



## 04. The Idea of Tensions



Tension: "a strained (political, social, etc.) state or relationship." The Concise Oxford Dictionary

••••• Tensions ••••• Political ••••• Economical •••••

Political, economical and social relationships are more often than not, always in a state of tension. In South Africa, since 1994, cities have undergone major change in terms of these already fragile relationships. The end of Apartheid liberated all of the country's citizens and people claimed space within the city in messy and overlapping ways. There was a significant increase in migration from rural areas into the city. This resulted in a hybrid and diverse landscape where multiple publics exist and compete for resources and opportunities. The lack of regular work, affordable housing, and social security for ordinary people has resulted in economic tensions between wealth and poverty which leads to the creation of social tensions between rich and poor, migrants and citizens and men and women (Deckler, Graupner, Rasmuss 2006: 4). The tensions that arise from the diverse and fragmented landscape of Pretoria result in spatial reactions that are visible both urbanistically and architecturally.

Murray describes the urban landscape not only as a built environment subject to radical alteration and modification but also of a constellation of outward signs that convey a host of overlapping, intersecting, and sometimes conflicted meanings (Murray 2008: ix). The relationship between these outward signs (tensions) and the urban fabric is not simply a series of magnetic poles that sit in opposition to each other. Within the context of an individual project and its specific demands, the tensions and urban fabric may manifest itself as two sides of a sliding scale thereby creating two opposing forces that are active, not passive (Wolff 2009 : 178).



Figure 4.1. The homeless claiming space within the city (Author 2010)



Figure 4.2. Unregulated informal trade along pavements (Author 2010)



Spatial Reactions

••••• Historical ••••• Social •••••

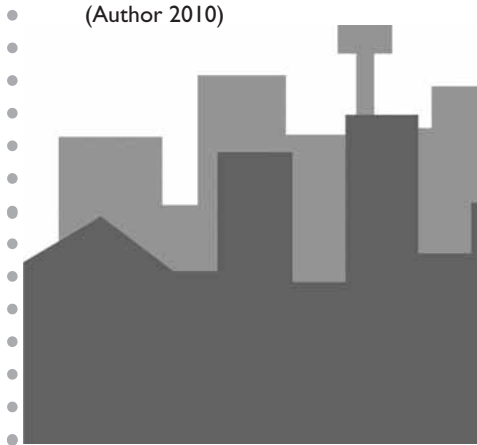


Figure 4.3. Palisade fencing used to block access to space that was once public (Author 2010)



Figure 4.4. The old synagogue barricaded by two layers of barbed wire fencing (Author 2010)

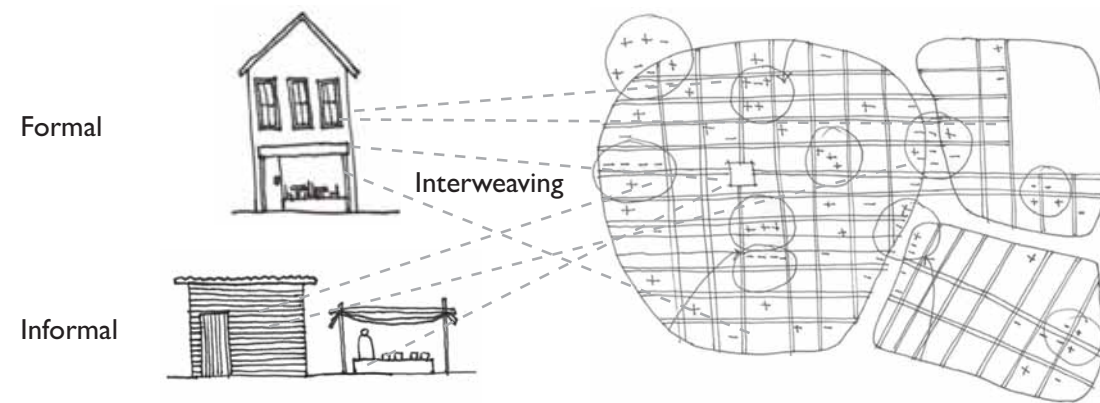
Physical Reactions



The realm of architecture is one of apparent stability, but is actually one of restrained force or of forces held in equilibrium. The traditional role of architecture has been one of reassuring us that things are under our control but it is quite another thing to think of architecture as 'in tension'. Architecture in tension suggests a struggling architecture, humanity with limited control of nature, and of itself. The forces in such architecture are activated, not pacified (Woods 2009: 1).

Murray reiterates this notion of forces within an 'architecture in tension' being activated. He describes the city-building processes as oscillating between creative interventions, the fashioning of something new that never existed before, on the one side, and selective destruction, erasure, and elimination, on the other. The result is a hybrid layering of architectural sites, woven together and juxtaposed in sometimes strange and seemingly odd combinations (Murray 2008: ix).

## Economic Tension



### I. Informal | Formal

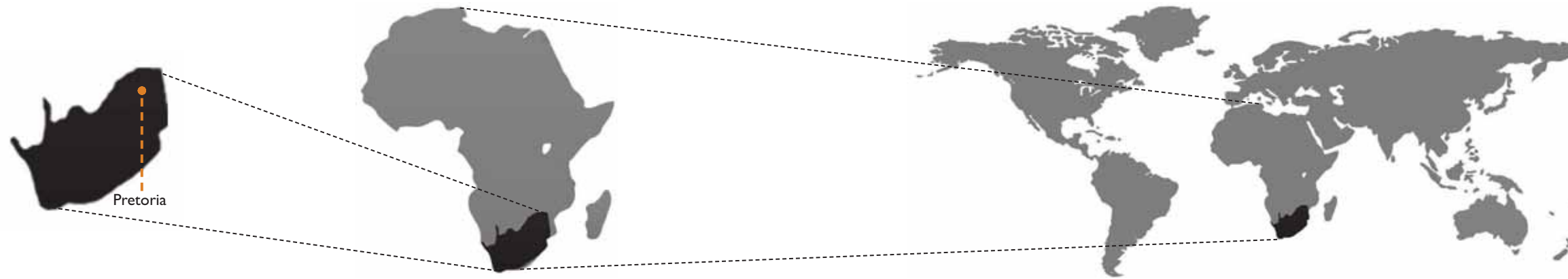
There is a constant movement of people between the townships that surround Pretoria and the city centre. This influx of people into the city is a result of people trying to make a living within the city or accessing other forms of urban life that the township does not offer (Mbembe & Nuttall 2004: 357). The city has therefore become a complex configuration of lived space, neither rural nor urban. There is no urban alternative to the rural place. Chicken feet are cooked and sold on the pavements of the central city suburbs while a rural chief will drive the latest luxury sedan. The city has become an interweaving of practices and value systems of different worlds that overlap onto one another in increasingly complex ways (Bremner 2004: 23).

As in Johannesburg, the out-migration of large-scale corporations and commercial business from the inner city has occurred. Therefore the demand for space within the inner city has shifted away from office complexes for corporate tenants and toward small retail outlets catering to low-income consumers, housing for low-income families, and secure places where informal traders can sell their merchandise. The physical decay of the inner city has been brought about due to the changing nature of the socio-economic activities that occurs within the city and the built environments inability to accommodate the changing functions and uses of city space (Murray 2008: 70).

Yet, as a result of this disinvestment from the inner city and the disappearance of apartheid regulations that governed the use of urban space, the city has created spaces that allow people who have been excluded from formal economic activities, the room for small-scale (largely black-owned) business enterprises. This has led to small-scale traders, roaming hawkers and petty entrepreneurship to gain a foothold in the urban landscape. Both spatially and economically the survivalist trade, illicit commerce, and immigrant entrepreneurship have become significant structural features of the inner-city (Murray 2008: 56, 70).



Figure 4.5. - 4.8. Photographs showing the formal fabric of the city as a backdrop to the unregulated informal trade that occurs along the city's streets. (Author 2010)



## I. Identity | Universality

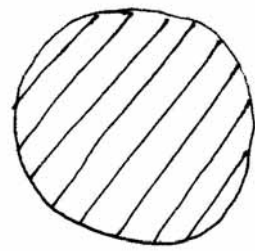
What is the affect that modernisation/globalisation has on the identity of a city? What gives Pretoria its identity? AbdouMaliq Simone argues that not only is the city made up of tunnels, bridges, roads, wires, ducts, highways, electricity and automobiles but in the first instance the African metropolis is made up of “people”, “bodies”, “intersections” and “networks”. These are the entities that create the character and identity of an African metropolis. They form the topographical connections that give meaning to practices of social reproduction across city time and space (Simone 2001).

Since the transition to democracy in 1994, South African cities have become sites of debate and critical engagement for the re-configuring and remixing of identities - racial, gender, spatial and many more. How do architectural practitioners reposition themselves in an African context, or more specifically South Africa?

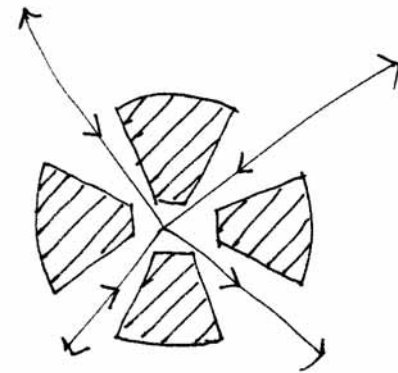
The manner with which the histories of marginality are dealt with and where it fits into global capitalism will become important in re-establishing our identity within the African continent (Deckler, Graupner, Rasmuss 2006: 4). As a result of globalization, Murray poses several questions that are pertinent to the process of reframing ‘contemporary’ architecture of South Africa.

- How does architectural practice respond to the needs of a multiple of different cultures?
- Do apartheid histories affect our thinking about spaces and different cultures?
- How do we re-imagine the built environment in a post-modern, globalising world of hyper-reality?
- Can ‘contemporary’ architecture in any way be seen as being detached from the project of modernity?

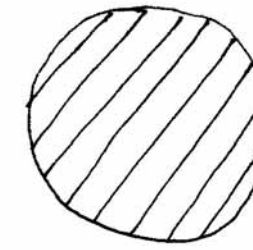
Lipman states that contemporary architecture should create a built environment that we are to feel at home with and can identify with. Physical qualities of the places where we live – the light, the climate, the shape and pitch of the land – as well as the experiences, historical and current, of the people should be known by the architect in order to avoid creating the alienating sameness that dominates the architectural trend within South Africa. The set of ideas Lipman mentions reiterates Tzonis and Lefaivre’s ideas of Critical Regionalism – an approach to design that recognises and invites us to recognise, that it is only by attempting to understand our pasts critically that we will be able to give shape to the future (Lipman 2003).



Exclusive



Inclusive



Self



Other

## 2. Exclusive | Inclusive

Developments in the city are mainly commercially or governmentally driven and tend to reduce architecture to scenography. These buildings act as free-standing objects creating new boundaries, enclosures and mono-functional identities. This has resulted in creation of exclusive environments. These environments exclude the broad spectrum of functions and diversity that are necessary within the city. Planner Vanessa Watson identifies the similarity between the postcolonial South African spatial design to that of the postmodern found anywhere else in a globalising world in which poverty and wealth are increasingly polarised and in which new publics are competing with the old for resources and access to urban facilities (Deckler, Graupner, Rasmuss 2006: 6).

The abundance of enclosed suburban shopping centres, fortified office complexes, gated residential complexes, underground parking garages with restricted entry, interior gardens, landscaped atriums and isolated gathering spaces has taken the conventional role of most of Pretoria's town squares, public parks and downtown sidewalks as sites of everyday social interaction. These publically inhabited yet privately owned cocooned urban environments are expanding and have fundamentally changed and reshaped the uses and meanings of urban space not only in Pretoria but across South Africa. The barriers and fortified complexes that char-

acterise these cocoon urban environments are visible signs of the growing paranoid urbanism and fortress mentality that exists in urban South Africa (Murray 2008: 61).

The tension between exclusive and inclusive environments provides the opportunity for the design of a built environment where the walls and the ceilings, do not really matter and must therefore be made as transparent and functional as possible. The spaces created and the movements that are made possible within these spaces are primary (Bouman, Mulder 2002: 72 - 74).

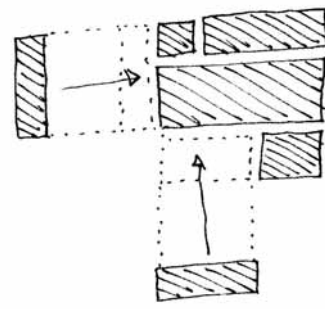
## 3. Self | Other

Most governmental and commercial developments built within the city of Pretoria follow the trend of creating secure self-sufficient cocoons that internalise and privatise all the diverse functions and activities that create a vibrant city: coffee shops, magazine stands, book stalls, chemists, hairdressers. Employees that are within these new monoliths never have to leave their secure environment thereby avoiding altogether the threatening, chaotic, multi-cultural muddle around it. The city has ceased to exist for the people who work within these monoliths. These new investment "islands" have created a vacuum within the city as retail and office space remains abandoned, open sites are converted into parking lots and buildings are demolished (Bremner 2004: 55 - 58).

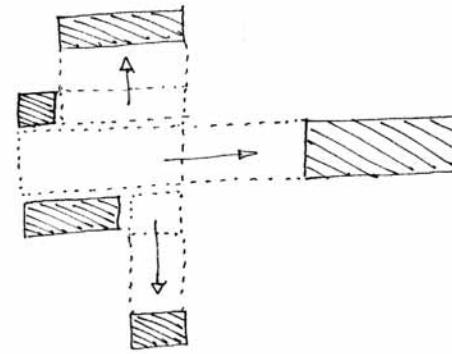
Most modernist urban planners are more concerned with the notion of a utopian ideal, seeking to bring every aspect of urban life under a particular organizing scheme of perfection that they favour at a particular moment. They use the Cartesian conception of space as a central organising principle that is empty and waiting to be filled up with urban life and to be subdivided and demarcated. Modernist planners tend to abstract space in terms of straight lines, right angles and serial repetitions. This approach fails to establish a relationship with the material realities of daily life and the way people live within

an urban environment. A widening gap is formed between the idealistic image that the modernistic planners have envisaged and the people who are actually dependant on the social conditions and ambiguities of city living (Murray 2008 : 72).

Within this globalised world nobody has a single culture any longer, but all participate in a multiplicity of 'cultures'. What was once a homogeneous, low-information monoculture has now become a high-information, heterogeneous cultural process; the transformation process of temporary coalitions, collisions, hybridizations and migrations that we call 'city life' (Bouman, Mulder 2002: 72 - 74).



Emplacement



Displacement

Apartheid's spatial development policies that forced people to move subsequently created a 'new' culture within Atteridgeville. These 'cultures' can be referred to as being translocalities. The challenge for spatial development within this context is, instead of trying to create a single public domain, to create an atmosphere for the establishment and co-existence of a diversity of public domains (Bouman, Mulder 2002: 72 - 74).

#### 4. Displacement | Emplacement

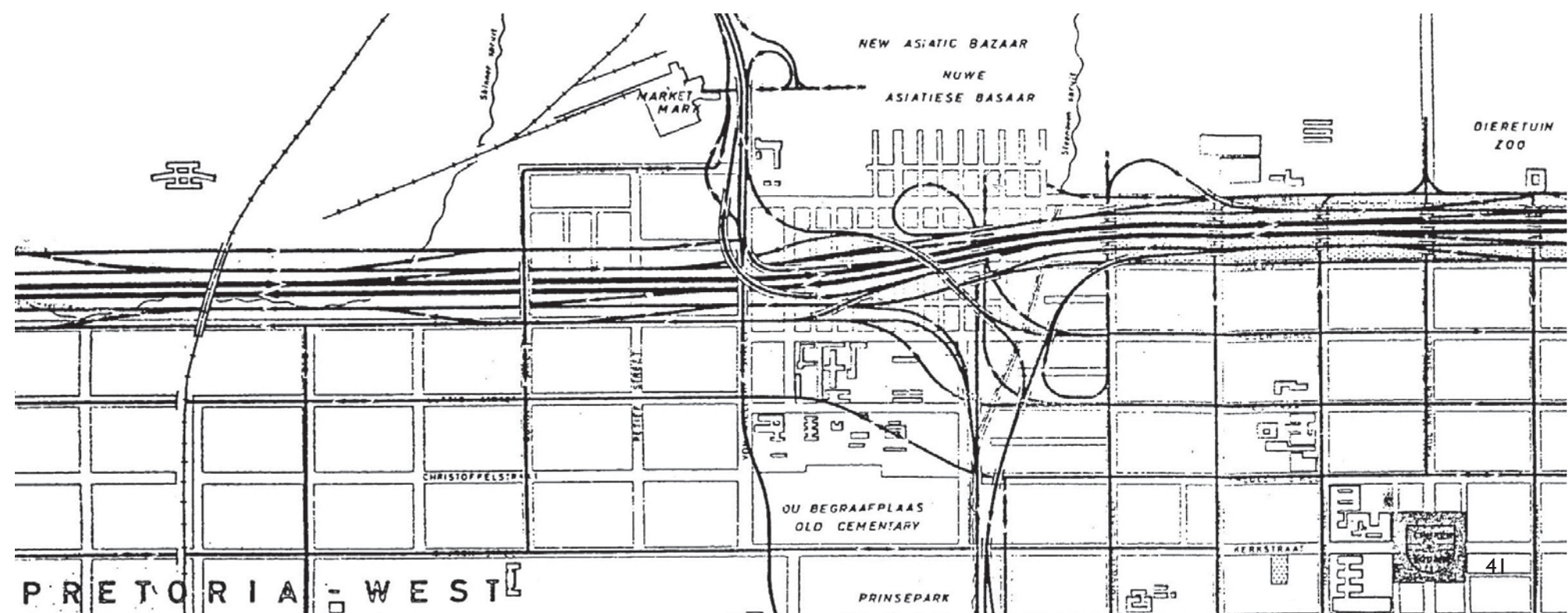
During apartheid, Pretoria and other South African cities homogenisation and fragmentation of its urban landscape was overlaid by a purposefully political ordering of space. This was a deliberate intervention into the shaping of the cityscape and took its cues from the modernist planning scheme while simultaneously drawing on colonial notions of racial superiority (Dewar 1999 : 368 – 375; Mabin 1999 : 269-277). The functionalists' method of land-use zoning, described by Henri Lefebvre (1991 : 317) as being responsible for the "fragmentation, breakup, and separation under the umbrella of bureaucratically decreed unity," had laid the foundation for an idealized segregated city that was based on racial difference (Murray 2008: 63).

Racial segregation occurred within South Africa's cities and many people were displaced to townships. Proposals, such as the 1975 ring-road, were designed to get rid of Pretoria's oldest township Marabastad. The reason for the removal of Marabastad was that the townships geographical position adjacent the inner city (barely 4 blocks north of church square) was regarded as an encroachment into 'white space' (Fisher, le Roux, Mare 1998 : 153,155). Since 1994 many people, that were previously displaced, have moved back into the city. This has led to emplacement, whereby people have acted on positioning themselves within the

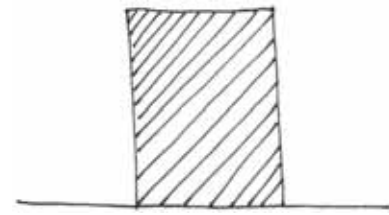
city and claiming space either informally or formally. Historically, the African continent has been and still is a space of flux and translocation with multiple nexuses of entry and exit points. The movement and translocation of people will continue around, within and through the city of Pretoria (Simone: 2001).

As a result of the displacement and emplacement of people in and around the city different cultural enclaves have been created or destroyed. In the township of Marabastad, a vibrant culture was destroyed due to forced removals of people to Atteridgeville in the 1940's.

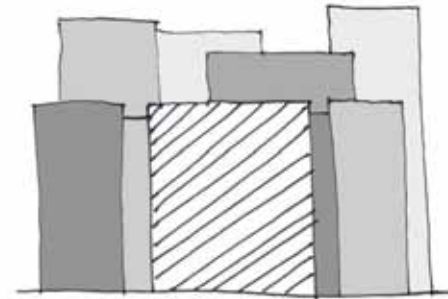
Figure 4.9. The section of ring-road around Marabastad Township in 1960. (Architecture Archives, University of Pretoria, 2010)



## Contextual Tensions



Conservation



Development

new development. This is done in order to ensure that appropriate decisions are made when going ahead with such a development. The conservation principles should help guide the design in such a way that the new building will be able to harmoniously adapt to its historical context as well as contemporary life. Existing culturally significant buildings allow the opportunity for a new development to gain richness and a new insight in the way in which its spaces and functions are to be arranged. The significant building can act as a design generator thereby influencing the design of the spaces within the new development.

### I . Conservation | Development

Within cities, certain portions of the built environment are protected by the local municipality as the particular piece of the built environment is either of historical or cultural value. These protected buildings, parks and monuments etc. are regarded as a cities heritage – an urban cultural landscape. Traditionally a landscape is considered as a piece of natural scenery that people experience and enjoy. Landscape whether natural or urban consists of visible features such as physical elements (the built environment) and human elements (human activity) (Griffe: 2008).

The harmonious cohesion of such elements from the past, present and future define a city's identity. The world's population is increasingly becoming more urban with a predicted two thirds of the population living in cities by 2025 and cities lie at risk of being defaced and losing their identity. The paper 9 charter (UNESCO) defines methods in safeguarding the cultural and historic elements of cities while promoting the development of cities as well. The charter looks at cities as a whole rather than isolating certain sites which leads to the approach of emphasizing the intricate links between heritage, conservation and development (UNESCO: 2002).

To fundamentally reshape the existing built environment of cities is extremely difficult. Structural configurations of cities become

fixed and are tightly anchored in their own histories and deeply rooted in the histories of their surroundings (Murray 2008: 7). The existing built environment of a city therefore acts as an historical document and embodies the values of traditional cultures. Areas within the built environment that have cultural or significant value are being threatened, damaged or destroyed by urban development. This more than often leads to irreversible cultural, social and economic losses (Washington charter 1987). Heritage and development are therefore inseparable entities that foreshadow the concept of 'sustainability' – preserving a cities heritage for the benefit of future generations. Culture is the bridge between the two, the vital ingredient for kneading a harmonious balance between past, present and future (UNESCO: 2002).

In order for a building, area, monument etc. to be classified as being culturally significant within the context of the city the building must be older than 60 years or the building, within the historical context of the city, is one of the few remaining examples of a unique architectural movement.

When approaching the design of a new building on or near a culturally significant site, certain conservation principles (Burra Charter, Vienna Charter, and Washington Charter) need to be taken into account by the decision makers that are involved in the

### Precedent: Spittelau Viaducts Social Housing Project

Location: Vienna, Austria (1994 - 2005)

Architect: Zaha Hadid

Program: Housing, restaurants, bars, offices (mixed-use)

Concept:

The Danube Canal is one of Vienna's under-used central spaces, having been forgotten for decades. Recent regeneration projects started to change this here and along the extensive system of viaducts built under Otto Wagner for the metropolitan railway in the 1980's. The Housing project consists of a series of apartments, offices and artist's studios that weave like a ribbon through, around and over the arched bays of the viaduct. The viaduct itself is a protected structure, and may not be interfered with. The three-part structure playfully interacts with the viaduct, generating a multitude of different outdoor and indoor spatial relationships.

The perception of these is intensified by the response of the architectural language to the different speeds of the infrastructural elements – cars on one of Wien's busiest roads, trains on an old viaduct, boats on the Danube Canal and pedestrians and cyclists along its waterfront. Public outdoor spaces are enlivened via the infill of bars and restaurants under the arches of the viaduct. An additional challenge was posed to the project, as the program consists mainly of social housing, though studios and offices are mixed in. The geometrical and material play of a linear brick viaduct and a twisting white new building creates a successful outside space, enhancing the public value of the site (Phaidon 2008: 497; Hadid 2005).

### DESIGN CONSIDERATION

This precedent clearly shows the successful resolution between development and conservation. The lost space which runs underneath the viaduct is revitalized and the new housing development harmoniously adapts to the historical context enhancing the public relationship between the viaduct and building.

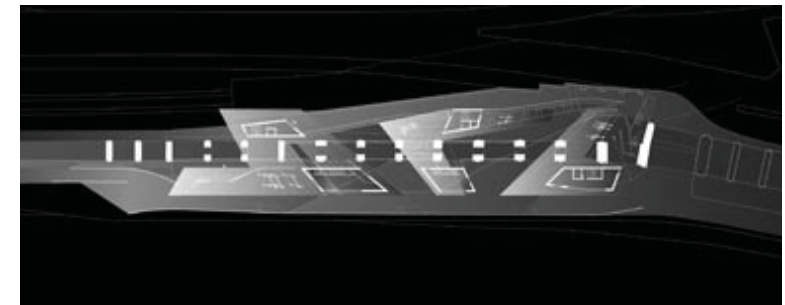


Figure 4.10.  
Ground floor plan (Hadid 2005)

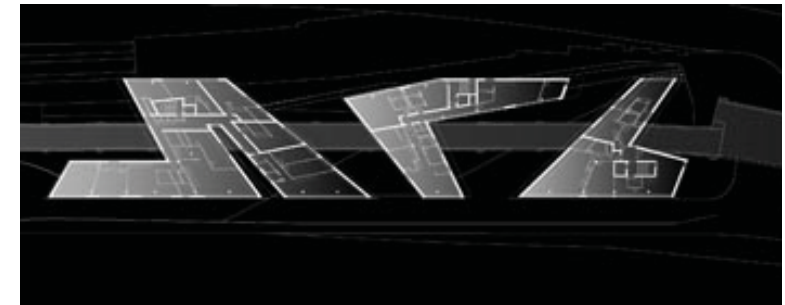


Figure 4.11.  
First floor plan (Hadid 2005)

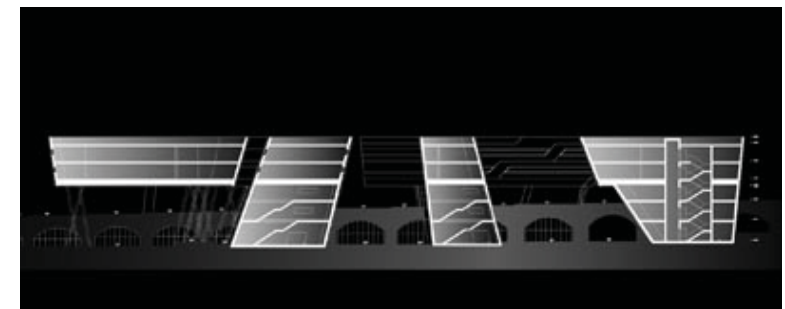


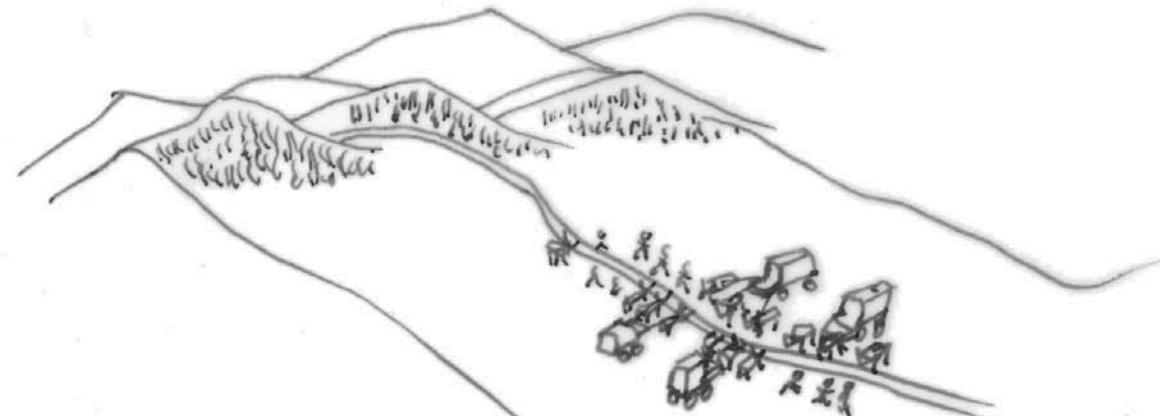
Figure 4.12.  
Cross-section (Hadid 2005)

Figure 4.13. (opposite left)  
Relationship between the old and new (Hadid 2005)

Figure 4.14 (below) : Elevation across the Danube Canal (Hadid 2005)



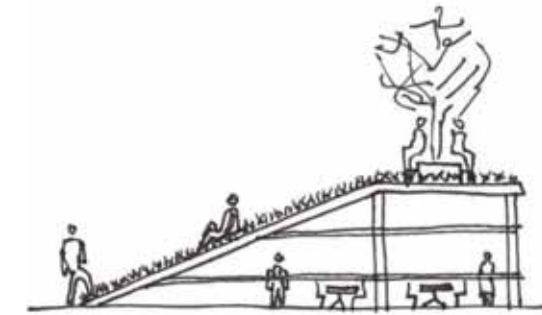




Natural Landscape



Manmade Natural Landscape



Manmade Built Landscape

## 2. Natural Landscapes | Manmade Natural Landscapes | Manmade Built Landscapes

The development of the city of Pretoria was the result of the Boers having trekked into a temporary uninhabited rural region of the Apies river valley and settling in that area. The first plans for what still had to become the city of Pretoria date back from the time the tiny rural frontier village was created as ZAR (Zuid-Afrikaansche Republiek) Capital. To accommodate the capital's needs, an orthogonal grid was designed ("cardo decumanus").

The width of streets forming the grid was determined by the length of the oxen wagons, used by the Boer farmers. The ox-wagons had to be able to make a U-turn in the streets. The building blocks within the orthogonal grid consisted of one storey buildings for residential use with large backyards or contained offices for regional services as well as shops for retail. In order to keep the orthogonal grid, building lines were strictly regulated even though the building blocks were mainly closed. Citizens were obliged to plant and maintain trees in front of their properties in order to provide shade in the streets. The Apies River fed gutters that ran along the streets and provided dwellings with fresh water. At the intersection of the central axes of the orthogonal grid there was a large open square where a church was built by the Boers. The Boers of that region would gather there for Sunday services and would put up tents for the duration of their stay in the capital. At this stage of Pretoria's

development, Pretoria was a rural town built within a natural landscape, the Apies river valley (Corten and van Dun 2009: 11).

This rural town would drastically change with the discovery of gold in the Witwatersrand in 1886. The once natural and rural community would be transformed to an urban society due to the large influx of people during the gold rush. The city expanded within the central grid that was bordered by the Apies River in the North, East and South and by the Steenhovenspruit in the West. Pretoria as a rural town built within a natural landscape would soon change and an urban environment would take its place. By the 1880's the city would expand outside of its central grid. The administrative use still expanded within the city centre but a new orthogonal grid was laid out to the South-East to accommodate residential dwellings. This new city district would be called Sunnyside.



Figure 4.15.  
The orthogonal grid of Pretoria, 1841  
(Corten and van Dun 2009)

The city further expanded to the east along one of its main axes, Church Street, still keeping the new expansion in connection with the original city grid. The city would not be able to expand to the North or South due to geographical reasons and to the West, a horse racing track prevented expansion. The horse racing track would be incorporated only halfway through the 20<sup>th</sup> century and the city would end up developing to the west as well (Corten and van Dun 2009: 12).

Pretoria had evolved from a rural village to an urban city. From a rural natural landscape that was inherently connected to its natural environment, Pretoria fast became a city that was ignoring the natural landscape it had originally been founded within. The natural landscape had been the dominant public realm in rural Pretoria. This did not remain as the city modernized and became urban. The need for man-built natural landscapes (parks) and man-built landscapes (squares, market places and thoroughfares) was needed in order for Pretoria to provide its citizens with an adequate public realm that would encourage social interaction and reshape the character of daily life from the rural to an urban way of living.

Yet, cities such as Pretoria reduce appropriations for park acquisition and development thereby increasing numbers of people into existing facilities. This creates a growing im-

balance between the supply of public open space and the demands made on it by a growing population (Garvin, Berens 1997: 2).



Figure 4.16.  
The orthogonal grid of Pretoria, ca. 1855  
(Corten and van Dun 2009)



Figure 4.17.  
The orthogonal grid of Pretoria, ca. 1880  
(Author 2010)



Figure 4.18.  
The beginnings of a rural town, ca. 1841.  
(UPSpace Archive, University of Pretoria 2010)



Figure 4.19.  
Looking down Paul Kruger Street from  
Church Square, ca. 1886.  
(UPSpace Archive, University of Pretoria 2010)



Figure 4.20.  
The development of Pretoria, ca. 1930.  
(UPSpace Archive, University of Pretoria 2010)

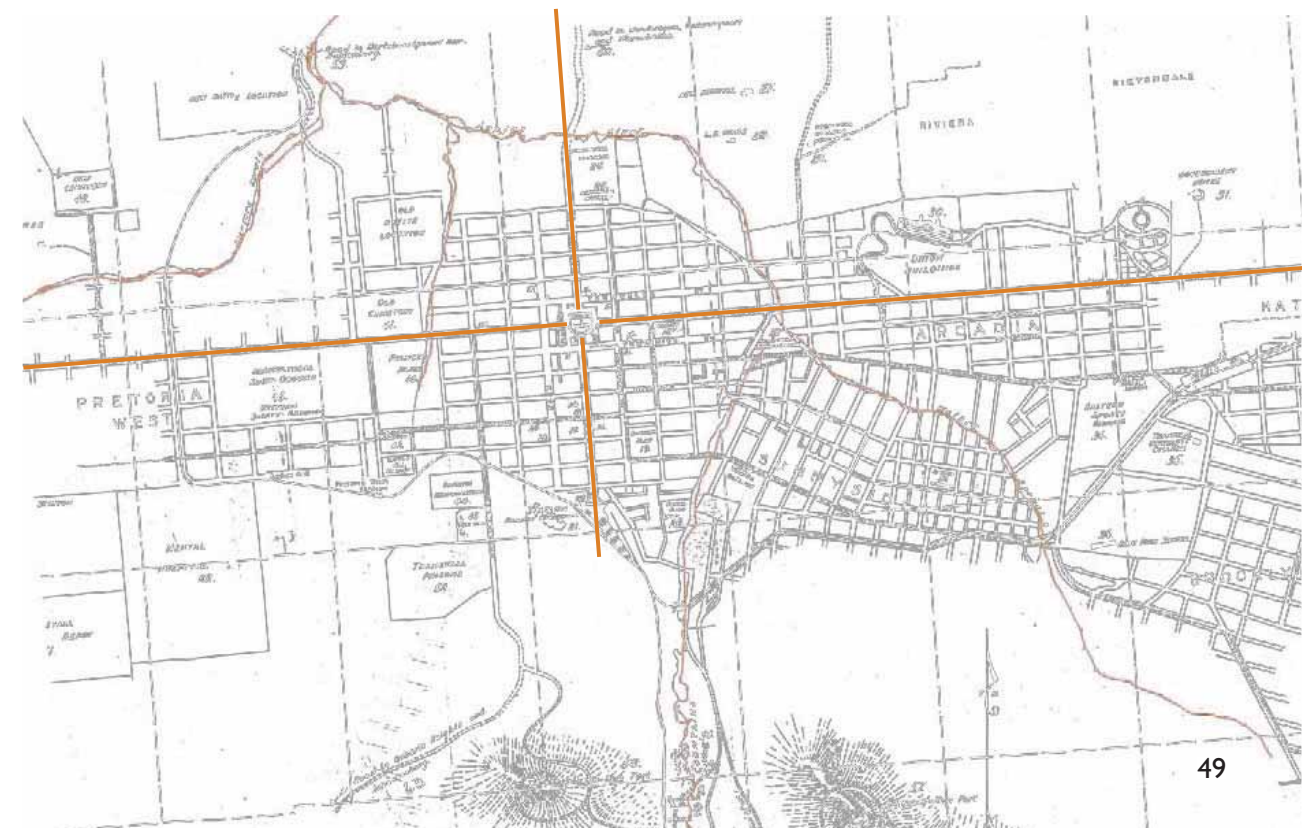


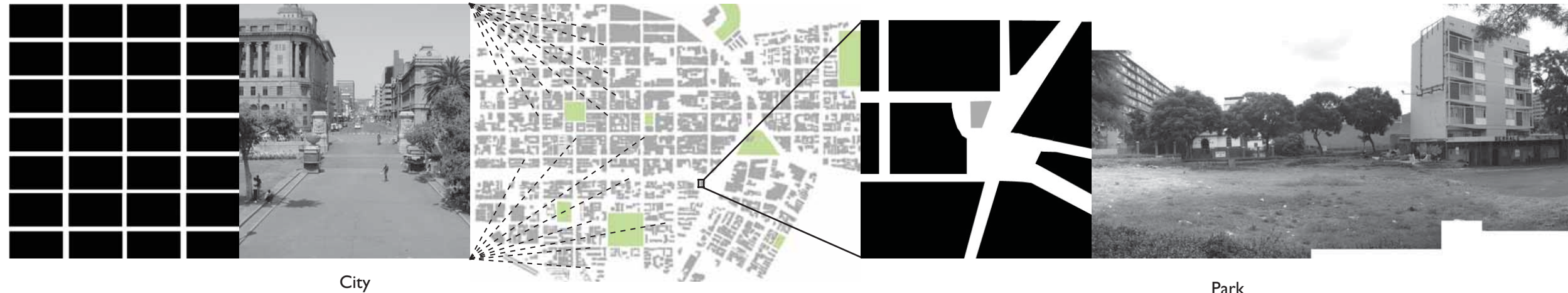
Figure 4.21.  
Church Square, 1931.  
(UPSpace Archive, University of Pretoria 2010)

Figure 4.22.  
Historical Layering of the urban grid of the city of Pretoria  
(Author, 2010)



Figure 4.23.  
Urban grid of Pretoria expanding to the east and west.  
(UPSpace Archive, University of Pretoria 2010)





### 3. Park | City

Since the inception of the small rural village in the Apies river valley, the natural landscape was the public realm that would host the activities of rural life. This changed as an orthogonal grid was designed to accommodate the frontier-village's needs of growing from a rural village into the city of Pretoria. The width of the streets forming the grid was determined by whether an ox-wagon was able to make a U-turn. The streets that made up the orthogonal grid became the public realm for the citizens of Pretoria. Daily activities would now occur along the streets instead of the natural landscape.

The grid as an ordering device had the advantage of allowing for flexibility and expandability. It also had the limitation of contributing to the loss of spatial containment, especially when the lines of the grid became super highways and the spaces between became detached and contained factories and other centres (Trancik 1986 : 30).

Yet, this was not the case with Pretoria. When the grid was implemented as an ordering device, the regular patterns of the streets and blocks organised a three-dimensional system of continuous space, integrating buildings into the fabric of the city. The grid system of Pretoria city was being built up incrementally and was not a system of zoning functions (Functionalist approach). The grid allowed for a variety of uses close to one another (Trancik 1986: 33). The streets

which made up the grid became cohesive spaces that accommodated all aspects of life. The intersection of the main axes of the orthogonal grid was the centralised concept of public space that served as a focus for group meeting and interaction at Church Square. To a large extent the adoption of the grid has predetermined the type of exterior space in which citizens of Pretoria currently live in (Trancik 1986: 35).

Since the adoption of the orthogonal grid the city of Pretoria grew in population. The city evolved over time and new functions and uses of space had to be accommodated. The grid was able to accommodate these future developments and has become a sustainable historical feature of Pretoria. The urban fabric on the other hand, is far less sustainable. The urban fabric has been altered over time especially in terms of building heights and volume - yet, this change has always occurred within the urban grid. With the dominance of the vehicular transport in the 20th century, the movement of vehicles had become prioritised over that of pedestrian movement. The streets which had once accommodated the aspects of human life would primarily cater for the motor vehicle. As a result vehicular 'highways' would traverse along certain streets within the grid. More vehicles were to be accommodated for thus resulting in certain sections of the grid being destroyed i.e. Skinner Street being altered to accommodate a new,

yet never completed ring-road plan. The residual space left over by the destruction of the urban fabric along Skinner Street would become lost space.

From the analysis of Pretoria's inner city grid the following can be deduced:

- The grid of Pretoria is strong and rigid running in both a north-south and east-west direction.
- Pretoria's urban grid is one of its main historical features, turning out to be the most lasting and sustainable one (Corten and van Dun 2009: 13).
- The urban grid seems flexible enough to accommodate future developments and is expected to have a lasting future (Corten and van Dun 2009: 11).
- Where the grid breaks, it is typically a manmade built natural/urban landscape.
- The point at which the grid breaks its rhythm, lost space exists. This occurs where the rigid grid meets the natural course of the Apies river resulting in left over segments of land. These lost spaces have the opportunity to become man-made built urban landscapes that knit together physical and social space.

The city of Pretoria, as many other cities have been the victims of urban sprawl. Cities are competing with the suburbs in order to attract people back into the city in order to prevent the city from turning into a ghetto. In order to do so, cities must emphasize the unique advantages of social integration and pedestrian access to amenities. By knitting together physical and social space, parks and open space play a crucial role in defining and strengthening the advantages of city living. In terms of aesthetics and transportation, urban neighbourhoods with access to open space may be particularly suited to compete with the suburbs. Thus, there are solid economic reasons for increasing urban investment in parks and open space (Garvin, Berens 1997: 30).

As the orthogonal grid is the dominant organising element of the inner city, urban parks can become organising elements that become vital components of city redevelopment. An urban park can create a sense of place, a landmark and a community focal point which in turn can increase property value and create incentive for new development (Garvin, Berens 1997: 30).