



The Forgotten
[By-products of the daily exodus]

An architectural exploration of the creation of collective memory space in the informal settlement of Phomolong, specifically for the remaining community networks of Neonates and Elderly dependents.

Ursula Kotzè MProf(Arch) 2015 University of Pretoria



In accordance with regulation 4[e] of the General Regulations [G.57] for Dissertations and theses, I Declare that this Dissertation whic I hereby submit for the Degree Magister of Architecture [preofessional] at the University of Pretoria is my own work and has not previously been by me for a degree at this or any other tertiary institution. I further state that no part of my Dissertation has already been, or is currently being, submitted for any such degree, diploma or other qualification.

I further declare that this dissertation is substantially my own work. Where reference is made to the works of others, the extent to which the work has been used is indicated and fully acknowledged in the text and list of references.

Ursula Kotzè 2015



Submitted to fulfil part of the requirements for the degree Magister in Architecture (Professional),

Department of Architecture,

Faculty of Engineering, the Built Environment and Information technology,

University of Pretoria, 2015

Course coordinator: Arthur Barker Study leader: Carin Combrinck





With special thanks to:

Dr. Carin Combrinck and Dr. Arthur Barker, for all your guidance.

Dr. Carin Combrink for helping me cross the language barrier by proof reading and editing.

Nick Randall, who walked every step with me through the unknown.

My parents, Elma and Koos Kotzè, for making my dream a reality and believing in me always.

And my Lord, for giving me strength, resilience and passion.





Abstrak

Hierdie skripsie ondersoek die potensiaal van argitektuur as 'n geheue genererende voorwerp en die verkenning van verhaal as 'n ontwerp genereerder.

Verhaal word as 'n instrument vir die ontwerper vir waarnemings wat gemaak is tydens terrein besoeke. Dit help die ontwerper om die omgewing te interpreteer en daardeur gedompel in die omstandighede te word om sodoende die terrein te definieer, beide in terme van sy informaliteit asook gebrek aan pragmatiese geskiedenis.

Die gebruikers word die primêre invloede en genereerders in terme van beide program en vorm, om sodoende 'n gemeenskaplike na-gedenktenis en plek vir die vergete netwerke van Phomolong, in Mamelodi, Tshwane, te skep

Die rede om ontwerp op hierdie manier te genereer is om toepaslik te reageer op gebruikers se behoeftes, die skaal van die konteks, sowel as om toe te laat vir die verdere ontwikkeling van die gebruikers.

Deur die aanspraak en bespreking van die kwessies rondom plekloosheid, die gebrek aan identiteit en ruimte vir n kollektiewe nagedagtenis, in die eens tydelike plek van Phomolong in Mamelodi.

Figure 1: The Universal Child, Collage, Author (2015)



Abstract

This dissertation investigates the potential of architecture as a memory device and the exploration of narrative as a design generator.

Narrative is used as a tool for the designer to interpret observations made during site visits and thereby become immersed in the conditions that define the site, both in terms of its informal nature and lack of pragmatic history.

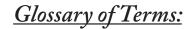
The users become the primary influences and generators of both programme and form, to create a collective memory and place for the forgotten networks of Phomolong in Mamelodi, Tshwane.

The intention of generating design in this way is to respond appropriately to users' needs, the scale of the context, as well as to allow for further development of these users. By addressing and discussing the issues of placelessness, lack of identity and collective memory space, in the once temporary place of Phomolong in Mamelodi.

Figure 2: The Realist Elder, Collage, Author (2015)



Amorphous space Biophilia	- without a clearly defined shape or form Interpreted in the text to describe a region of land between the informal community of Phomolong and Greenview station.	Earthbound	- restricted to the earth (also see monolithic) Interpreted in text to express the grounded networks in the community and the restriction caused by their environment.
Cultural memory	-an innate affinity of human beings with the natural world engenders the spirit which defines a culture through a group's collective experiences.	Ecotone	 a region of transition between two biological communities, often a place of diversity. Interpreted in the text as a region where two social
Catharsis Early Childhood	- The process of releasing and thereby providing relief from, strong or repressed emotions. Interpreted in text through Biophilic Architecture as a form of release from the surrounding context, a space to escape from the mundane.	Ephemeral	networks meet. - transient in nature Expressed through the use of light tectonic architectural elements to convey the idea of movement and rising above the mundane environment.
Development	-the period from birth to eight years old, these years lay the foundation for subsequent learning	Existential knowledge	- Interpreted in text as knowledge gained through life experiences.





Feminine Space -often been noted to be more orientated towards emotional care and healing

the Forgotten - a term given by the Author which refers to the networks of

people who do not migrate daily to and from Phomolong for work, but stay behind, a reference to out of sight, out of

mind'.

Islands of Activity - refers to pockets of high activity which are fenced off from

the rest of the community.

Matriarchal space

Neonates

- Interpreted in text as a space goverend by women who are the

caretakers and providers, a caring and nurturing space.

- infants, in need of constant care and supervision.



Table of contents:

Chapter 01:		Chapter 02:		Chapter 03:		Chapter 04:		
Introduction13		Context31		Theo	<i>Theory</i> 57		Programme71	
1.1 1.2 1.3.1 1.3.2 1.4.1 1.4.2 1.5 1.6 1.7.1 1.7.2 1.7.3 1.8 1.9 1.10 1.11 1.12	Narrative introduction Normative position General Issues General Intentions Urban Issues Urban Intentions Architectural issue Problem statement Research Question Sub Questions Hypothesis Project Intention Research Methodology Theoretical Approach Programme Client	2.1 2.2 2.3 2.4 2.5 2.6.1 2.6.2 2.7 2.8 2.9.1 2.9.2	Narrative introduction The city as memory The city as data SWOT analysis The ecotone at Greenview The community The characters at play Existing tissue of site The city imagined urban framework approach Four pillars of sustainability	3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8	Introduction to Theory Theory Collective Cultural Memory Existential Knowledge Dormant Potentials Biophilia Matriarchal Space Conceptual and Theoretical Conclusion	4.1 4.2 4.3	African Childrens Feeding Scheme Early Childhood Development Schedule of accommodation of daycare facilities	



Chapter 06:	Chapter 07:			
Design development101	Technical investigation131			
 6.2 Reflection 6.3 Other Considerations 6.4.1 Design Iteration 01 6.4.2 Design iteration 02 	 7.1 Technical concept 7.2 Structural Intention 7.3 Technological Intention 7.4 Material choices and characteristics 7.4.1 Rammed Earth 	Final presentation157 Conclusion185		
S S S S S S S S S S S S S S S S S S S	7.4.2 Bamboo 7.4.3 Bamboo Experience 7.5 System and service response 7.5.1 Hydroponics 7.5.2 Biodigester	Bibliography		
	Design development	Design development		

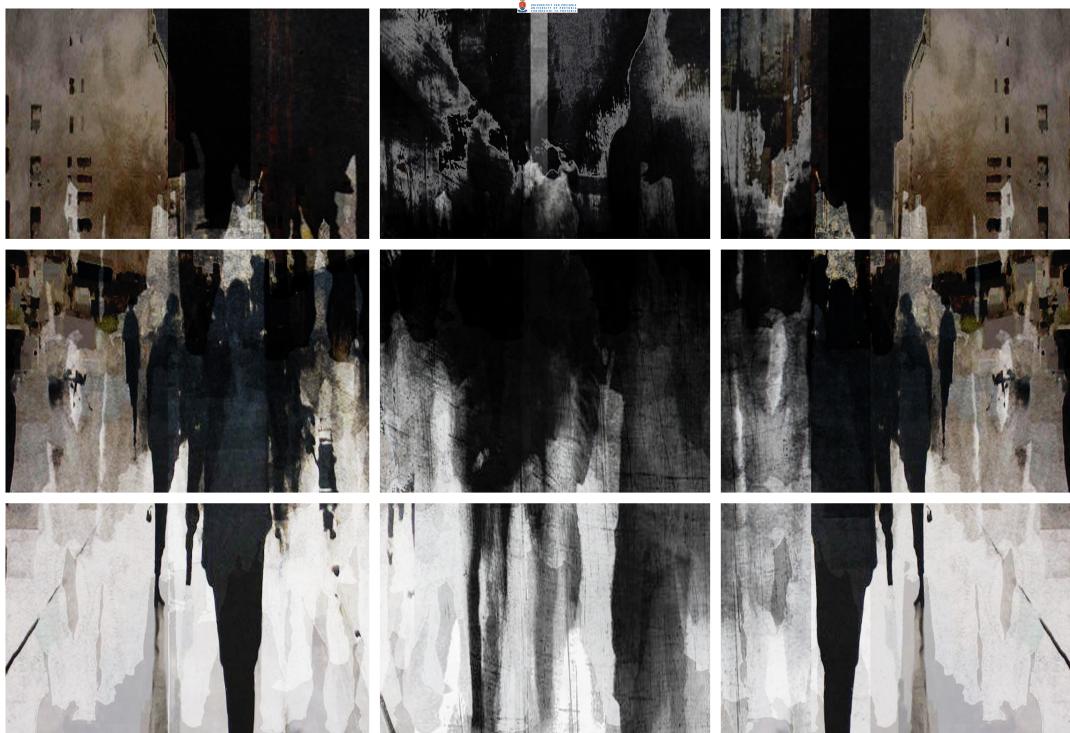


Figure 3: Faceless masses, Collage, Author (2015)

© University of Pretoria



1.1 Narrative introduction

The following introduction relates to observations made by the author during site visits and informal interviews. The narrative was used as a method of internalising the context and to allow the author to become immersed in the conditions which influence the everyday of the users.

Every day the *great migration* takes place, the daily exodus of the working class. Feet tread the sometimes dry and dusty, sometimes muddy and slippery road to the train station.

Passers-by greet and buy blue-boiled eggs, *aromatted* on their way to becoming another statistic in the throngs of people using public transport across the country.

Mothers greet their children and run off to miss the greatest part of their child's day. They remain behind, watching as her face melts into a mess of faceless people. There is an entire community that is left behind and from 6am to 6pm the children and unemployed become the *Forgotten*.

Conflict of interest and no cohesion is the order of the day in the fragmented and schizophrenic place called home by so many.

1

Introduction

- 1.1 Narrative introduction
- 1.2 Normative position
- 1.3.1 General Issues
- 1.3.2 General Intentions
- 1.4.1 Urban Issues
- 1.4.2 Urban Intentions
- 1.5 Architectural issue
- 1.6 Problem statement
- 1.7.1 Research Question
- 1.7.2 Sub Questions
- 1.7.3 Hypothesis
- 1.8 Project Intention
- 1.9 Research Methodology
- 1.10 Theoretical Approach
- 1.11 Programme
- 1.12 Client



1.2 Normative position

Users activate a space.

Design must focus on the nature of the void between the built form and, in particular, the interface that mediates between the public and private domains (Ewing 2015).

Designers have the ability to notice lost opportunities and to synthesize how a myriad of divergent elements could lend themselves to creating platforms for users to activate space (*Parvin 2013*).

These opportunities are often found in intangible, marginalised spaces. The notion of re-establishing the presence of users' intrigues and the possibility of new, interactive, enriching spaces drives innovation.

Space becomes activated when human interaction is considered as a platform to build from, on all scales, including economically and communally, catered for through architectural intervention.



Figure 5: Site location, Author (2015)

1.3.1 General issues

It seems in Phomolong that those that remain behind, remain lost. Those left behind while others make the daily trek to work, add no value to the community or to themselves. They become economic pariahs. They move on the peripheries of the fine grained scale of their residential context, trapped in their sphere.

Children living in poverty are extremely vulnerable and often discriminated against and isolated (Atmore 2012).

As sure as the morning sun, they move in monotonous circles, rarely changing from day to day, circles that seldom interact or merge. The networks remaining in Phomolong on a daily basis have become stagnant.

Poor architectural design impoverishes the built environment... impacting quality of life, denying a sense of place and perpetuating a loss of identity, while manifesting in fragmented and inherently unsustainable communities (Aliyu and Ebohon 2014).

This stagnation presents little chance of growth, for those who need it most.

1.3.2 General intention

The intention is to create opportunities for social spheres to overlap and merge. This would be done to create a friction of positive growth through cohesive interaction, promoting new typologies, producing a unique identity of place.

It is intended that the overlapping of these social spheres will nurture greater communal cohesion, attempting to remove the label of non-place from Phomolong, thereby creating a hub of growth for those looking to define themselves.

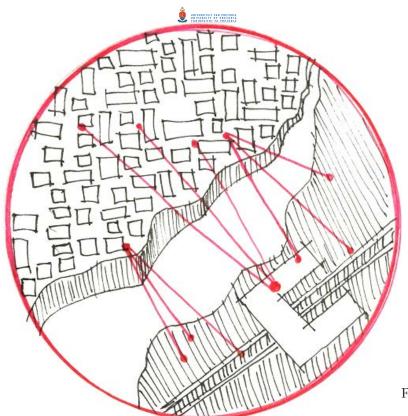


Figure 6: Reconnecting Phomolong to Greenview station –
The Amorphous space, Author (2015)

1.4.1 Urban Issue

Although there are spaces where the fine grain is intricately woven and *ecotones*¹ overlap, there is a lack of understanding between scales.

While the grain of Phomolong could be compared to scattered dust, the transportation nodes around it dominate the skyline. This lack of understanding between the fine and coarse grain, allows for non-place to thrive, thus making anything outside of the community apparently inaccessible to the forgotten remnants of the daily dwellers.

Edge and core are separate and unique fields of activity, except for moments of catalytic communication (Pendleton-Jullian 2009).

A translation is needed, a blending of barriers. Where friction once was, opportunity can be found, through the incorporation of all the involved parties.

We define Cultures of thinking as places in which a group's collective, as well as individual thinking, is valued, visible and actively promoted as part of the regular, day-to-day experience of all group members (Ritchhart 2015).

¹ Noticeably different ecologies interacting to form a more vibrant, resilient environment (Pendelton-Jullian 2009)



Figure 7: Reconnecting Informality to Formality The Amorphous space, Author (2015)

1.4.2 Urban intention

The economic island of Phomolong needs to reconnect itself to its greater context. This could be achieved through the community taking ownership of their own space. The driver for this would be the use of a *mnemonic system*¹ of space, addressing the intimidating gap between the varying scales of the surrounding fabric.

This can be incorporated by using typologies or activities which are known elements, and merging these elements with contemporary typologies.

The mental image of the physical environment contributes to the emotional well-being and mental stability of the individual and it helps organize and retrieve socially related memories and values (Ekman, 2013).

¹ A system of reminders for the retention of a group history and ideals (Ekman, 2013)

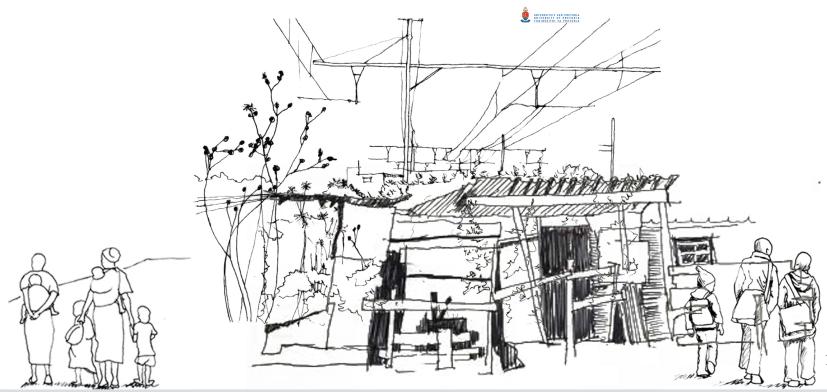


Figure 8: Architectural issue - The Typology of informality, Author (2015)

1.5 Architectural issue

Plots form tiny spaces, each with its own interpretation of what a fence looks like. Almost vexingly these fenced off plots form L-shapes with an open space towards the street edge, public, yet controlled. Within these small snippets of space, informal crèches have found their origins in the communal homes of the elderly. Sleeping quarters have been shrunk to substitute as classrooms. The structure never grows, but soon it houses nearly 70 children daily, from 6am to 6pm.

While the sun is out, children are kept in. Their perceptions become closed, dark and humid. Their understanding of life, dull and restricted. Those children lucky enough to greet the sun, do so from under the veil of washed laundry, or in the shade of precast long-drops.

A significant number of children do not have access to adequate sanitation facilities, thereby making use of unventilated pit latrines, buckets and/or open land. Inadequate sanitation results in young children becoming susceptible to a range of illnesses and diseases that compromise their health and nutritional status. (Atmore 2012)

These re-appropriated spaces lack facility and infrastructure to promote positive educational interaction, and are even further withdrawn from the rest of the forgotten community.

It is clear that income poverty is closely connected to poor health, limited access to education, nutrition, healthcare services and safe environments. (Atmore 2012). Crèches have become islands of activity within left behind space.

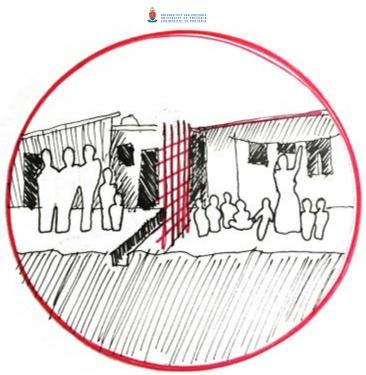


Figure 9: Architectural issue - Islands of activity behind fences, Author (2015)

1.6 Problem statement

The current crèche typologies are islands of activity that do not promote social interaction, or healthy spaces for child development. The intermediate spaces have become territorial and uninviting.

This is partially due to the lack of infrastructure and partially due to the lack of a collective memory and sense of individual or communal identity within place.

Owned spaces refer to a process by which communities feel concerned about and responsible for their immediate and daily environment (Ewing 2015).

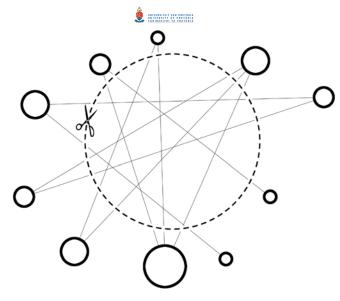


Figure 10: Disconnected Networks, Diaagram, N.Randall (2015)

1.7.1 Research question

How can architecture aid the process of creating a collective social memory for the remaining networks of the neonates and elderly dependents (this network is seen as a whole, where the caregivers interact with the children, children interact with children and caregivers with other caregivers), through questioning the current introverted social spheres in the existing environment of Phomolong.

The overlapping of detachment; to enhance connectivity (Salingaros and Mehaffy 2006).

The detached networks that are being considered, create the opportunity for a strengthened collective to be formed, hence enhancing connectivity within Phomolong.

1.7.2 Sub questions

How does placemaking differ from space?

What characteristics of place encourage the attachment of memories? (Treib and Lyndon 2009).

What is the role of architecture as a mediator and translator between culture, tradition and education?

Investigating the process in which children's educational spaces integrate with community life through an extroverted educational approach (Maritz 2012).



1.7.3 Hypothesis

Architecture has the potential to facilitate the process of re-seeding growth and becoming a hybrid typology that encourages the collective memory of the networks remaining in Phomolong through manifestation of place.

1.8 Project intention

Great learning happens in groups, collaboration is the stuff of growth (Robinson 2010)

There are daily routines and rituals that are taken for granted, time consuming practices that fill up the day. These rituals are the activities which can make the in-between spaces become destinations. Architecture has the ability to facilitate these ritual activities and create a common platform where the monotonous can become a celebrated and dynamic point of interaction. To become a point of culmination and dispersal, that feeds back into the community. The project intention is to create a common ground for daily activity to become a celebrated event.

We do not only exist in spatial reality we also inhabit cultural, mental and temporal realities (Treib and Pallasmaa 2009).

Thus the investigation focusses on architecture as a social system, as opposed to architecture as an object. Creating ownership of place for the economically left-behind, eventually serving as a platform from which memories can be formed: To find a gap in the self-made fence.



1.9 Research Methodology

Through unstructured interviews and physical observations information can be gathered about the situation of the proposed users, to be able to react appropriately to the architectural issue. Due to political unrest and service disputes within Mamelodi and Phomolong, a thorough integrated and bottom-up approach was not possible throughout the investigation of the dissertation.

Three site visits were undertaken.

The first site visit was taken along the train tracks and towards the site office of the Greenview station. Walking along the peripheries of the informal settlement and on the edges of the landfill, yet not entering. The construction workers at the station ushered us towards the site office. After our group entered the site office, the site manager gave us the contact details of the South African National Civic Organisation (SANCO) appointed community leader of Phomolong, stating very clearly that we are not to enter the settlement nor the landfill without a guide.

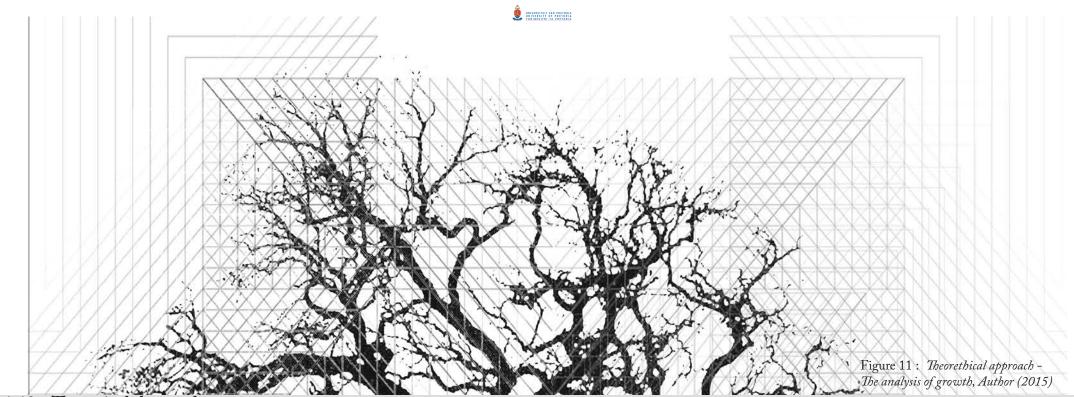
On our group's second site visit we met with three community leaders. They met us at the University of Pretoria Mamelodi Campus and walked with us on the western edge of the settlement. This was mainly due to the community leaders showing a great interest in the proposed crèches. The community leaders took us to all the crèches and expressed great concern for the lack of sanitation and the problems considering feeding and lack of space. They expressed that the crèches were over-populated especially after the removal of four crèches that were located in the area in front of the train station. Therefore many children were being looked after by family members. The community leaders took us to all the remaining crèches and expressed that there had been recent fatalities at the crèches due to malnutrition and a lack of health care facilities in the area as well as the caretaker's lack of knowledge of how to handle emergency situations.



During the visit to the last crèche our group and the community leaders were approached by a politically orientated group of people. They misinterpreted us being there and after escorting us from the settlement clearly stated that if we should enter the settlement again, with community leaders or not, that our safety could not be guaranteed.

The third site visit was to the landfill with a PhD candidate in anthropology, who has been studying the networks within the landfill. No further site visits were conducted into the settlement.

The project intention will be further strengthened through a literature study of theories concerning similar situations and precedent studies and conveyed through a narrative supported by deductive reasoning and memory from the site visits.



1.10 Theoretical Approach

The residual deposits of memory¹ and sense of place becomes preserved and visible to all who cross its path. Memory not only exists in spatial reality, but inhabits and manifests itself, established through the creation of an awareness of the surroundings (*Treib and Pallasmaa 2009*).

Memory spreads its fingers like branches, projecting its experiences, externalising what is contained. This is a method of expression through physical space and architecture.

Architectural structures... domesticate space for human occupation by turning anonymous, uniform and limitless space into distinct places of human significance (Treib and Pallasmaa 2009).

The anonymous space, the barren-scape as unclaimed land to the north of what one day will be Greenview station, becomes a place of communal significance. A place of reminiscence, which articulates the user's experience and inspires the imagination, forming identity from memory. This is a method by which architecture can influence its context and the users that interact with it. To create a point of reflection, a shelter for the day-dreamer.

The physical manifestation of a place for the *Forgotten* combats the cognitive effects of a cultural amnesia.

It is the capacity for being held in the mind that allows places to accrue significances that are both intimate and public (Treib and Lyndon 2009). Thus, by increasing interaction of mutually beneficial programmes being hosted in the proposed intervention, the social system in and around the structure gains communal significance.

¹ Memories brought along from other origins and cultures (Treib and Pallasmaa 2009)



The spatial framework of memory is the dynamic spatial and conceptual construct in memory of physical places (Ekman 2013). The creation of memories could be aided through the use of spatial tools and the built environment. This would be done to address the migratory state of non-place and through these theories strengthen the architectural intervention, thereby creating an intuitively recognisable place for the networks which are left behind every day.

Elements of the public realm usually carry many initiatives, palimpsests of imaginations that have been brought to the site and invested there (Treib and Lyndon 2009). A series of social systems has the possibility to strengthen the collective, forming a social palimpsest of different users interacting within different thresholds.



Figure 12: Communal Schizophrenia - wants vs needs, N. Randall (2015)



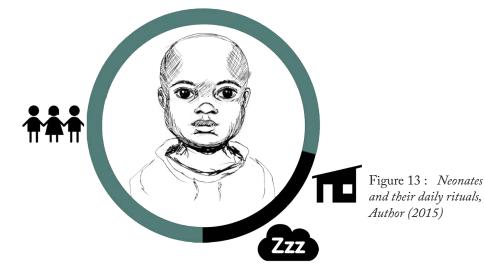
1.11 Programme

The proposed programme will aim to create place for the *Forgotten* through the manifestation of spatial memory (as discussed in the theoretical approach section) and a celebration of daily existing rituals.

The network of the neonates and aged dependents are the primary focus of the proposed programme. The exaggeration of an existing social ecotone (the overlapping of two social spheres) allows for the possibility of creating enriching, social and didactic spaces for those currently spatially lost within their own communal home.

As expressed during the site visits by the SANCO community leaders, a space for children whose parents do not have the funds to send them to the existing day-care facilities is of great importance to the community. A cultivation space where elders can produce fruit and vegetables to feed the children being raised communally, would aid the issues of malnutrition surrounding the existing crèche facilities. It would be proposed that surplus produce could be provided to the existing crèches in Phomolong or sold as extra income to passers-by on their way to transportation nodes such as the Greenview Station just south of the marginalised settlement. This provides a healthy community initiative that can reinforce the collective memory of space and reclaim ownership by the *Forgotten*.





The Neonate

Curious and eager to play, learn and achieve. They are hardly aware of the fact that it is 5h30am and that it is still dark outside when they greet their mothers. Too little space for too many kids, but other than being watched by an older sibling or playing at their mothers feet as she does the laundry, in the dawn of their lives, these small spheres are what they know.

1.12 Client

Through the process of observation, during the site visits and constructing the narrative as a memory device, the following characters became apparent. It also became apparent that the role of the caretaker and elderly dependent often merge to become one and the same.

It is clear that early childhood development is very important in laying the foundation for a successful academic path especially for those children living in underprivileged circumstances (UNICEF, 2009). (Atmore, 2012)

Expanding the range of developmental activities through the built environment has the opportunity to help form the early developmental years of children. This could be achieved by the structure offering a wider range of perspectives to the children through varying levels of observation and interaction.





Figure 14: Mothers and their daily rituals, Author (2015)



Figure 15: Elders and their daily rituals, Author (2015)

The Caretaker

A kind heart with too much to give, but not enough space or resources to accommodate each child that crosses her path. She gladly sleeps in the makeshift office space to open a new classroom. From 6am to 6pm, she is mother to 66+ children, but some days there isn't enough pap and if one child coughs, they all soon follow in a choir.

The Elderly Dependent

She runs the household, she sweeps and washes until her frail fingers are prunes. Yet except for these tasks and looking after the children, she is also another mouth to feed if hungry, another body to heal when sick. Moving in her monotonous sphere of activities, in the twilight of her life.

84 percent of young children do not have access to formal ECD provision and rely on their parents or primary caregivers for stimulation and development. (UNICEF 2007)

Caretakers often do not have the required education to be able to teach and stimulate the children they take care of.

The burden of care of young children who have ill or dead mothers falls on the elderly, especially grandmothers. 38.2 percent of young children are living in households where a grandparent or a great-grandparent is the head of household. (UNICEF 2007)

From these characters, the overlapping social networks of the Neonates and the Elderly Dependents have been established as the Primary clients for the proposed programme, the introduction of an NGO would be proposed to become the Secondary client.

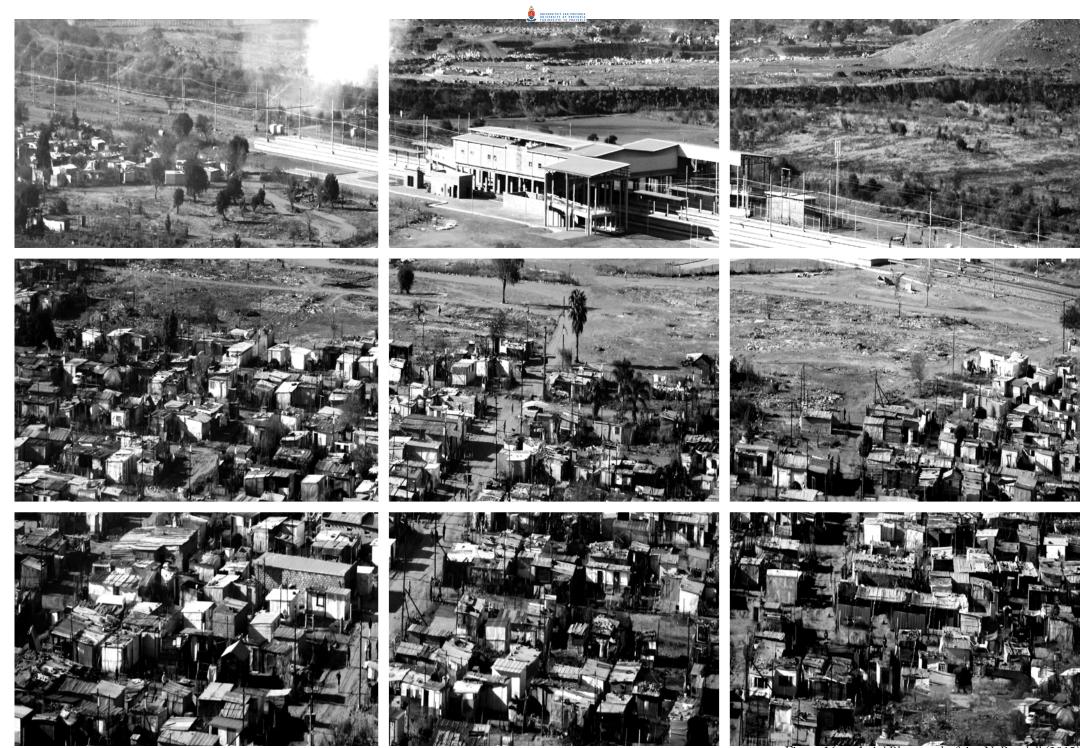


Figure 16: Aerial Photograph of site, N. Randall (2015)