but to an intricate ballet in which the individual dancers and ensembles all have distinctive parts which miraculously reinforce each other and compose an orderly whole. The ballet of the city sidewalk never repeats itself from place to place, and in any one place is always replete with new improvisations (JACOBS 1961: 60). People are drawn to other people's activity and this creates a magnet for other people to join in.

5.131

5.132

Fig 5.131 photo of public space in Copenhagen of people being entertained by musicians, this in turn attracts more activity

Fig 5.132 side walk cafe in Copenhagen illustrating people's fascination with other people's activity

The square must have access from every possible side. In order to deal with the level difference between the ABSA building platform and that of van der Walt Street, the concept of a false floor was initially explored. However, this was replaced with stairs which move down into the square from the higher levels, allowing access where needed. Providing a structure along van der Walt will not merely improves facilities for the informal traders. In many cases, when infrastructure for informal traders is provided, the people tend not to use it. In these cases, either the original flow of users is disturbed or something else has caused the activity to change for the worse. The structure is to create a boundary and a definite edge for the square. As observed by Jane Jacobs "Although buildings should not cut sun from the park–if the object is to encourage full use–the presence of buildings around a park is important in design. They enclose it. They make a definite shape out of the space, so that it appears as an important event in the city scene, a positive feature rather than a non-account leftover. Far from being attracted by indefinite leftovers of land oozing around buildings, people behave if repelled by them"(JACOBS 1961: 116).

To create a defined space outweighs a hesitance to interfere with the van der Walt Street informal traders. This does not mean that the design will destroy their trade. If the right decisions are made, and participation from the traders is encouraged, existing activity can be used and enhanced, benefiting the traders. A structure over the existing pedestrian route along van der Walt will become a colonnade under which the people can walk. Together with the improved access into the square, the informal trader's exposure to pedestrians will be optimized. Most importantly, structure will define the square as an event within the city environment. The spaces the structure creates will allow the traders to set up stalls as they currently do. Additional facilities will be introduced, providing water and electrical points that can encourage diverse activity and trade. This new diversity will benefit the space, the varying products attracting a variety of users at different times. The space thus hosts an intricate sequence of use and users (JACOBS 1961: 106).

All the activity in van der Walt Street will add to the safety of the square. According to Jane Jacobs, stores, bars and restaurants as chief examples, work in several different and complex ways to promote sidewalk safety. Firstly, they give people–both residents and strangers–concrete reasons for using the sidewalks on which these enterprises face. Secondly, they draw people past places which have no attraction for public use in themselves, but which are traveled as routes to somewhere else. This influence does not carry very far geographically, so enterprises must be frequent in a city district if they are to populate with walkers those other stretches of the street that lack public places along the sidewalk. Moreover, there should be many different kinds of enterprise, to give people reasons for crossing paths. Thirdly, shopkeepers and other small businessmen are typically strong proponents of peace and order; broken windows, holdups and nervous customers discourage business. They are great street watchers and sidewalk guardians if present in sufficient numbers. Fourthly, the activity generated by people on errands, or people aiming for food or drink, is itself an attraction to others. (JACOBS 1961: 47).

The staircase from the underground arcade enters into the square below the colonnade. People moving between the Standard Bank Centre and Strijdom Square will be entering or exiting from this point. This will also generate activity. From this staircase, people will either move through the square or along van der Walt Street. Jane Jacobs describes the city sidewalks: "we may fancifully call it the art form of the city and liken it to a dance – not to a simple-minded precision dance with everyone kicking up at the same time, twirling in unison and bowing off en masse, but to an intricate ballet in which the individual dancers and ensembles all have distinctive parts which miraculously reinforce each other and compose an orderly whole. The ballet of the city sidewalk never repeats itself from place to place, and in any one place is always replete with new improvisations (JACOBS 1961: 60)

A staircase will take people down from the ABSA level into the square. This staircase will include deep treads to be used as seating as well as for movement. Trees will be planted along the east-west axis of this staircase. The trees define the threshold of the square and create shade for the staircase.

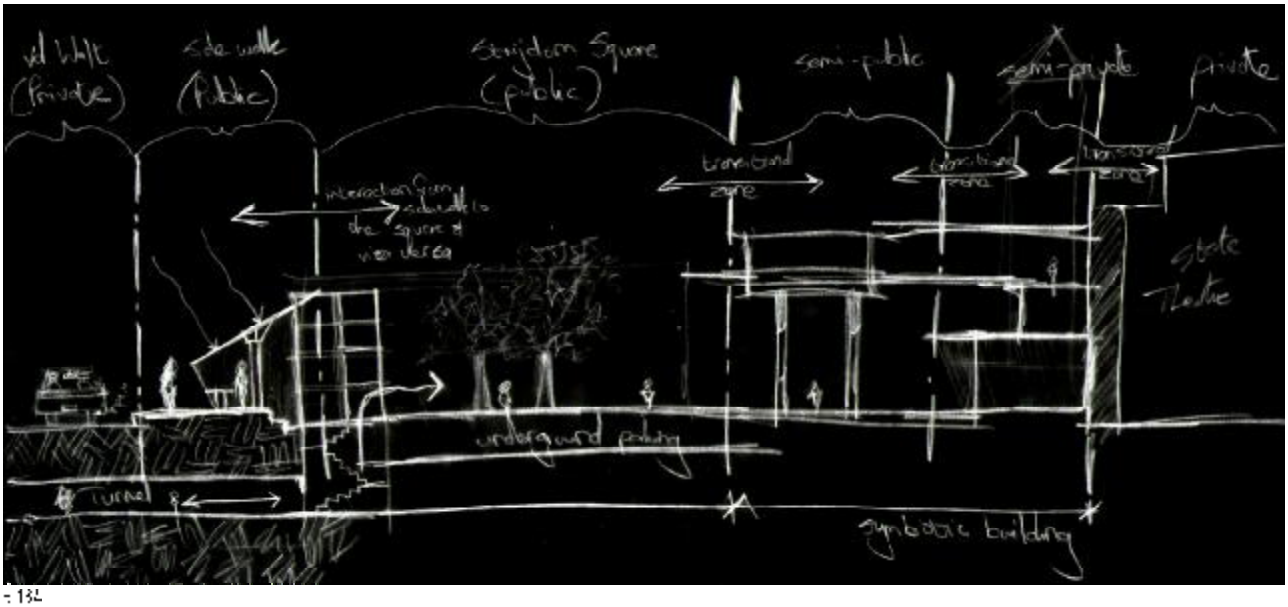
Gehl believes that it is important that all meaningful social activities, intense experiences, and conversations take place where people are standing, sitting, lying down, or walking. One can catch a brief glimpse of others from a car or from a train window, but life takes place on foot. Only "on foot" does a situation function as a meaningful opportunity for contact in which the individual is at ease and able to take time to experience, pause, or become involved (GEHL 1987: 74). What is then needed are places designed for walking, standing and sitting, on other words, places for staying

5.133

Fig 5.133: concept model indicating colonnade along van der Walt Street

Fig 5.134: concept section sketch indicating the various spaces through the site and how symbiotic building will layer the State Theatre

Fig 5.135: public space in Copenhagen indicating how the space allows places for walking, standing and sitting



5.134

It is not enough to create spaces that enable people to come and go. Favourable conditions for movement and lingering within the spaces must also exist, allowing participation in a wide range of social and recreational activities. In this context the quality of the individual segments of the outdoor environment plays a crucial part. Design of the individual spaces and of the details, down to the smallest component, are determining factors (GEHL 1987: 131).

S.135

Walking

Walking is first and foremost a means of transportation providing an informal and uncomplicated possibility for presence in the public environment. One walks to do an errand, to see the surroundings, or just to walk (GEHL 1987: 135). Walking demands space; it is necessary to walk freely without disturbance, without being pushed, and without having to maneuver too much (GEHL 1987: 135). When large spaces are to be crossed, it is usually more comfortable to move along the edge than having to traverse a broad surface or walk through the middle of the space. Movement at the edge makes it possible to simultaneously experience both the large space as well as the small details of the street façade or the spatial boundary along which one walks. Two varied experiences instead of one are provided, and in the case of bad weather, the protection offered by the façade is a further advantage (GEHL 1987: 144).

Standing

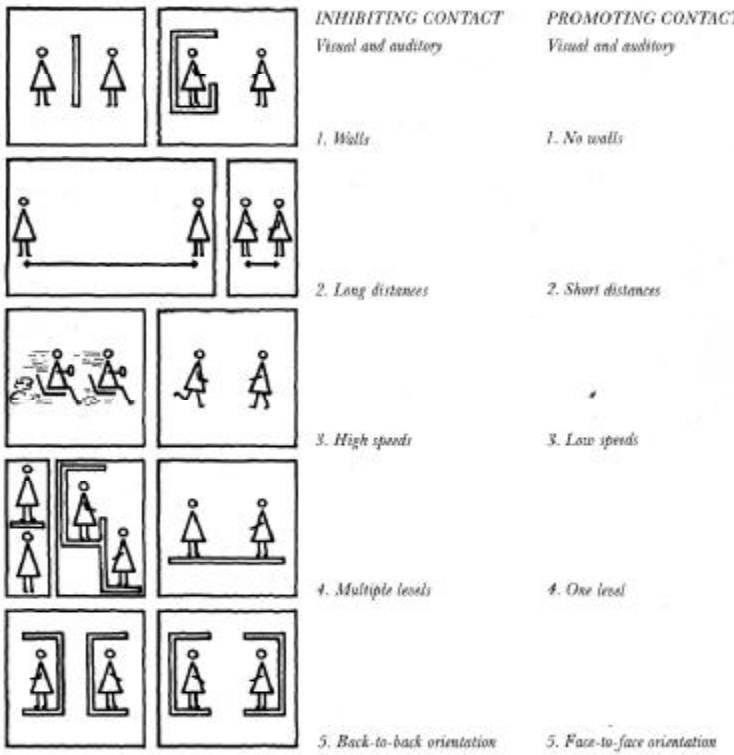
It can thus be concluded that events grow inward, from the edge toward the central space. It can be said that the design of details plays an important role in developing possibilities of staying in public spaces. If spaces are desolate and empty – without benches, columns, plants, trees, and so forth – and if the facades lack interesting details – niches, holes, gateways, stairs, and so on – it is difficult to find places to stop. Good cities for staying out in have irregular facades and a variety of supports in their outdoor spaces (GEHL 1987: 155).

Sitting

Only when opportunities for sitting exist can there be stays of any duration. If these opportunities are few or poor, people just walk by. Stays in public are not only brief, but many attractive and worthwhile outdoor activities are precluded. The existence of good opportunities for sitting paves the way for the numerous activities that become prime attractions in public spaces: eating, reading, sleeping, knitting, playing chess, sunbathing, watching people, talking, and so on (GEHL 1987: 157).

Possibilities and limitations can be manipulated in several ways. Five different means with which architects and planners can promote or prevent isolation and contact are illustrated by Gehl below, see Fig 6.39 (GEHL 1980: 74). Using all these tools, the design evolves.

ig '.' 36 diagram drawn by Jan Gehl indicating how to design spaces that promote or repel contact
ig '.' 37 perspective sketch from the north west of building and how it relates to the square also shown is an impression of how the square will function in relation to the building
ig '.' 38 perspective sketch of the square from the south west



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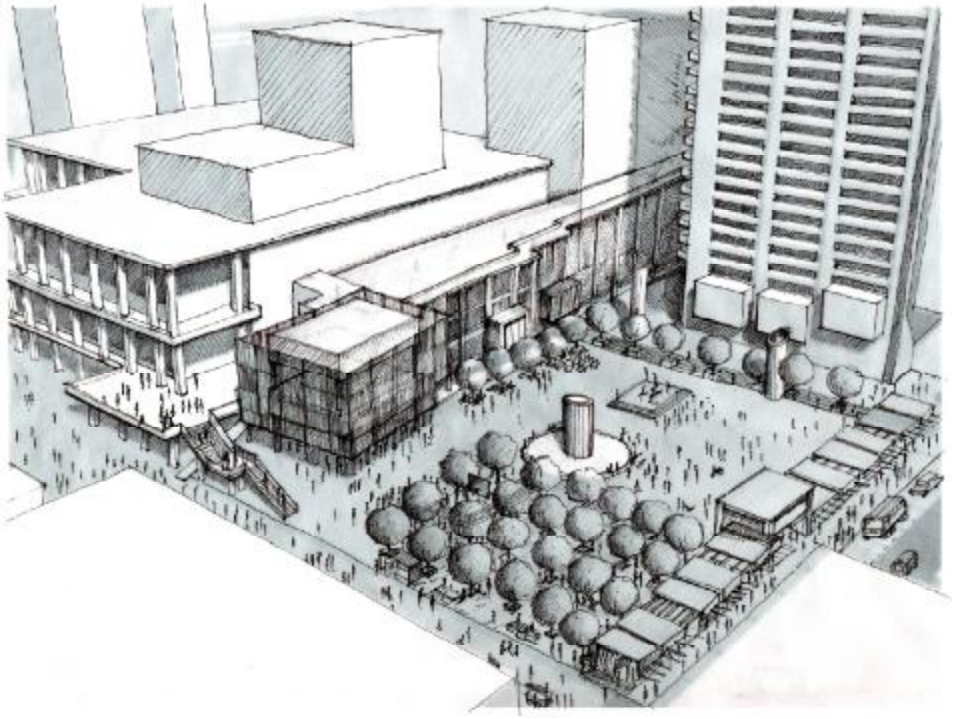

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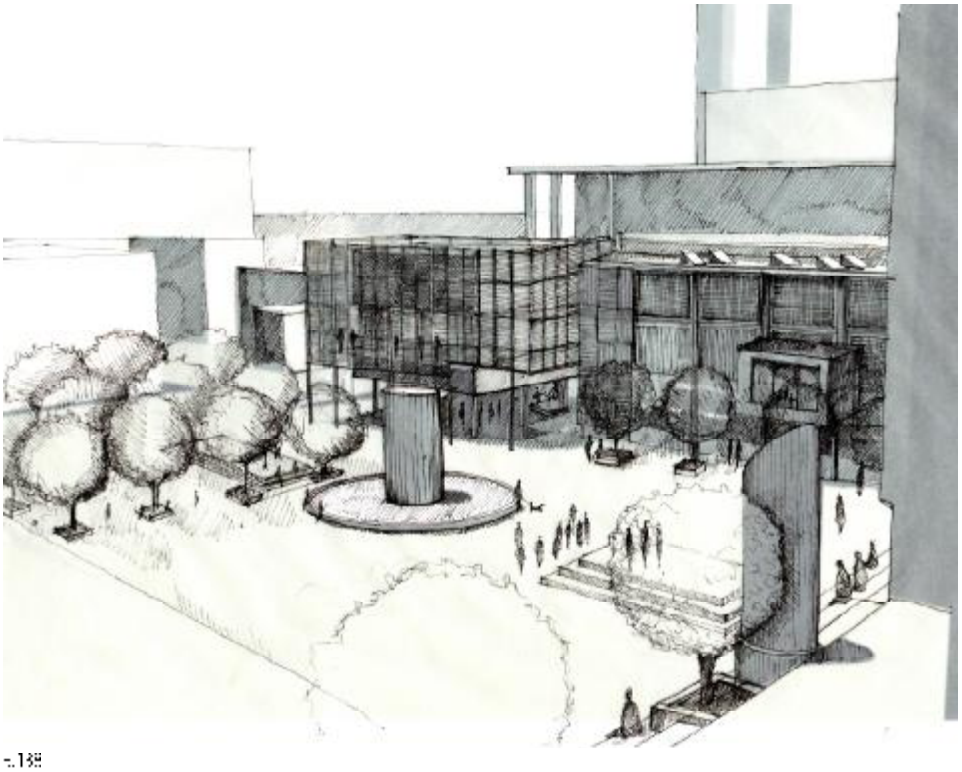

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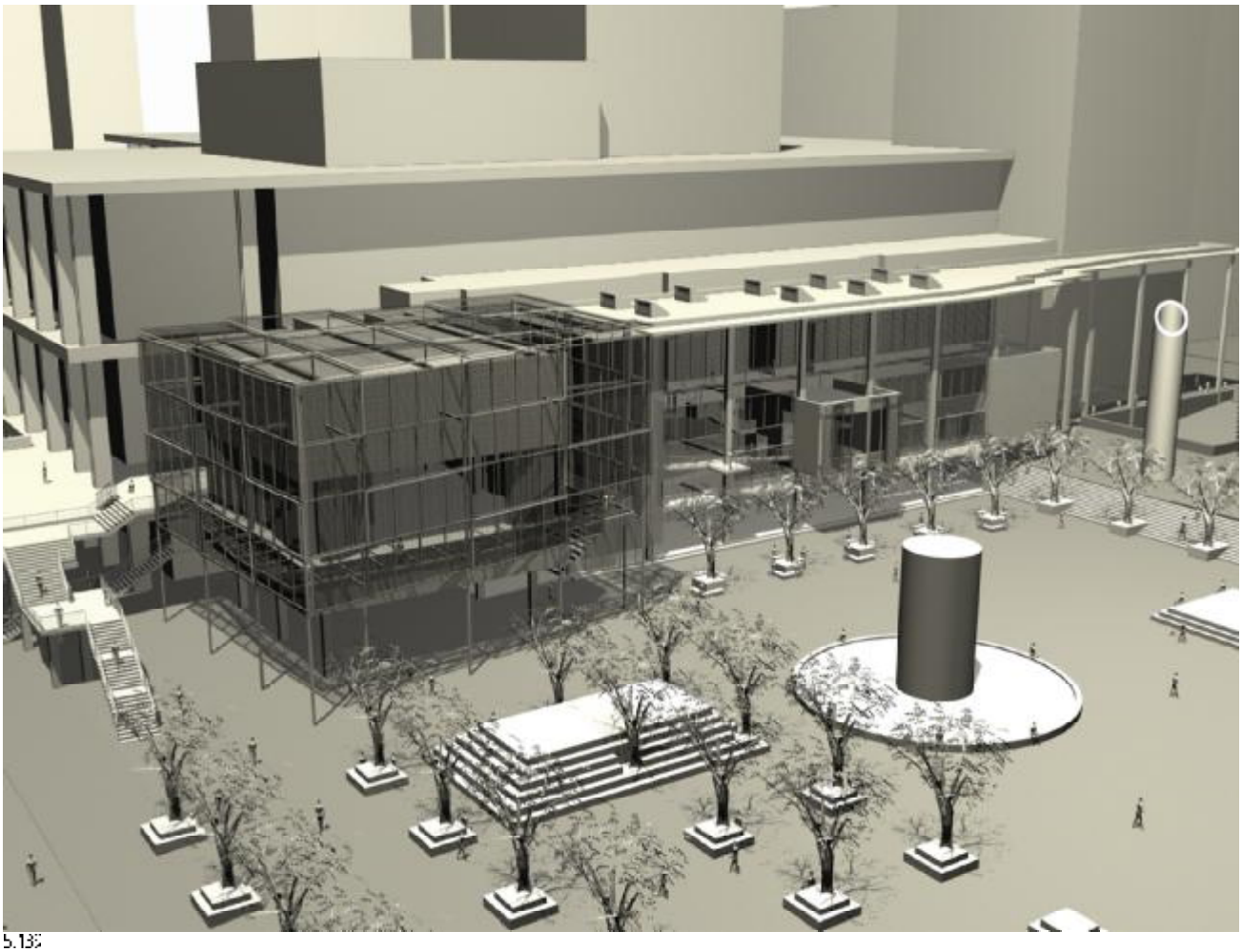

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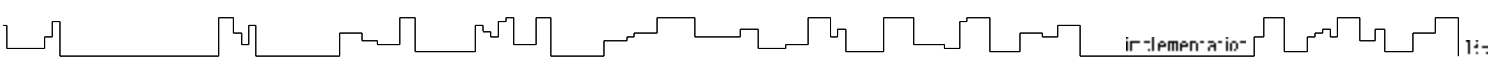
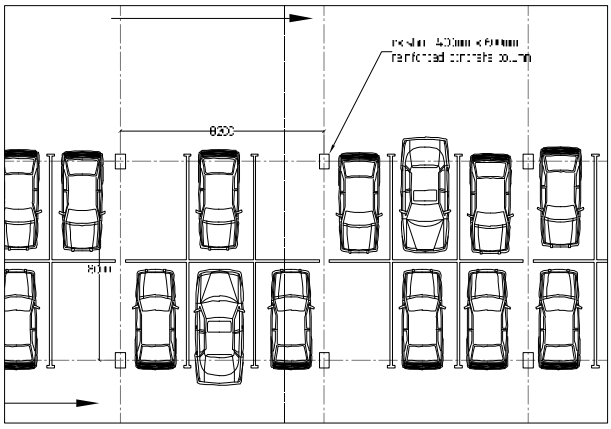


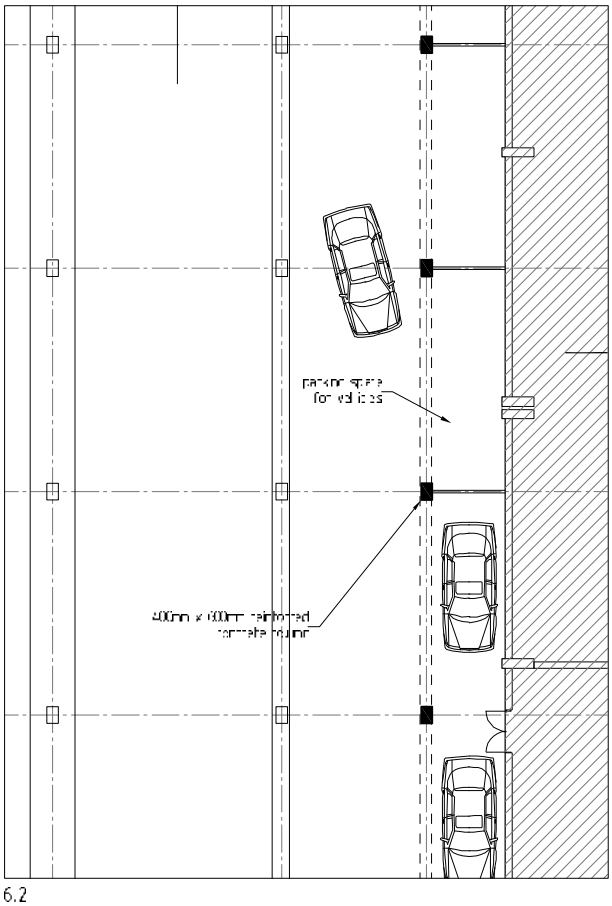
>>technical inquiry

Structural Grid System

One of the more notable aspects that need to be dealt with in the planning of the structure is that the symbiotic building is to be placed on top of an existing parking lot. This requires that the structure respond to the existing column grid system beneath the square level. The structure of the existing two level parking areas consists of 400mm x 600mm concrete columns (with the longer section in a north-south direction) arranged on a 8,0m x 8,2m grid. The design of the symbiotic building's structure was done in consideration to the existing grid system. The structural columns used in the new building are thus the same size as the existing columns. Where columns could not be overlaid the existing grid system, it is ensured that they are on the same line as the grid system below. Provisions are made to reinforce these areas so that the new columns can be supported by means of bracing beams, to be designed by an engineer. A new set of columns had to be inserted next to the State Theatre to support the new service duct (still to be discussed). These columns will extend down through the two basement levels. The new columns will not impede the parking or traffic in the basements as they are in an area marked for parallel parking and the spaces between the columns become parking bays.



6.1



6.2

Fig 6.1 column grid spacings
Fig 6.2 parking spaces under service duct supports
Fig 6.3 diagram indicating the service core of the new structure (orange)

Serviceable area

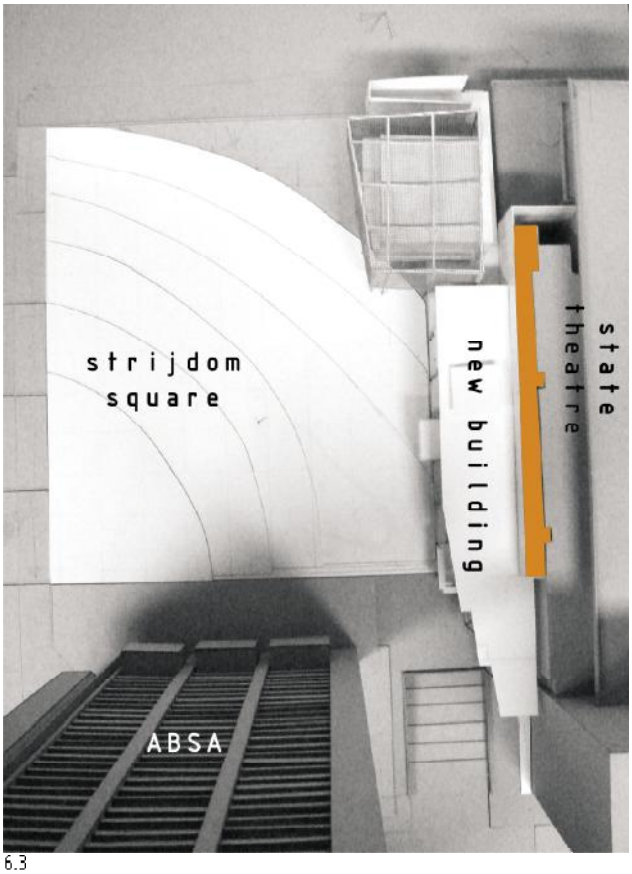
As an extension of the State Theatre, the new building required service access. The serviceable area becomes a large duct between the new building and the existing. This service duct is an open area running along the length of the building for a distance of 62,5m and is 2,5m wide. It is open right up to the top. The area of the State Theatre facing onto the new duct consists of changing areas and bathrooms for the performers. The new duct will block natural sunlight and passive ventilation to this area but this is not a matter of concern. Upon inquiry and a physical inspection it was noted that the windows to these rooms were just below slab height, which meant that the duct would not be impeding views from these rooms. The windows are also tinted with a heavy dark laminate (to deal with western light) so little natural light is allowed into the rooms. These rooms are artificially lit. The windows are also non-opening sections and do not allow any natural air into the rooms. The rooms are mechanically ventilated. From this information, the new service duct would not affect the western façade of the State theatre in any detrimental way.

The new service duct will allow for services such as:

>> Access to the kitchens on the ground floor for deliveries. This is gained via either the service lift on the southern side or through a door on the northern side of the service area.

>> The gas cylinders for the gas stoves in the kitchen will be delivered and stored in the area.

>> This becomes the refuse area for the kitchens. Bins can be kept outside the kitchen back doors. On the day of refuse removal, they can be moved to the southern end of the service duct for storage. This storage area will be mechanically ventilated. The reason for mechanical ventilation is that if it were to be passively ventilated, the smell of the refuse area would enter into the area of the food court and the square. It is rather going to be ventilated out into the duct and up towards the roof area away from habitable areas. From the refuse area, the bins will be taken down the elevators into the underground parking lot. From here they will be wheeled to the service area of the State Theatre and collected with their refuse.



6.3

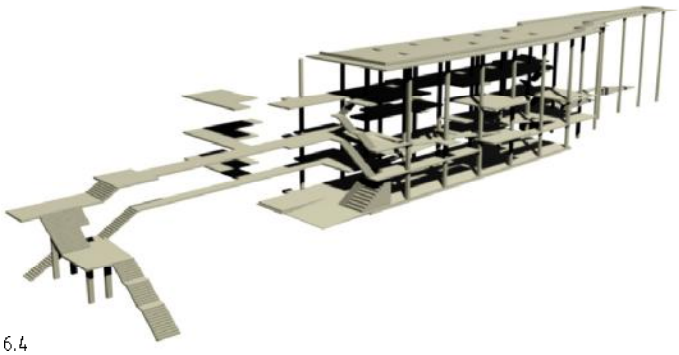
>> All extractor fans for kitchens and similar equipment (i.e. air-conditioning units) that need to be ventilated will be done so into the service duct.

>> All sanitary drainage will collect into OVP's and be drained in the same manner as the existing drainage. The pipes will run under the soffit of the underground parking lot and connect with the main municipal line in Church Street.

>> The western side of the State Theatre is where the bathrooms are located therefore water connection and electricity connection points for the new building will be connected here as well.

Material use in the building

The majority of the structure consists of reinforced concrete columns and slab. Because the spans are relatively long (8,0m and more) supporting steel I-beams are provided between the concrete columns for extra support. In implementing the concept of 'cross-programming' the use of materials had to be of such a nature the events could be carried out to their full potential.

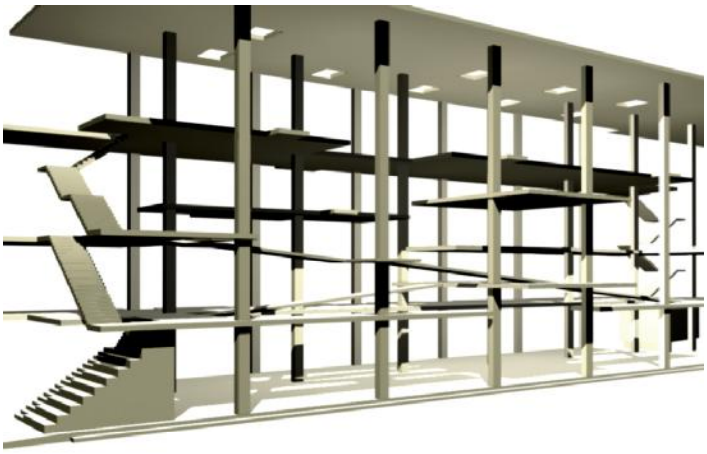


6.4

In order to achieve this, the concrete column and slab structure becomes the skeletal framework supporting these events. Lighter materials become the infill or attachments to the robust skeletal construction. Vertical and horizontal movement throughout is also a reinforced concrete structure. The movement routes are heavier elements as they too become part of the structural 'skeleton'. The framework of the building is to be represented in such a way, that if the lighter elements of the building are to be removed, the core of the building would remain. That essence is the spaces created by the structure as well as the way in which you move through that structure from space to space.

6.5

The light-weight materials start to layer the structure and give depth and complexity to the interior spaces and exterior envelope of the building. The lighter materials create specific spaces and areas within the skeletal make-up. The staircase to the south of the theatre is encompassed in light-weight polycarbonate sheeting. At some levels of the staircase there is only one skin of the sheeting, on other levels two or three. The sheeting consists of panels different sizes colours. Some panels will allow more light through than others. This will create differing atmospheres within the staircase area.



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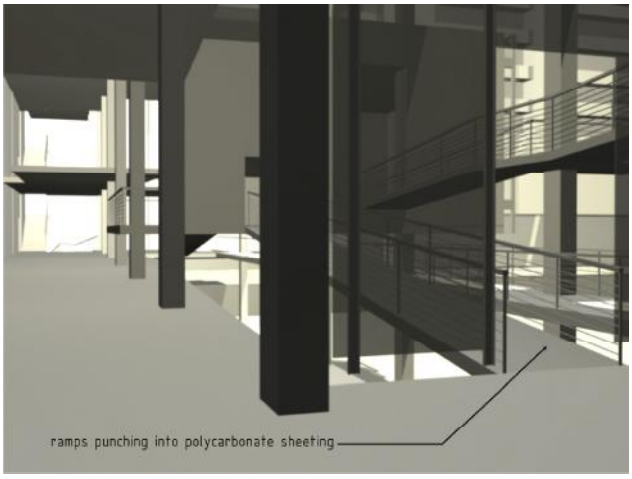
6.7



6.8

Fig 6.4 3D images of building indicating only the column & slab system

Fig 6.5 3D images of building indicating only the column & slab system

Fig 6.6 3D images of building indicating only the column & slab system

Fig 6.7 3D image indicating the ramp systems that punch into the various spaces of the building

Fig 6.8 interior 3D showing the ramp system

The play of light will be continuous as the sun moves through the sky. Some parts of the polycarbonate skin will move through into other parts of the structure indicating a continuance of movement and atmosphere. The ground floor food court space will open onto the square. As the entire length of the building is west facing the kitchen areas and movement area are set deep back into the structure. Above this are the series of movement areas and a bridge component on the exterior of the structure. This prevents western sun from entering the space. Trees along the façade provide additional shading. These trees are intended for people wanting a shaded place to sit and eat after purchasing food. But they also provide additional protection from the setting sun in the afternoons.

The open exhibition areas on the first floor are created by the concrete floor structure. Again the light-weight materials are used to define spaces and create specific moods with lighting and textures. When approaching the exhibition space from the southern end of the building up the series of ramps provided, a subtle transition will take you from the outside to the interior of the building. Immediately to the left is the space enclosed by timber slats. This space gives the impression that you are still inside the building. The timber slats are constructed with 50mm openings between each, enclosing the space visually, though not entirely an interior space. It is of such a nature that you are still exposed to the natural elements. It will be roofed but rain, wind and sunlight can penetrate the space and you will be exposed as though still outside. The gaps between the timber slats cast shadow lines across the space once the sun enters in the afternoon. The enclosure will also have a series of lockable doors. This will allow the exhibitor using the space to control the access and movement of viewers. They can also create different spaces by allowing movement to a specific area, then restricting movement to another.

Further into the exhibition space the area becomes enclosed with glazing. The translucent qualities of glass allow an outside scene, in this case the square, to become a part of the interior and the people in the square become part of the performance happening within the building. In the middle of the structure a heavy enclosed element sits on a split level just above the first floor. The movement ramps punch into this 'box' giving the impression of penetration. This box-like element has a dual role in that it is a landing area for the ramps moving between the first and second floor levels, but is also an exhibition area.

This box again gives a different quality to the rest of the exhibition spaces as it is more privatized. Access can be controlled by means of roller-shutter doors. It only allows light in from the west. This light is let in through sliding stainless steel mesh frames which sit on the façade of the 'box' (see Fig 6.7). During times when there is no direct western sun these panels can open up onto the square. When the sun gets too low they can be closed to provide protection from the sun. The light will not be completely blocked so a different atmosphere will be created by the play of light.

The box interacts with the first floor as the eastern side opens onto it. This affords those on the first floor a glimpse into the 'box' and people in the box can visually or physically interact with the people moving about on the first floor. Inside the box on a higher level is the food preparation area where ready made food can be heated up and prepared for serving on the second floor area where the entertainment area is. From the 'box' movement up another ramp will take you up to the second floor where the entrance to the theatre is situated.

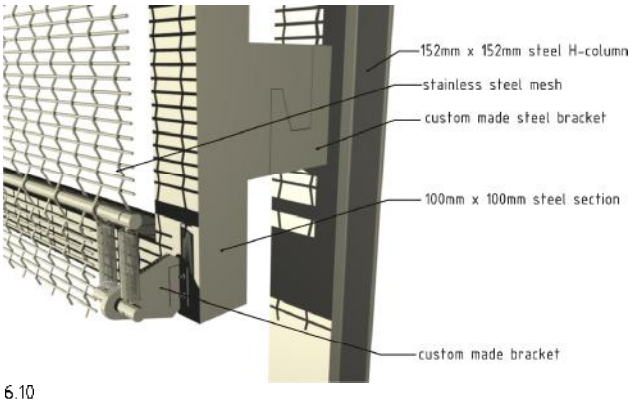
The theatre is also a concrete structure. It is a very important skeletal component in the building. Using the heavy concrete material indicates its permanence and importance to the structure. Access to the theatre is via a light-weight steel walkway.

6.9

This element emphasizes the theatre's heavy, strong box-like feeling in contrast to the light walkway. The theatre's programme, as mentioned previously, has been deconstructed to allow flexible use of the space. In order to achieve this, concrete has been used for the permanent elements of the theatre. The machine room where the pneumatic lifts are located and the surrounding structural element, as well as the sound control rooms above are all cast from reinforced concrete. Light-weight elements control the flexibility of the space- namely the movable sliding panels that enclose the theatre space.

These panels can open the theatre entirely to the square and surroundings, or create an intimate theatrical space. The inner face of the panels will be finished with timber slats. The gaps between the sliding panels will allow sufficient sound to escape and the coffer slab disperses sound. This would alleviate the reverberation of sound. It must be noted that the theatre is not intended nor designed for productions with exceptional sound quality. The theatre is designed for productions that would not normally occur in the State Theatre itself therefore acoustics and high quality lighting is not needed. The outer skin of the sliding panel is weather-resistant metal sheeting. This ensures that if it were to start raining or the wind became too strong, the theatre had the capacity to protect its patrons.

Surrounding the theatre structure is a light-weight steel structure that supports a framing system onto which a stainless steel metal cloth is fixed. The structure is light-weight as it takes into consideration the parking levels below, creating the feeling of a theatre draped in cloth. This allows visual access in and out of the theatre, but has enough opacity that it frames the theatre within, defining inside and outside. The steel frame has sliding movable sections so that certain areas can open onto the square. On the third floor you find the rehearsal spaces. As mentioned in previous chapters, people are fascinated by watching others. The rehearsal spaces encourage visual access from the square. This is achieved through the use of glazing, affording people full view of those rehearsing or dancing in the space.



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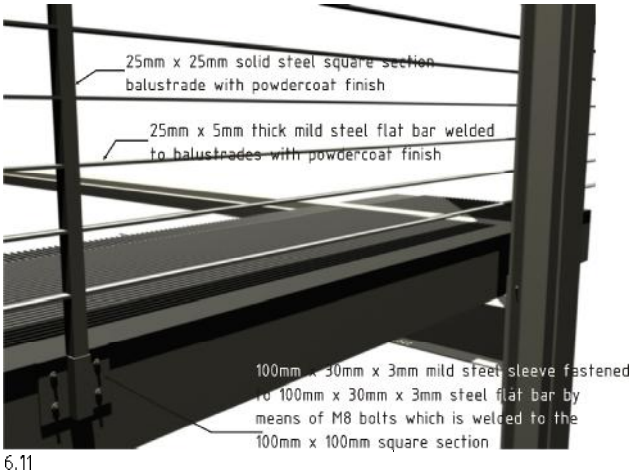

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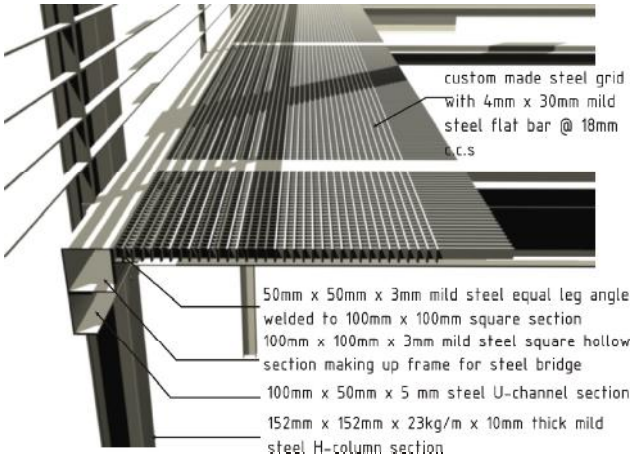

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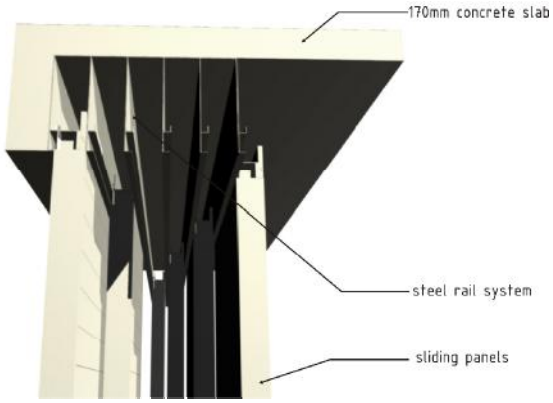


6.13

Fig 6.9 3D of interior of building on the first floor showing the split level of the exhibition spaces

Fig 6.10 3D detail of stainless steel mesh to surround theatre and to be used as the sun protection material for the western sun

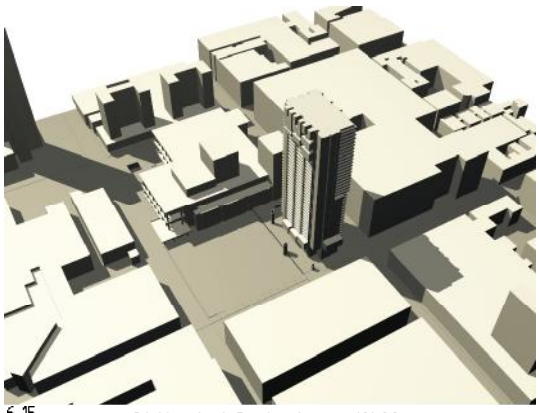
Fig 6.11 3D detail of steel bridge around the theatre

Fig 6.12 3D detail of steel bridge around the theatre

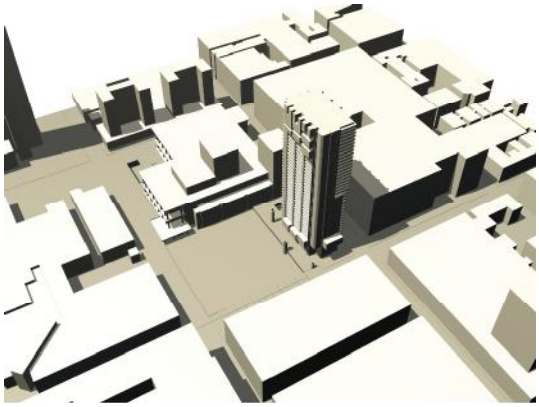
Fig 6.13 3D detail of sliding panels in the theatre

Western Sun

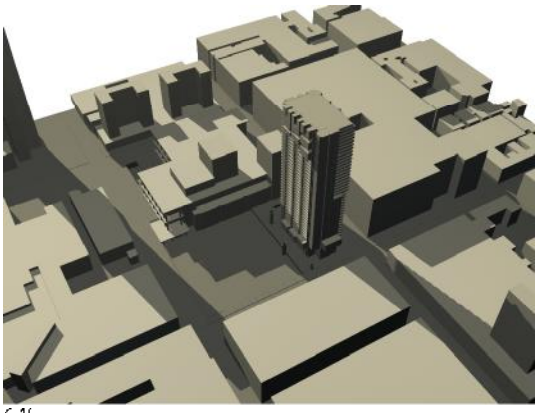
An important element that needs technical resolution is the fact that the entire building is west-facing. To ensure the thermal comfort of the building it becomes important to place sun-protection devices on the outer edge of the building, thereby creating a barrier on the exterior rather than shade elements on the interior. The sun only becomes a problem after 15h00 in the afternoon as it starts moving lower in the sky. Therefore provision needs to be made for low-angle sunlight that penetrates the structure towards the end of the day. These sun-protection devices are fixed at specific points on the outer skin of the building between the columns. Some areas of the building will need more protection than others for different times of the day and year. An analysis of the existing sun penetration onto the western façade of the State Theatre was undertaken in order to gain insight into the specific design required for solar control. Sun angles for different times of the year at late afternoon times were superimposed onto sections of the structure analyzing placement of sun-protection devices. Not all of the structure will be shaded from the sun as some solar gain into the structure will be used to employ the "Fly-wheel affect" for winter advantage (NAPIER: 3.6.1). This would allow heat absorption by the mass elements like the concrete in the structure during the day so that this heat can be re-radiated back into the structure at night for warmth.



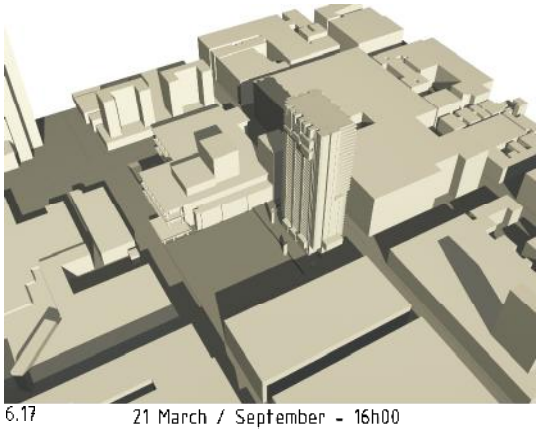
6.15 21 March / September - 10h00



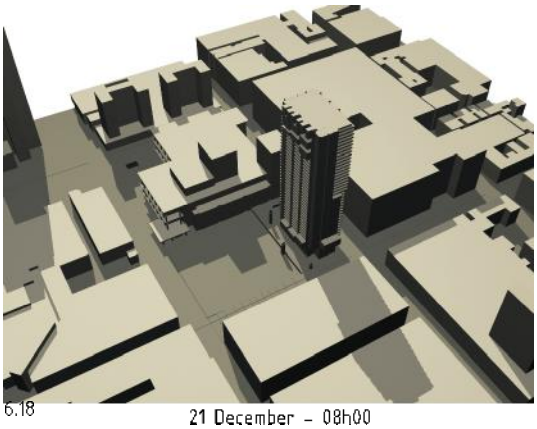
6.16 21 March / September - 12h00



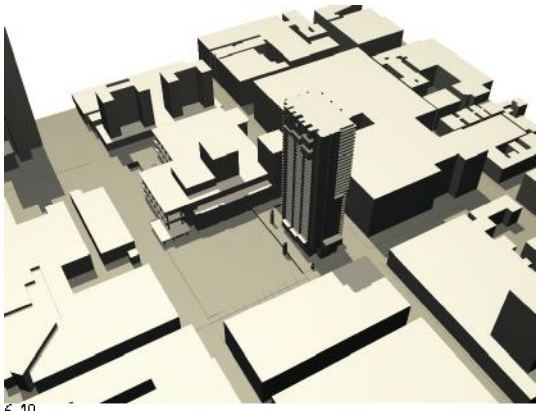
6.14 21 March / September - 08h00



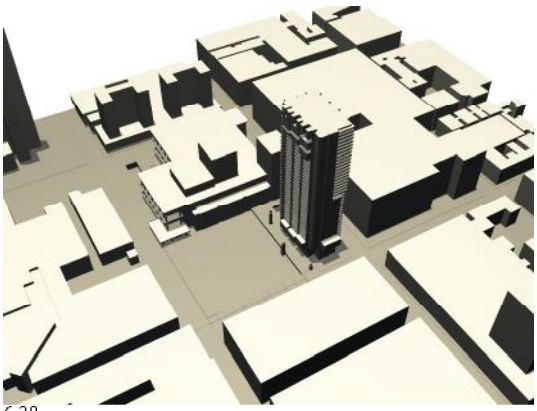
6.17 21 March / September - 16h00



6.18 21 December - 08h00

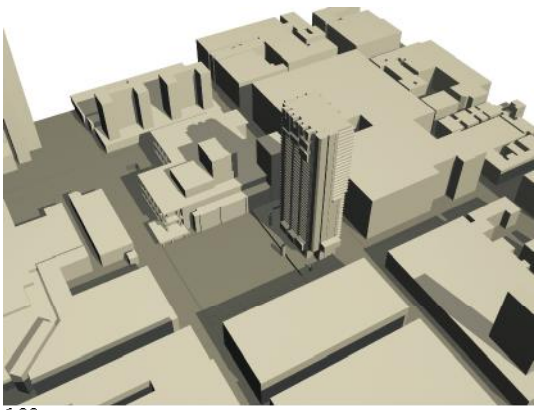


6.19 21 December - 10h00

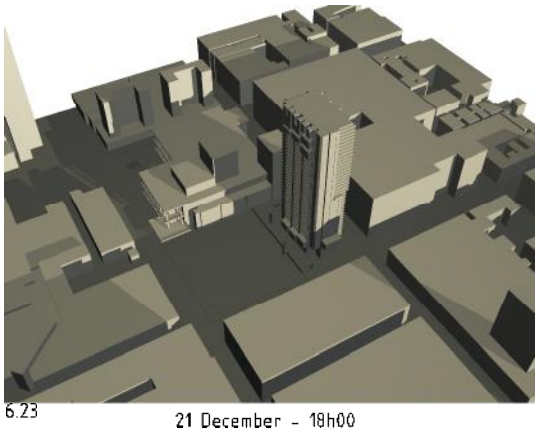


6.20 21 December - 12h00

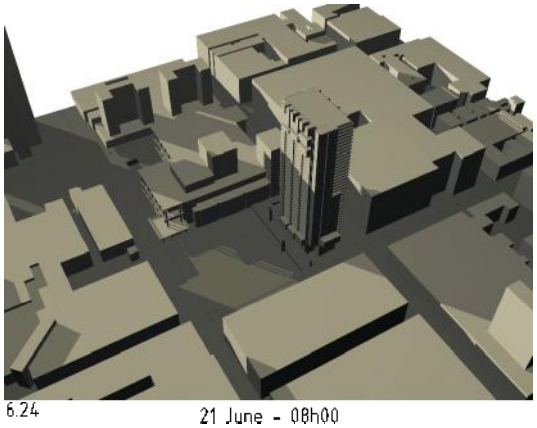
6.21 21 December - 14h00



6.22 21 December - 16h00

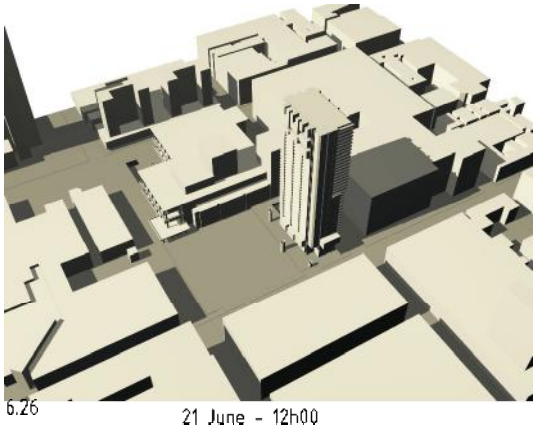


6.23 21 December - 18h00

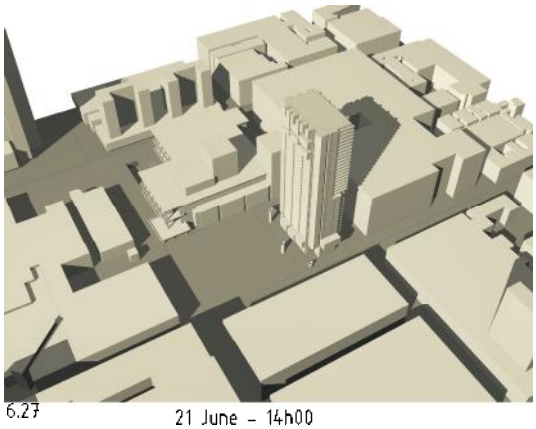


6.24 21 June - 08h00

6.25 21 June - 10h00

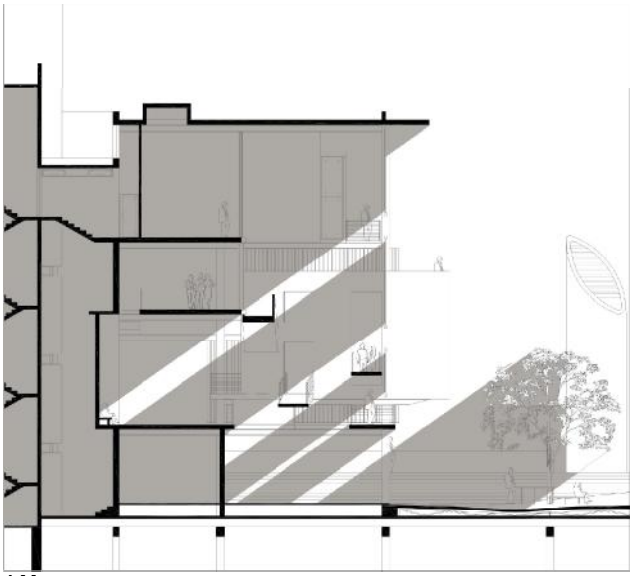


6.26 21 June - 12h00



6.27 21 June - 14h00

6.28 21 June - 16h00



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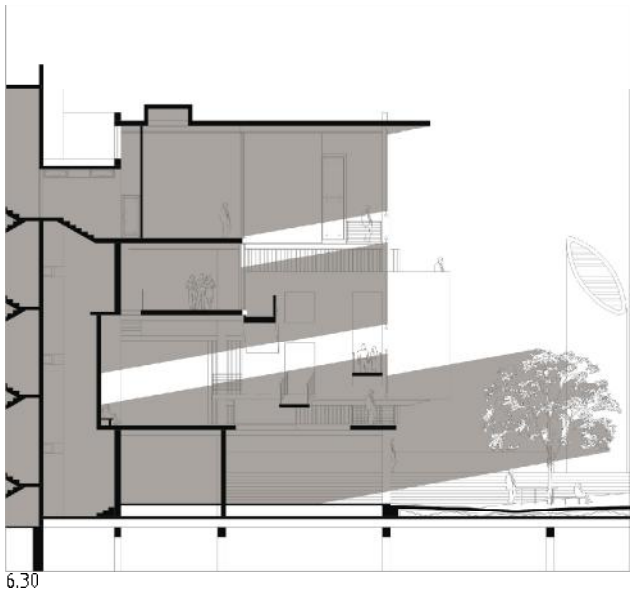
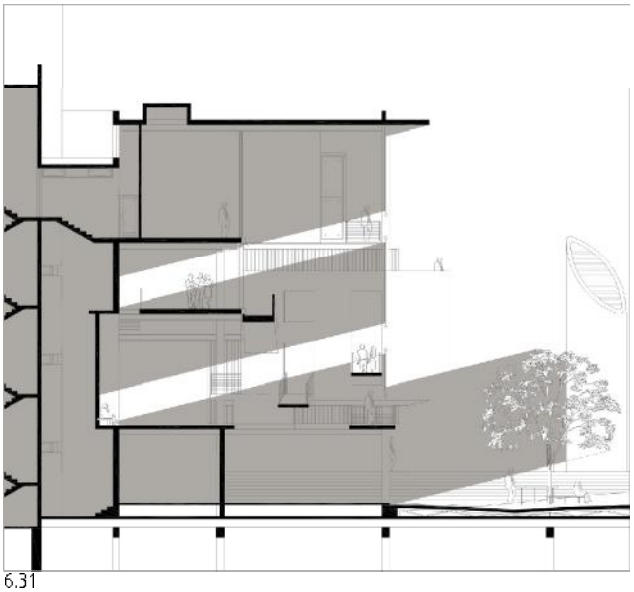


6.30

Fig 6.29 sun penetration for 21 December @ 16h00
Fig 6.30 sun penetration for 21 December @18h18
Fig 6.31 sun penetration for 21 June @ 16h18
Fig 6.32 sun penetration for 21 March./September @ 16h18



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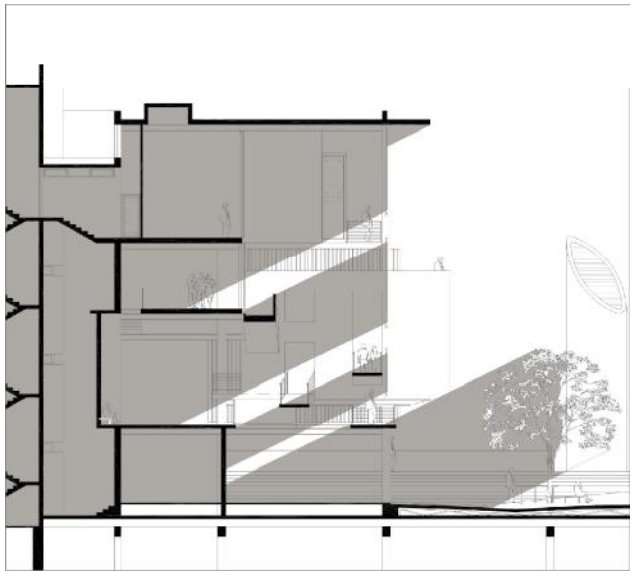

6.32

>>2D technical investigation

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