RESURGENCE

TOWARDS A RESPONSIVE URBANISM

The Architectural Re-Adaptation of Marginal Space: Pretoria CBD

by J.P.J. NEL

To my Creator. Thank You for this life.

To my loving wife. The support you provided during this year instilled within me both the strength and inspiration to complete the task.

To all my parents.   Thank you for being exemplars of integrity and hard work, reminding me that nothing is impossible.

Special thanks to Dr. Arthur Barker, who during the course of this year, became as much involved

in my work as I was. You are a wonderful teacher and mentor.

To my Grandfather and namesake. I believe, In some way, that a dream transcending a generation has now been placed on

a path towards realisation.

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TOWARDS A RESPONSIVE URBANISM:

Architectural Re-adaptation of Marginal Space – Pretoria CBD

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Submitted in partial fulfilment of the requirements for the degree MArch (Prof) in the faculty of Engineering, Built Environment and Information Technology; University of Pretoria.

Pretoria, South Africa
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DECLARATION

I declare that "Resurgence: Towards a Responsive Urbanism: Architectural Re-adaptation of Marginal Space – Pretoria CBD," is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references. I further declare that the design I have submitted for the degree of MArch (Prof), in this dissertation, is my own original work.

J.P.J. Nel

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ABSTRACT

The urban environment resembles a non-static circuit that continuously records, processes and transmits information governed by human needs (Griffin & Kittler, 1996:720). This transfer of information may be compared to frequency bands mediating between man and his built environment: A high frequency of indefinite human activity and a low frequency, representational of definite built form.

By appropriating the philosophical principles of Jurgen Habermas to architecture, it is proposed that indefinite activity lends animation to definite form, which enables man to critique and eventually alter his context. Where definite form overpowers indefinite activity, a disproportional model occurs, where man is made silent and alienated from his context, his needs neglected and his space trapped in time.

The programmatic development of Pretoria as administrative capital over time manifests as introverted architectural assemblages and incomplete spatial narratives. The city's need for indefinite activity is made clear when an insurgent and informal urban program exploits the structure of definite built form - irrelevant of initial function. The latent potential of unprogrammed urban space as a by-product of fractured urban assembly offers un-tapped opertunity regarding the diversity of urban layering as an alternative way to read, challenge and interact with the city.

By opening marginal space for insurgent urban activity, the strategy aims at establishing a sub-network of programmed marginal space clusters within Pretoria's CBD to introduce ''inner city sprawl'' (an implosion of fabric and activity). By exploiting the lack of clearly defined usefulness and in the absence of claims to ownership, opportunity for marginal urban space to associate programmatically with ''uncatered-for-users'' and neglected activities, sets the tone for architectural intervention.

The intervention explores the methods of how architecture can strategically introduce marginal urban space into the city fabric by proclaiming and facilitating a relationship between marginal client and program. Through the exploitation of existing built form and the marginal space it produced, an architectural form is to be developed that may serve as a didactic catalyst towards an alternative and responsive urban experience.

The main driver for function is to provide internalised built entities with appropriate public interface so as to act as a base from which to launch public activity. A marginal urban plinth, next to the North Gauteng Advocates Association, will be utilised as a laboratory to test the validity of architecture as vessel to activate public insurgency, in a strategy towards inner-city renewal. Existing built form and program of buildings contributing towards the genesis of marginal space is approached as a host to be exploited by the proposed architecture. Internalised information and function of the host is to be extracted to generate spatial drivers for new and alternative spatial conditions.
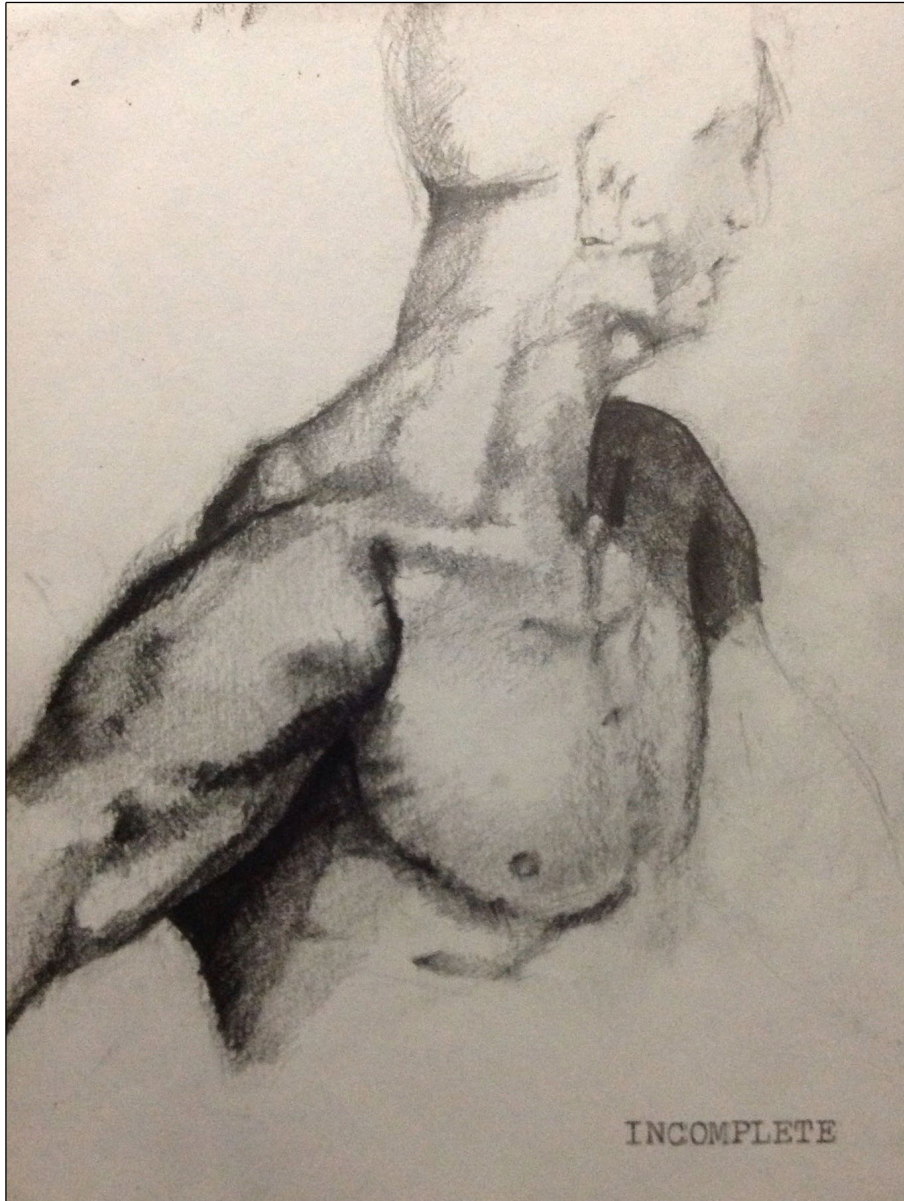
Figure 8.1 "Incomplete" Author 2008

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Ideology: A set of doctrines or beliefs that are shared by members of a social group or that form the basis of political, economic, or other systems (TheFreeDicionary.com).

Insurgency: The quality or circumstance of being rebellious; an instance of rebellion (TheFreeDicionary.com).

Inner-city-sprawl: A build-up and eventual implosion of inner-city built fabric and social capital (Author).

Marginal: Pertaining to the margin; situated on the border or edge; at the outer or lower limits; almost insufficient (www.OxfordDictionaries.com).

Marginal space: "Such space occupies a great amount of the present territory, but it does not identify with precise form, because it can take many and different forms. Metaphorically speaking, the marginal space represents the sea that allows the islands of the archipelago to exist" (Zecchin, 2011:27).

Metachronism: An error in chronology, especially the placing of an event later than its real date (www.OxfordDictionaries.com).

Resurgence: An increase or revival after a period of little activity, popularity, or occurrence (www.OxfordDictionaries.com).

"Ek is 'n Afrikaner in die stad
Ek dra my masker soos 'n kat
Deur donker stegies en geboue
Vat vyf, my broer, vat vyf
En iewers in my onderbewussyn
Sien ek nog die Karooson skyn
Hoor ek die grensdrade se gesing
Voer ek die kabouters in my tuin
Want ek's 'n boer in beton
Soos Oom Paul op ou Kerkplein
Niemand weet van my pyn
Want dit is goed vermom
Ek's n boer in beton
Iewers klink die stem
Van Strydom, Verwoerd en die knipmeslem
Van patriotisme wat nog flits
Al maak ek sondag vuur met Blitz
Elke voorvader 'n Pionier
Ek ek weet ek hoort nie hier
Ek sit laatnag in kroeë rond
Maar ek ken nie meer die reuk van grond
Ek is net so vreemd so jy
In hierdie stad van fuifery
Hier tussen die wolke krabbers
Waar Speed Cops spied en karre ry
My handpalms is wit soos jy
Ek bedel troos waar ek kan
In hierdie land van blik en glas
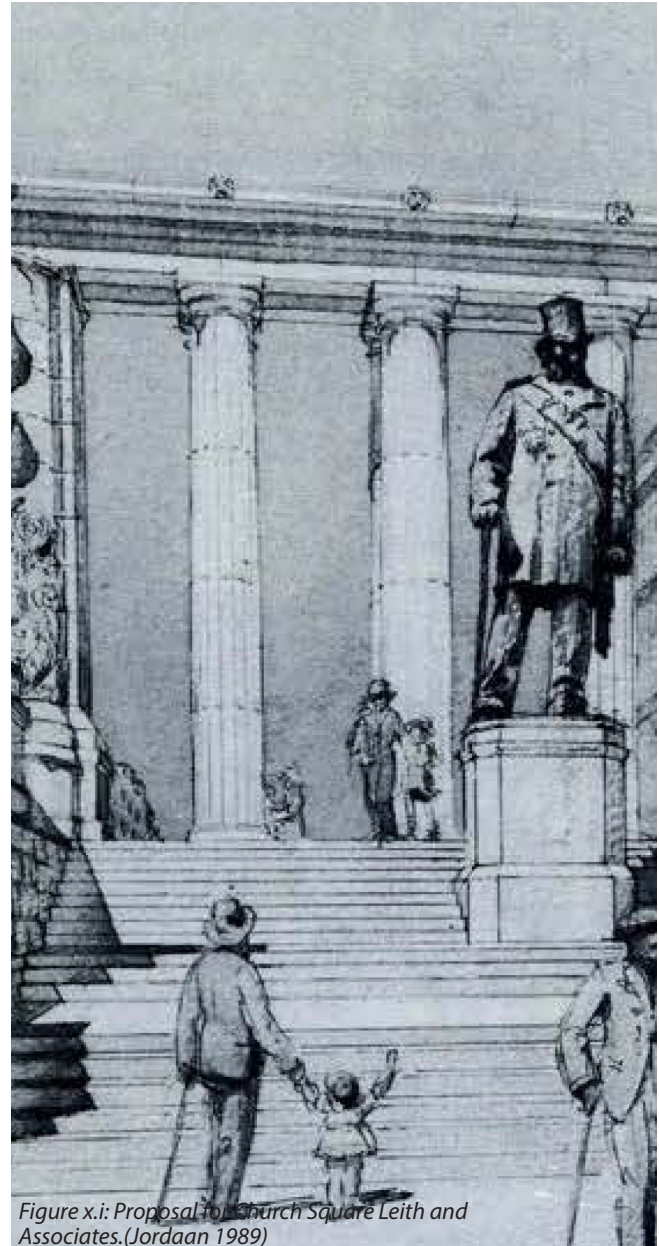*Is ek in sak en as"*

Boer in Beton. Andrè Letoit/Koos Kombuis

Figure x.i: Proposal for Church Square Leith and Associates.(Jordaan 1989)

I

INTRODUCTION

1.1 INTRODUCTION

''Through the invention of his "photographic gun," he wanted to arrest the flight of a gull so as to be able to see in a fixed format every single successive freeze-frame…. a continuous flow of flight, the mechanism of which had eluded all observers until his invention. What we need is the reverse: the problem with buildings is that they look desperately static....that a building is not a static object but a moving project.''

1.2 GLOBAL CONDITION:

Urbanisation and Densification

Urbanisation consists of the physical growth of cities that occurs over time as people settle into places of relatively-high population density (Williams, 2012: xiii-xiv). This migration is triggered by the possibilities of improved livelihood that these places offer. Triggers causing the occurrence of this phenomenon relate to less positive factors such as poverty, undesirable social conditions, isolation and conflict. Although urban growth is commonly viewed as a global trend, patterns of urbanisation throughout history reveal that established industrial societies reflect quite opposite statistics. compared to the influx of people in cities located in developing countries, as it represents a mass increase within the last few decades alone (Williams, 2012: xiii-xiv).

Figure 1.1: Urban Sprawl Aerial Photo at Night

What took New York – the world's largest metropolis in 1950 - nearly a century to grow into a population of eight million strong will be reached within the short period of 15 years in cities such as Sao Paulo and Mexico City. Such urban growth explosions are not limited to Latin America alone, but are also being felt within the continents of Africa and Asia, (Williams, 2012: xiii-xiv) thus placing Pretoria whithin this spectrum.

Dewar (2000:209) is of the position that, in view of the South African context, considerable social and environmental impact that relate to the structure and form of South African cities advocate that the current trend of urban development is entirely unsustainable as suggested by figures 1.2-1.4 - and that urban compaction, or densification, is critical in combating these symptoms.

It is further argued that densification as an isolated strategy towards achieving improved sustainability of urban environments proves ineffective, as it needs to be coupled to the consequential urban restructuring that such a compaction suggests (Dewar, 2000:209).

The primary policy of generating cities with increased compaction is aimed at a rising amount of residential infill that a city could achieve, in order to generate places of work, stay and play (Dewar, 2000:209). It is not advised that residential infill should be implemented within city limits to merely achieve the desired results, but rather as a tool to reinforce urban renewal.

It is therefore imperative that necessary urban renewal strategies are implemented to serve as a base for such influx to be welcomed into the city (Dewar, 2000:209). Dewar further notes that increased urbanisation in South Africa resemble a relatively new

phenomenon, the effects of which have only been felt within the last 50 to 60 years. Much more recent than this is the urbanisation of the majority of black South Africans, previously excluded from city life by the rigorous implementation of the apartheid ideology upon the structures of urban planning (Dewar, 2000:209). The manipulation and distortion of modern movement principles during South Africa's period under segregation resulted in three particular spatial urban characteristics of low density, fragmentation and separation (Dewar, 2000:211). It is therefore argued that, as rapid urbanisation of South African cities are inevitable, architectural interventions should address problems relating to low density, fragmentation and separation towards improving the quality of life experienced by the user it impacts on.

Figure 1.2: Tswhane Census Map (Population Distribution)

Figure 1.3: Urban Sprawl - Greater Tshwane Metroplitain Area

Figure 1.4: Urban Paracture - Pretoria Infrastructure

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1.3 CONTEXT: The City as Information Orientated Medium

"A city... is not a flattenable graph. In a city, networks overlap upon other networks. Every traffic light, every subway transfer, and every post office, as well as all the bars and bordellos, speak of this fact"

(Griffin and Kittler,1996:719).

Griffin and Kittler (1996:720) states that urban environments resemble a non-static circuits that continuously record, transmit and process information governed by human needs (Griffin and Kittler, 1996:720). This understanding forms the foundation in understanding urban contexts for the purposes of this study. This transfer of energy in the form of information may be compared to frequency bands mediating between man and his built environment. Figure 1.5 illustrates a high frequency of indefinite human activity driven by experience and a low frequency, representational of definite built form, driven by housing the requirements of human activity through various ideologies at certain points during a culture's evolution. Indefinite activity lends animation to definite form, enabling the user to critique, alter and express himself through his context by means of a continual reinterpretation and rediscovering thereof (Dewar and Uytenboogaardt, 1991: 15).

It is argued that, where definite form overpowers such activity, it produces an inverse condition of this relationship between man and his built habitat. In such a state the city is viewed as a collection of built entities which withholds information from flowing freely from building to user by internalising its program. Here the user is transformed into a metachronism; made silent, alienated from his context, his ever-evolving traditions neglected and his space trapped in time. This condition gives rise to three spheres of marginality, namely user, space and program.
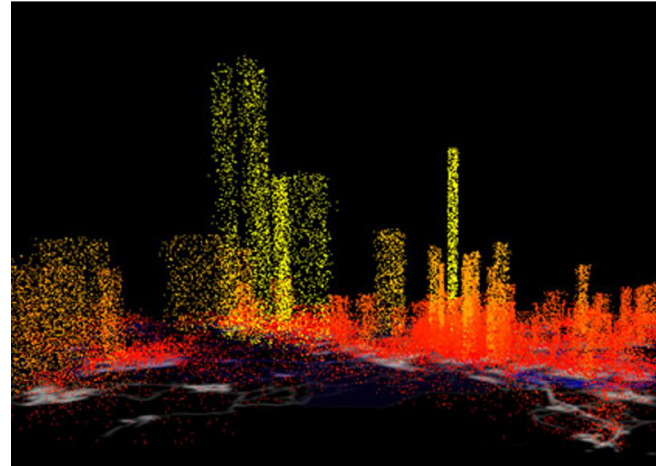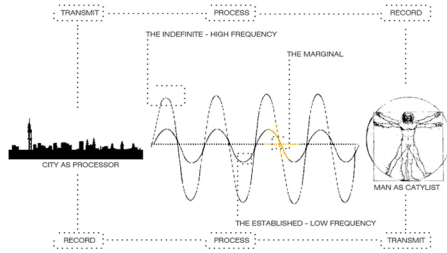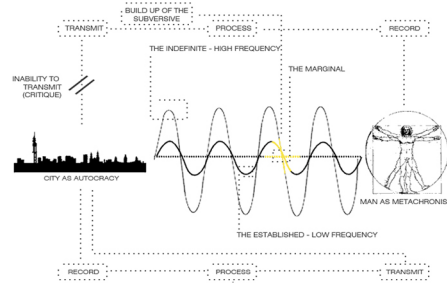

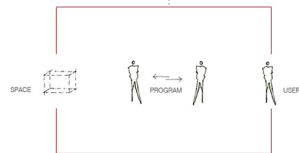*Figure 1.5: Digital Representation of SMS (Short Message Service Traffic within a city*

RESPONSIVE MODEL

NONRESPONSIVE MODEL

INTERSECT MARGINAL

RESPONSIVE MODEL

REINFORCED MODEL
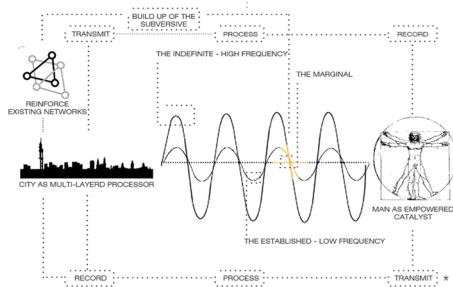
REINFORCED MODEL

Figure 1.6: Resurgence (Author 2015)

1.4 PROJECT INTENTION

1.4.1 Urban Intention

Low density, fragmentation and separation characteristic of the South African city due to segregation-based urban planning (Dewar, 2000:209), as reflected in Pretoria, translate as a disproportional urban model where architectural form does not allow itself to be impacted by the indefinite and everyday urban activity of its users. These fractured urban assemblages and incomplete architectural narratives give rise to marginal space within its city limits (Fig 1.5).

The latent potential of unprogrammed marginal urban space as a by-product of fractured urban assembly is investigated with regards to the latent potential it offers to diverse urban layering as an alternative way to read, challenge and interact with the city, as well as a possible response to the issue of low city density and to the requirements of increased urbanisation. By programmatically activating marginal space to facilitate the everyday needs of the user, the strategy proposes a sub-network of programmed marginal space clusters within Pretoria's CBD to promote ''inner city sprawl'' – a concept in response to an urban mapping investigation, which refers to an implosion of urban fabric and activity.

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1.4.2 Architectural Intention

Through the development of an architectural language that will best suit the activation of marginal space specific to Pretoria's context the dissertation explores the catalytic role of architecture as a vessel to allow the city to infiltrate marginal spaces. The Habermasian principle of society being dependent on the critique of its cultural traditions as a vital requirement towards social consensus, change and strengthening of society (Atkinson, 2011: 307) is contextualised within the architectural field. Here the didactic properties of architecture is brought into action with the aim of empowering the user with amplified critique of his urban tradition, and to promote a city environment that responds to his evolving needs, program and space.

The dissertation places architecture in a position where it may become the tool in altering the relationship that exists between the "static" built form, marginal space and the everyday user to extend the boundaries of inner-city interaction and experience.

1.4.3 Dissertation Intention

Firstly, the study aims to identify factors that result in an oblique urban model, which consequently causes the formation of marginalised urban space through an investigation into Pretoria's past, present and future contextual nature in order to gain a comparative understanding in generating conceptual principles in addressing the architectural intentions. Secondly, the dissertation will interrogate relevant theories that may aid in the formation of a conceptual approach so as to establish the role of architecture in addressing the issues of marginal space and Pretoria as an un-responsive urban model. This process also aims at an alternative method of reading Pretoria's urban fabric, through a spatial sub-framework, to inform and strengthen existing and future conditions.

1.5 RESEARCH QUESTION

How can an architectural intervention aid in the re-adaptation of marginal space to contribute towards urban renewal?

1.5.1   Sub-Questions

How can marginal urban space become activated as public space, aimed at increased urban vibrancy?

How can architecture, as a didactic instrument, expand the practice of everyday urban activity and needs, whilst activating public use of marginal urban space?

What architectural form can be developed that will place emphasis on indefinite urban activity to reinforce Pretoria's administrative core with social capital?

1.6 HYPOTHESIS

It is hypothesised that Pretoria represents an unresponsive urban model with regards to built form and socio-cultural flux.

Through the architectural activation of marginal urban space, it is further hypothesised that a precinct to serve everyday social needs may be established to serve as a positive catalyst within its urban context to promote inner-city renewal.

Figure 1.7: Intervention Macro Context (Author 2015)

Capitol Park

Union
Buildings

National Zoological ─
Gardens

Church Square

Townlands

Sunnyside

Burgers Park

Salvokop

Freedom Park

SITE

TELKOM TOWER

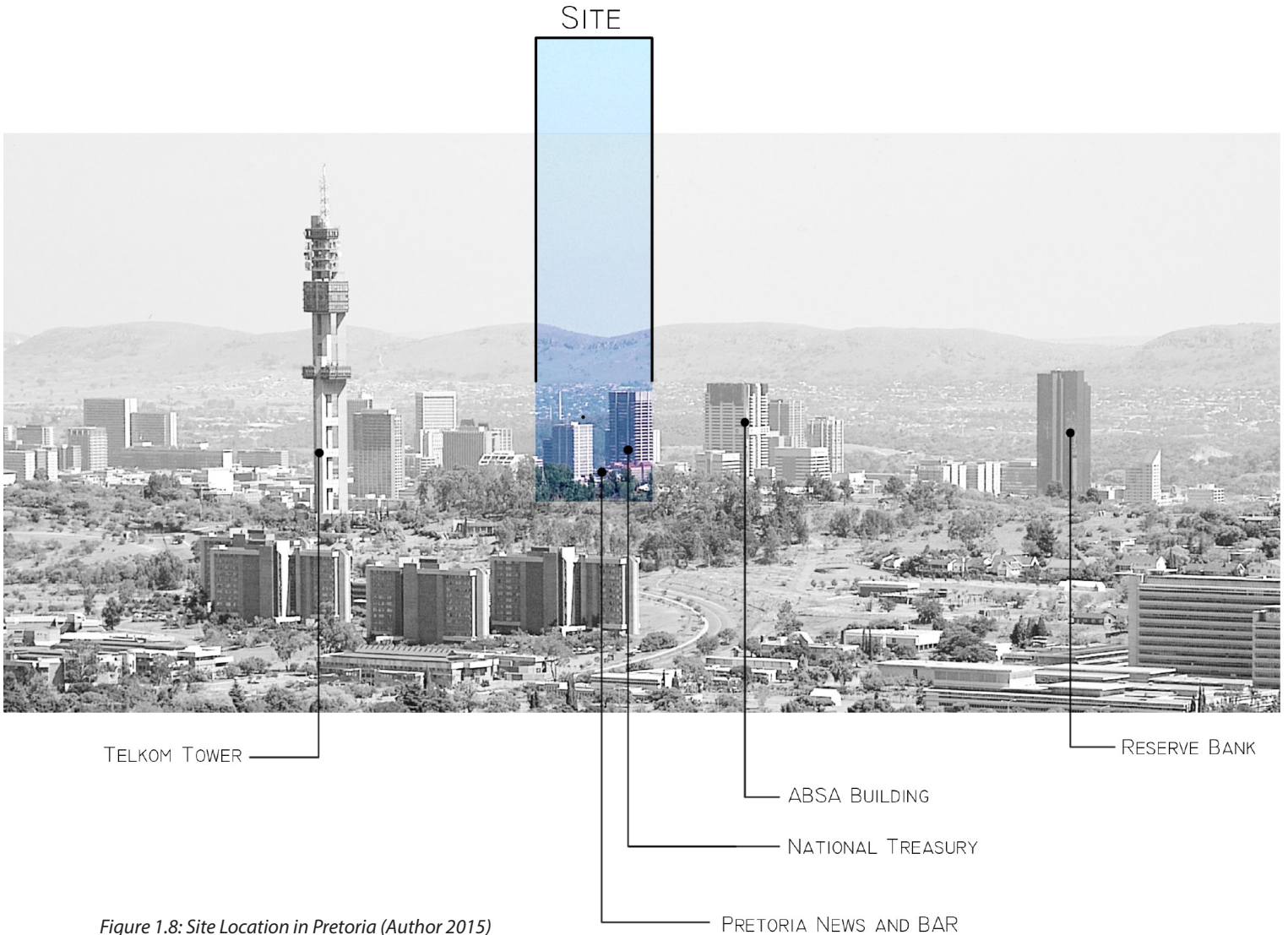RESERVE BANK

ABSA BUILDING

NATIONAL TREASURY

PRETORIA NEWS AND BAR

Figure 1.8: Site Location in Pretoria (Author 2015)

Pretoria BAR

Pretoria News

Home Affairs

Figure 1.9: Site Location - CBD (Author 2015)

National Treasury

Reserve Bank

State Theater

Church Square

Lilian Ngoyi Square

1.7 SITE

The site is isolated within Pretoria's legislative and administrative core, with specific focus on the precinct northeast of Church Square (Fig 1.6). In addition to various government departments, the site also houses the High Court Chambers, Pretoria News headquarters, independent education, religious organisations and small businesses and housing elements.

A sub-framework, informed by the assemblage of unprogrammed space within the precinct, will generate the foundation for the intervention. The main focus for the intervention will fall on an unoccupied plinth located within a city block in-between the Society of North Gauteng Advocates, Department of Home Affairs headquarters and National Treasury.

1.8 CONCEPT AND PROGRAM

The intervention introduces the idea of incision, extraction and distribution. Programmatically internalised buildings on site are to be confronted architecturally in such a manner as to extract their programmatic functions. The intervention will further explore the possibility of new spatial conditions that may be generated when an extracted program is manipulated and distributed into the public realm.

The proposed program will be developed from a process where a public interface is to be provided for at least one of the internalised programs already present within the precinct. NThe program represents the vessel that will initiate the process of incision, extraction and distribution of the internalised building function and will be provided by means of a library extension for the Society of North Gauteng Advocates.

Broadly, the program will explore potential public and pedestrian impact that may aid in the establishment of the unoccupied city plinth as a civic service space. In addition to a library extension, a broad program outline proposes a law archive, research facility, arbitration- and legal-aid facility, as well as various mediating components to facilitate public need related to the National Treasury and the Department of Home Affairs.

The design proposal will architecturally aim to address the exclusive and disjointed physical relationship in which the precinct's institutions operate by utilising the consequent marginal space this relationship produced to confront the city with its responsibility towards urban marginality in terms of client, program and space.

1.9 RESEARCH METHODOLOGY

The research study seeks to explore, describe and interpret the various causes and conditions of marginal space within Pretoria's urban structure. A theoretical approach will be developed to aid in a conceptual development that will drive an architectural design process with the aim of readapting marginal space for urban renewal. The research consists of critical or qualitative methods in developing an understanding of the underlying reasons, motivations and ideas that led to the formation of Pretoria's urban core and how these factors led to the formation of marginal city space.

Miles and Hubarman (1998) as cited by McNabb(2004), defines Qualitative data as representational of the spirit of people, objects and situations, and it is the role of the researcher to process, analyse and interpret these raw experiences or data, in order to transform them into a meaningful conclusion (McNabb,2004:288).

As this study confronts Pretoria as an unresponsive urban model, at a social or "every-day user" level, it will not deal with the collection and analysis of statistical data, as characteristic of quantitative research. Correlation- or regression analysis is used in determining the strength of a relationship that exists between Pretoria's underlying ideology and its urban response towards the everyday user. These methods, as clarified in figure 1.7, will be arranged into the following structure:

1.9.1 Tier 1: Urban Context

This consists of a historical analysis of the past, present and future urban contexts of Pretoria as administrative capital of South Africa. A review and interpretation of secondary literature will form a basic understanding of the underlying principles, which led to the formation of Pretoria as South Africa's administrative capitol.

The effect of these principles will be analysed within the current urban condition, by means of site visits and mapping exercises. This analysis will then aim at supporting the hypothesis that Pretoria, at a social- and public level, represents as an unresponsive urban model and will address the associated causes and opportunities of such a model throughout the architectural intervention.

1.9.2 Tier 2: Theoretical Approach

The philosophy of entropy is introduced as a vessel in understanding the relationship between the user and the city with regards to causes and opportunities, as established during the contextual analysis. This process, in collaboration with appropriate architectural precedent, will also aid in establishing a definition of marginal urban space and insurgent activity, as well as understanding the relationship that exists between these factors. Architectural theory familiar with the causes and opportunities of marginal urban space are to be integrated to locate the study and its relevance within the spectrum of architectural research.

1.9.3 Tier 3: Concept

A conclusion to be developed from the above processes will aid in the formation and strengthening of an architectural concept. Through an iterative design and technical exploration, the dissertation will test the established methods and theory within the contextual arena of Pretoria's CBD in addressing the re-adaptation of marginal space in Pretoria's central business district.

1.10 LIMITATIONS

The study intends to establish a general and metaphysical understanding of the relationship which exists between the user and Pretoria's built environment, as a product of the imbedded urban ideology.

As an alternative analysis, and opposed to quantitative or statistical "mapping exercises," the dissertation attempts at grasping the general "mood" of the city toward its everyday users, in order to establish a base for conceptual development.

Due to time constraints, the study will therefore refrain from an intensive investigation into all current building-user relationships, and will locate general areas within the city where this relationship is most fractured.

1.11 DELIMITATIONS

The project will react to the qualitative past, present and current relationship between the user and his built environment, as informants towards the architectural design development. The every-day user is regarded as both generator and instigator of urban space, and therefore does not resemble a quantifiable category.

The investigation will not venture to speculate on the impact of future city upgrades and developments, as its effect on user-building relationships cannot yet be interpreted.

As the dissertation focuses on the architectural re-adaptation of marginal space as a catalyst towards urban renewal, the study will refrain from proposing any new major urban framework alterations, but will rather react to the existing "face value" of the existing and proposed urban development.

The theoretical approach will not consist of an in-depth discussion regarding the scientific principles of entropy theory, nor will it consult any literature of such nature. The study will therefore extract basic philosophical principles of entropy as a universal idea and will aim at contextualising these principles into the urban and architectural field of study.