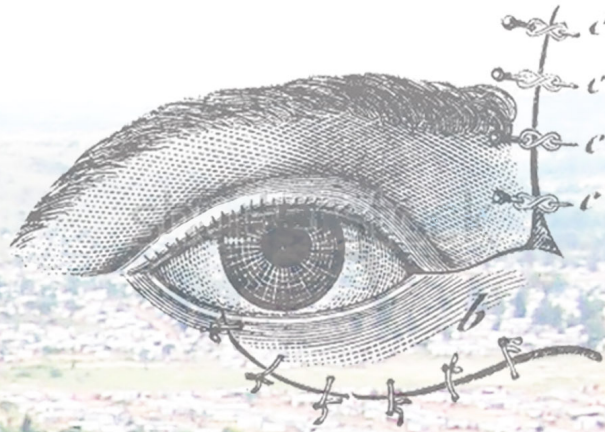# Suture & Santé
A Placemaking Procedure
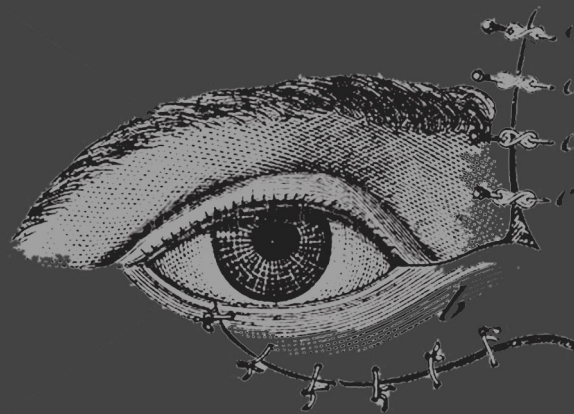
Suture & Santé

A Placemaking Procedure

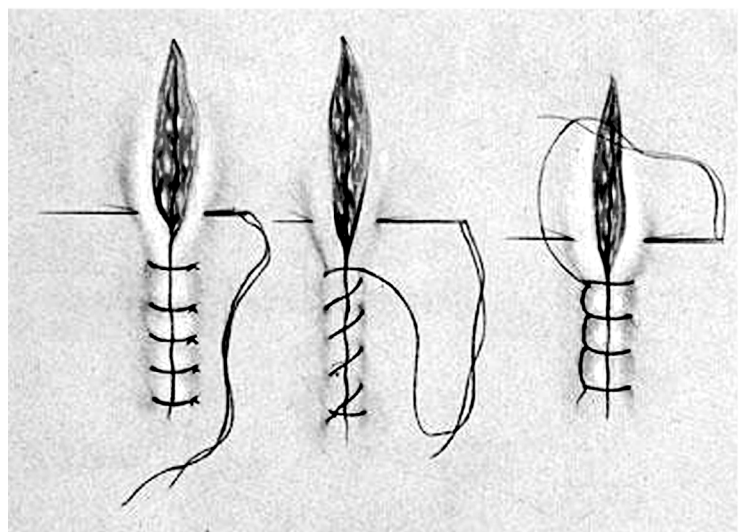Claire du Trevou
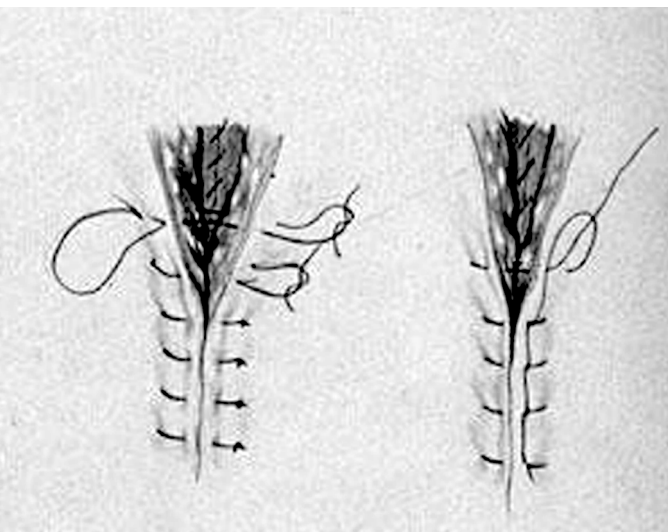
0.1: A diagrammatic series of suture instructions

iv
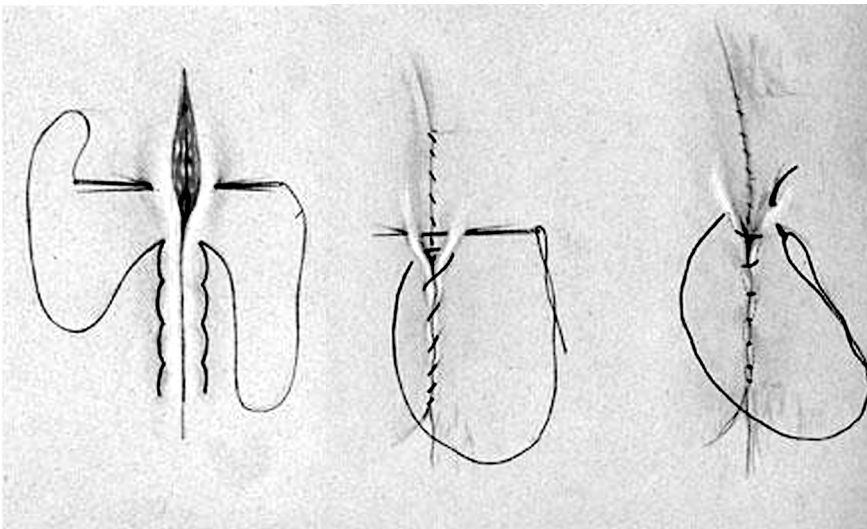
TITLE TRANSLATION

Suture: a stitch, or row of stitches, holding together the edges of a wound or surgical incision
Santé: French for health, fitness or soundness; free from injury, damage, defect, disease, etc.

Placemaking:

> *"I have preferred to use **placemaker** in my title (rather than architect, planners or experts) because it is inclusive of all who make and sustain the quality of human settlements, including principally the people and communities who are the inhabitants.*
> *The intelligence of place, I continue to maintain, is in the streets of places everywhere, not in the planning offices of bureaucracy."* (Hamdi, 2010)

v
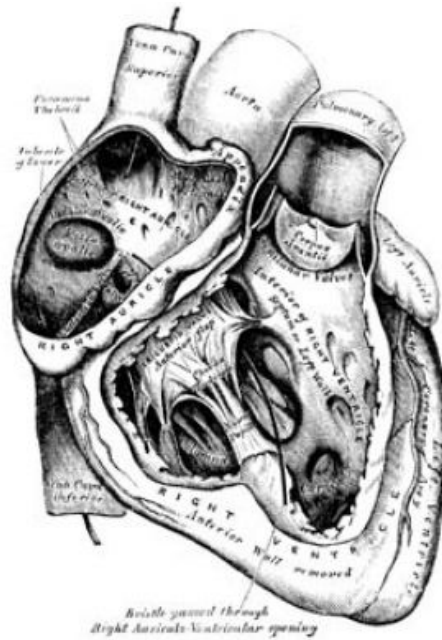
Dedicated to my loving family;
who taught me to serve before being served, how to love my neighbours,
and that sleep can make all the difference.

And to my brother, Tristan;
who taught me to climb trees, how to elaborate the truth,
and that the last good-bye is worth designing for.

Acknowledgments

x

Abstract

The post-apartheid repetition and insertion of an unchanged standard clinic design across South Africa, has resulted in a number of urban and design problems stemming from the architecture of the clinics and their inability to adapt. Designed before the resurgence of the Tuberculosis epidemic, the facilities were not designed for optimal ventilation or air-borne infection prevention . The current healthcare facilities cannot support the ever-increasing urban population, and as a result, patients are forced to wait for long hours before being attended to, in poorly ventilated, unstimulating spaces.

Emanating from an understanding of the relationship between architecture, health and the transmission of disease, the dissertation endeavours to create a new healthcare facility that remedies these problems through design.

The dissertation identifies Alaska, an informal settlement, as an appropriate site in need of and with a population size to support a new public healthcare facility.
Recognising the risks of blind top-down provision of buildings into informal settlements, the dissertation explores the power of a collaborative approach towards design. The design process engages the community in a series of participatory exercises in order to discover and enable grass-roots knowledge and innovation, and to instill a sense of ownership and responsibility for the intervention, after construction is complete.

The dissertation studies the traditional healthcare practitioners within the settlement, for spatial clues and an alternate approach to the provision and architecture of healthcare. The *Salutogenic* (the healthy pole of the health- disease continuum) approach of the traditional healers is merged with the pathogenic design sensibilities of typical western facilities, in order to create a facility which not only focuses on curing disease, but also on instilling preventative habits within the community.

The intervention intention to be reflective of and responsive to the dynamic context of Alaska, is realised through the spatial and design intelligences of a top-down provider enabling the innovation and local knowledge of bottom-up approaches through a collaborative design process.
The intetnion is expressed through the inclusion and manipulation of local building materials and techniques.

A Placemaker's Manifesto

Norman Eaton is a celebrated South African architect- most recently acknowledged in a feature film *'In Search of Our Own'*, documenting the current state of his works and the regionalist paradigm they heralded. Eaton- like Biermann - was familiar with Africa and both comfortable and capable of manipulating his understanding of the broader context, into appropriate designs which were *belonging to and harmonious* with the site. Fisher notes Eaton's work as the *third vernacular*. Indigenous architecture understood as zero cape Dutch as the first and the 19th century Georgian architecture as the second, and finally the South African architect's interpretation of the modernist movement or international style, transforming it through the use of local materials, climatic considerations and site specific detailing. Eaton is hallowed and rightly so. In a time seeking an architectural identity, Eaton provided the architectural fraternity with a collection of *background* buildings. They are not obtuse and loud, but speak in a firm, but soft manor. Meticulous attention to detail, innovative use of material and the convergence of African and European in a mature resolution are traits that make Eaton and his work so famous. Yet still- his work remained for the pleasure of the elite.

Since the passing of Eaton, apartheid ended and architects again, began on the (mindless) hunt for an African identity in architecture. Too afraid to reference those who had successfully began to maturely merge African and European language into a locally appropriate architecture - we began searching elsewhere. Hand picking images and clad in local materials and *indigenous* symbols. The search for a South African identity became largely a symbolic one, driven by image rather than space. Marguerite Pienaar speaks about Eaton's legacy being so successful because of the tactility and *specialness* of the spaces he made. She notes that his work was not about style- *people get bored of styles*- but about space.

The further we move away from the dawn of our democracy, the less reluctant we are to reference the apartheid era architects who's work played no role in setting up spatial divides across our cities, the more open we are to acknowledge the work of our regionalist forefathers- (this dissertation cites 2 in particular, but the list is not finite.)

20 years of democracy seems an apt a time as any to reflect on the state of the South African architectural condition and really challenge the direction in which it is heading.

Could this be the dawn of a 5th vernacular? The role of the architect is not shifting- evolving yes, as it always has, but certainly along the same trajectory. There will always be architects- '*master crafts men*', as we know them. However, there is certainly a new architectural race emerging. A generation of socially and ecologically aware individuals, designing for a cause.

As a young white female born and raised in South Africa, I am aware of my privilege, of my socio-economic standing and the myriad of opportunities that it affords me. I am aware of the great privilege I hold being able to choose what my masters focuses on. But I am all too conscious of the many doors it leaves shut.

I cannot possibly understand the nuances, the hardships, the social norms of an informal settlement. My private school education never touched on how to survive on R10 or less a week. And no university course covered *building with what you can find 101*.

But I have learnt about and understand the nuances of space, of place making and the impact on society good public space can have.

As an architect, I have something to offer a community. But the community too has so much to offer me.
Eaton observed and interpreted African patterns into his work, successfully creating an appropriate, contextual designs: the forth vernacular.
But through engaging with a community, one can gain an understanding of the reasoning behind patterns and spaces and thus morph that understanding with learnt knowledge into a fifth vernacular.
This dissertation is a search for the *forth vernacular*; an architecture of the middle ground.

0.2: A South African Vernacular - an artist's interpretation of the future of South African architecture. (ARTIST, 2014).

Table of Content

0.3: Global Studio's diagram illustrating a non-linear approach to design. (Global Studios, 2014).

2

THE WAITING ROOM

PROLOGUE

Typically, an architectural masters follows a linear course of investigation; analysis of an issue, cause and effect. Typically, the dissertation is structured in an orderly progression of thoughts, culminating in a design that responds to and (hopefully) remedies the issues raised.
The diagram in figure 0.3 demonstrates a non-linear approach to the design process. The diagram illustrates actions suggested by Global Studios to *build better cities*.

While time governs the linear progression of the dissertation, the research and design development process is more cyclic in nature.

Encounters and discoveries; physical and academic, impacted the development of the design at unexpected times, changing the design direction or research focus. The side diagram is a guide to reading and understanding this dissertation, which, at times, may appear fragmented with pieces that surface and do not make sense at that moment.
What started out as an investigation intent on designing a naturally ventilated Tuberculosis clinic, slowly morphed and evolved into a project set on challenging, not only the architecture of healthcare facilities, but the way in which they are designed and built within informal contexts. And eventually how they may be influenced by other forms of medical practice.

This document is a record of that evolution.

Full Medical Examination

Introduction

In English, when one sneezes, the polite response is *Bless You*, a residue of the past, when sneezing was associated with the Black Plague and an indicator of infection and inevitable death (Watson 2012). With the 3rd highest TB infection rate in the world (Tuberculosis 2013), *Bless You* is no longer an acceptable response to ill-fated sneezing in South Africa.

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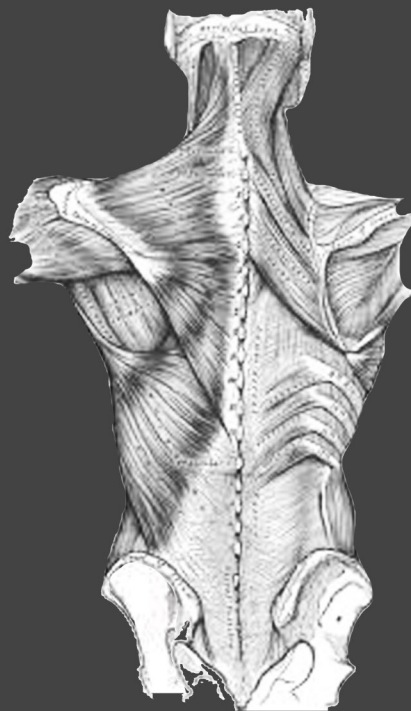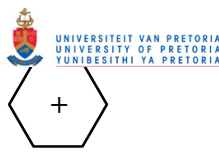
Top-down: planning and design approaches typically used by professionals who view plans from a literal 'top down' perspective.

Bottom-up or grass roots: planning and design decisions made by the people who are actually in the situation, and are responding to their con text, needs and availability of resources

Middle Ground: A proposed solution mediating between the benefits of top down and bottom up approaches.

[1.1] <u>Health</u>
The definition & relevance

The Oxford English Dictionary defines health as the absence of disease:

Noun: The state of being free from illness or injury

However, The World Health Organisation (WHO) expands upon this definition, extending the parameters further than the physical being of a person:

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

In economic terms, a public good is described as *non-rivalrous* and *non-excludable*, a product that one individual can consume without reducing its availability to another individual and from which no one is excluded (Business Dictionary 2014). Public goods can include intangibles such as fresh air and knowledge, services, such as national security and infrastructure, such as street lighting. Excessive use of public goods can result in negative externalities, which will affect all users, air pollution being an example.

Health, as defined as by the WHO, can be understood as a public good. According to Bloom & Canning (2008) health is a direct source of human welfare and also an instrument for raising income levels. It can affect income, worker productivity, children's education, savings and investment, and even demographic structure (Bloom & Canning 2008). The knock-on effects of the ill-health of the general populous ripples further than its effect on national healthcare expenditure. As such, it is a crucial and fundamental public good to achieve. In South Africa, citizens' access to healthcare is a constitutional right, but healthcare services primarily focus on repairing the state of physical well-being.

[1.1.1] <u>Illness Presentations</u>
The ill-state of the Nation

Annually, in excess of 23 500 South Africans die of HIV/Aids and related infections, orphaning 2, 5 million children to date (WHO 2014). South Africa has the third highest Tuberculosis (TB) infection rate globally and is one of the 6 countries with the most cases of Multi-drug Resistant (MDR) and Extensively-Drug Resistant (XDR) strains of TB. TB kills on average 25 000 South Africans a year and prevents a further 500 000 people of the working population from performing work tasks as efficiently as they should. In an extreme case In KwaZulu Natal in South Africa, an outbreak of XDR-TB killed 52 out of 53 people within three weeks (WHO 2014).
64% of child deaths (under the age of 5) in South Africa are caused by malnutrition (Unicef 2014). And yet, the country is fattest sub-Saharan African nation, with 61% percent of the adult population classified as obese. Diabetes is one of the fastest growing diseases in the country. In additional to blood sugar-related health risks, diabetes can cause heart disease, kidney failure, eye sight complications, nerve damage, skin complications and dental disease (Health 2014)

These statistics, largely representative of the physical aspect of health, are indicative of a generally unhealthy population. In addition to the physical, the lingering social and economic discrepancies created by apartheid, maintain an imbalance in both the social and mental well-being.

In order to suggest a remedy, one must understand the source of the problem – which cannot be attributed to a single influence. Economics, politics, healthcare policy, access to healthcare facilities and services, education, poverty, pollution and nutrition all contribute to these health statistics. This dissertation explores the role of the built environment in the unhealthy population and will focus on the examination of healthcare facilities, their history and problems.

[1.2] Causes of Illness

History of Healthcare Facilities

The peripheries of many South African cities are home to the sprawling urban condition created by historic apartheid planning, coupled with the rapid rural-urban migration South Africa experienced after the first democratic elections.

The dismantling of apartheid triggered a knee-jerk reaction by the new government to provide formalised housing for the vast population living within peripheral settlements, which were a result of the Group Areas Act, instated in 1951. In 1994 the Capital Subsidy Program was initiated in attempts to remedy the injustices caused by the relocation of 3.5 million South Africans during apartheid (SA History 2014). Unfortunately, as the low-cost housing developments were established away from urban centers, the program has had unintended consequences and reinforced apartheid geography. According to Poulsen (2012) the biggest pitfall of the program is that priority was given to financing individual houses while ignoring provision of public spaces (Poulsen 2012).
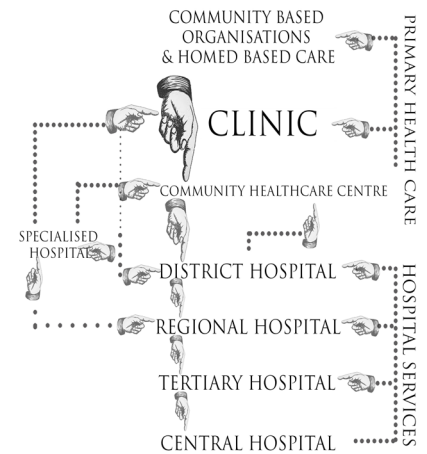
1.1: Diagram of the Healthcare structure in South Africa. (Author, 2014).

Concurrently, the Clinic Upgrading Building Programme (CUBP) was established, in an effort to upgrade existing Primary healthcare facilities (commonly referred to as clinics) and to provide new ones in areas of need (Abbott 2014).

The intention of the African National Congress's (ANC) Health Plan was to shift the focus away from hospital-centric care, to a primary healthcare based model (fig. 1.1). This required the provision or upgrading of 1600 clinics across the country (SA 2012). A design team was assigned to design a standard clinic model, which could be adapted into three sizes, depending on the site and contextual demand. Site selection was based on need, existing hospital densities in the area and proposals made by local municipalities. Local contractors were used to erect the buildings, and within 9 months over 900 clinics were built across the country. The standard plan was cost effective and seen to be successful in efficient patient movement in and out of the facility (Abbott 2014). For its desired efficiency and rapid national roll out, the program had to be conducted in a top down manner (fig.). Figures 1.2-1.4 are three examples of top-down provided clinics in South Africa.

(They are not necessarily examples of CUBP clinics.)
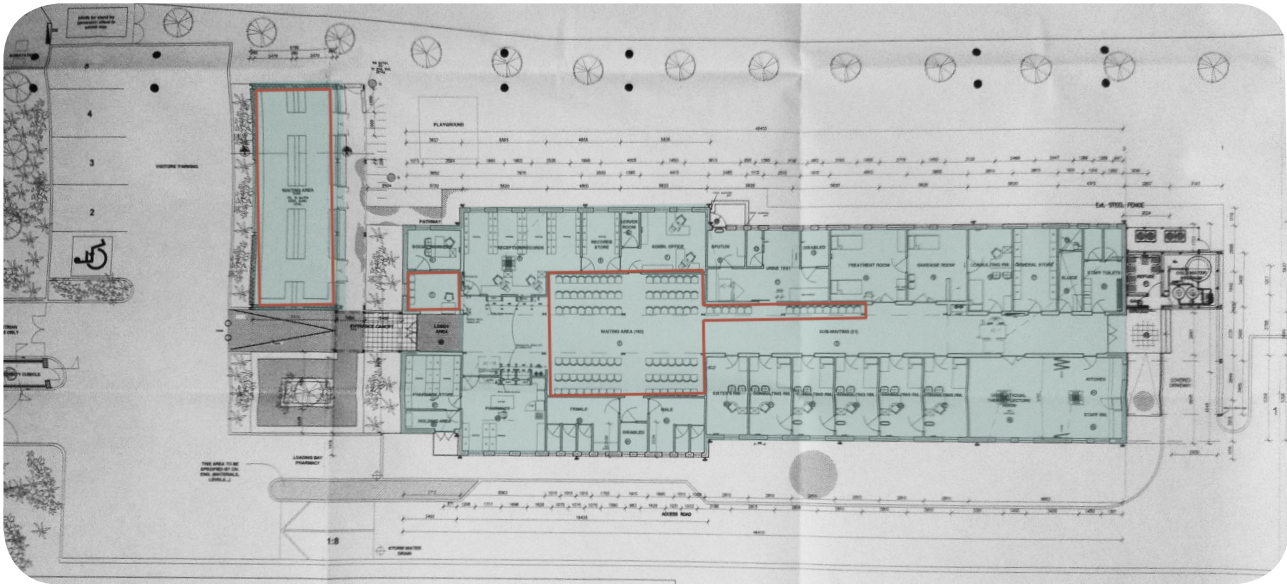
1.2: Swellendam Clinic Plan, with waiting areas highlighted. `
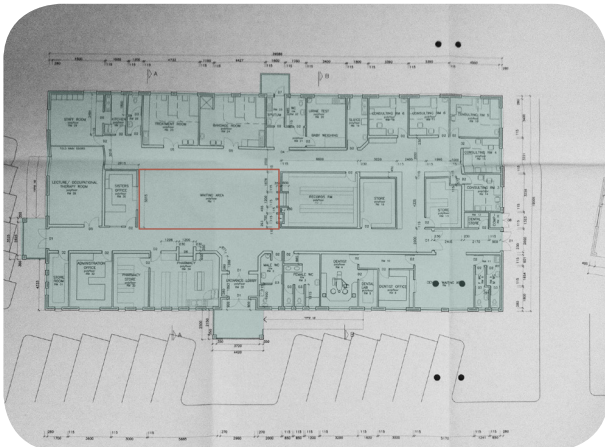
1.4: First Western Cape Clinic Plan, with waiting areas highlighted. (DPW, date unknown).

1.4: Second Western Cape Clinic Plan, with waiting areas highlighted. (DPW, date unknown).

[1.3] <u>Symptoms</u>
The Dissertation Issues

The urban and architectural issues defining the dissertation investigation are found through an understanding of the shortfalls of the design of a hypothetical South African *standard clinic*, the current disease burden and the relationship that exists between the two.

The dissertation refers to and critiques what will, from herewith, be referred to as the *standard* or *typical clinic*. As it would be impossible to analyse and compare the 1600 clinics nationally (SA 2012), knowing that the CUBP clinics were all based on similar plans, marginally adapted for each site, the dissertation assumes this as a standard clinic model.

This assumption is derived from the investigation of eight South African Public clinics. Five clinics were visited - three[1] in Tshwane, one in North West Province and one in KwaZulu Natal (fig1.5 - 1.10.)- and three from the Western Cape were assessed from their drawings (fig. 1.2-1.4). It was found that enough similarities exist in the designs and their relationships to their contexts to assume that these clinics could be representative of a typical clinic design.

The clinics were critiqued in terms of their success in creating a WHO state of health; physical, mental and social well-being. Being assessed from an architectural perspective, focusing on four key design aspects: siting, waiting spaces, patient experience and ventilation. Specifically analysing the building's relation to its urban context, its position on its site and building layouts; the quality of waiting areas, in terms of noise, light and ventilation; and the general ventilation of various spaces, were all analysed. While minor differences exist between the eight clinics, common design problems relating to the aforementioned criteria, give rise to the specific dissertation issues.

1.5: Photograph of an improvised bench outside of Stanza Bopape (2). (Author, 2014).

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[1]
Stanza Bopape (2), Mamelodi East, Tshwane. Department of Public Works
Mamelodi West CHC, Mamelodi West, Tshwane. Department of Public Works
Woodlands PHC, Pretoria East. Department of Public Works.
Steve Tshwete PHC, Tlokwe, North West. Department of Public Works
Warick Communicable Diseases Centre, Warwick Triangle, Durban. John Royal Architects for DPW.

1.6: Photograph taken outside of Stanza Bopape (2), showing the fence and the isolation from the public realm. (Author, 2014).

1.7: Photograph of the site arrangement at Steve Tshwete PHC. (Author, 2014).

1.8: Photograph of a typical consultation room at Woodlands PHC. (Author, 2014).

1.9: Photograph of the internal waiting areas within the corridors of Woodlands PHC. (Author, 2014).

1.10: Photograph of the improvised, internal waiting areas within the corridors at Steve Tshwete PHC. (Author, 2014).

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[1.3.1] Tumors, Growths and Rashes

The Urban Issue – Exclusion from public realm (fig. 1.14)

On an urban scale, these type clinics – which are public service buildings – do not contribute to the public realm into which they are inserted (fig. 1.11). Usually, the primary building is placed in the middle of the site, enclosed with a fence and activity in and out is overseen by the ever-present guard house (fig. 1.14). The CUP standard plan was repeatedly inserted and positioned onto sites (Abbott 2014). Given the urgency of the roll out at the time, little regard was given to the immediate context, how the infrastructure may be manipulated accordingly to the specific needs of the place, or how the facilities may contribute to forming positive public spaces around them.

Before the clinic is opened, patients are made to wait on the pavement outside, with no public furniture or facilities, as seen in figure 1.5. The simple repositioning of the building, with minimal additional changes, could have defined a public space in front of these clinics, making more comfortable waiting spaces, improved the surrounding public domain, and in doing so, contributed to the social well-being of patients and neighboring community members (fig. 1.13).
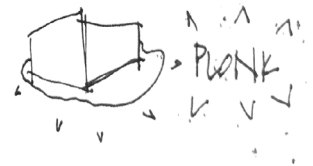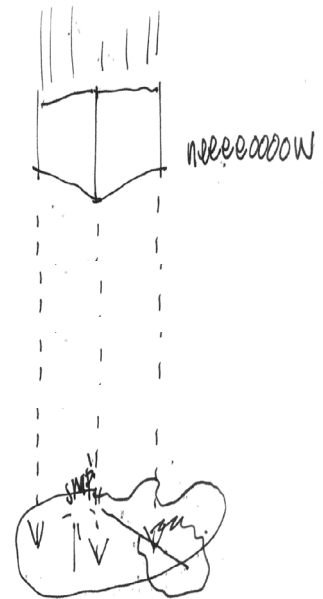
1.11: Diagram illustrating the top-down insertion, and the isolation of typical clinics from the public realm. (Author, 2014).

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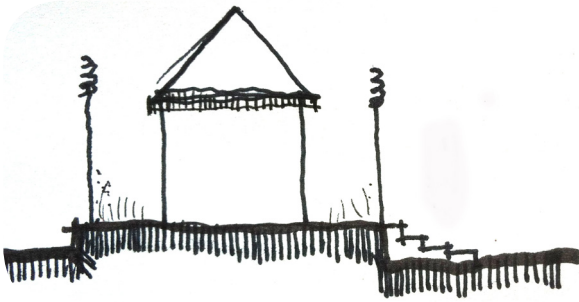
1.12: Diagram illustrating the current isolation of typical clinics. (Author, 2014).
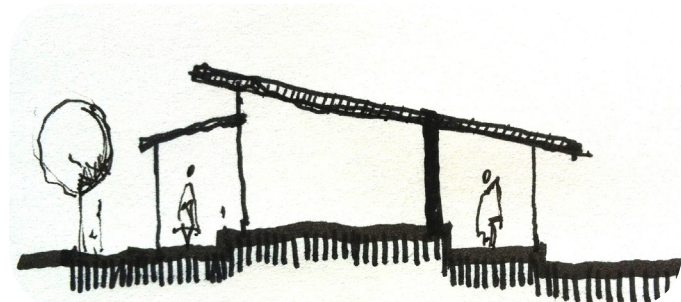
1.13: Diagram illustrating the possible interaction with the public realm a clinic could have. (Author, 2014).

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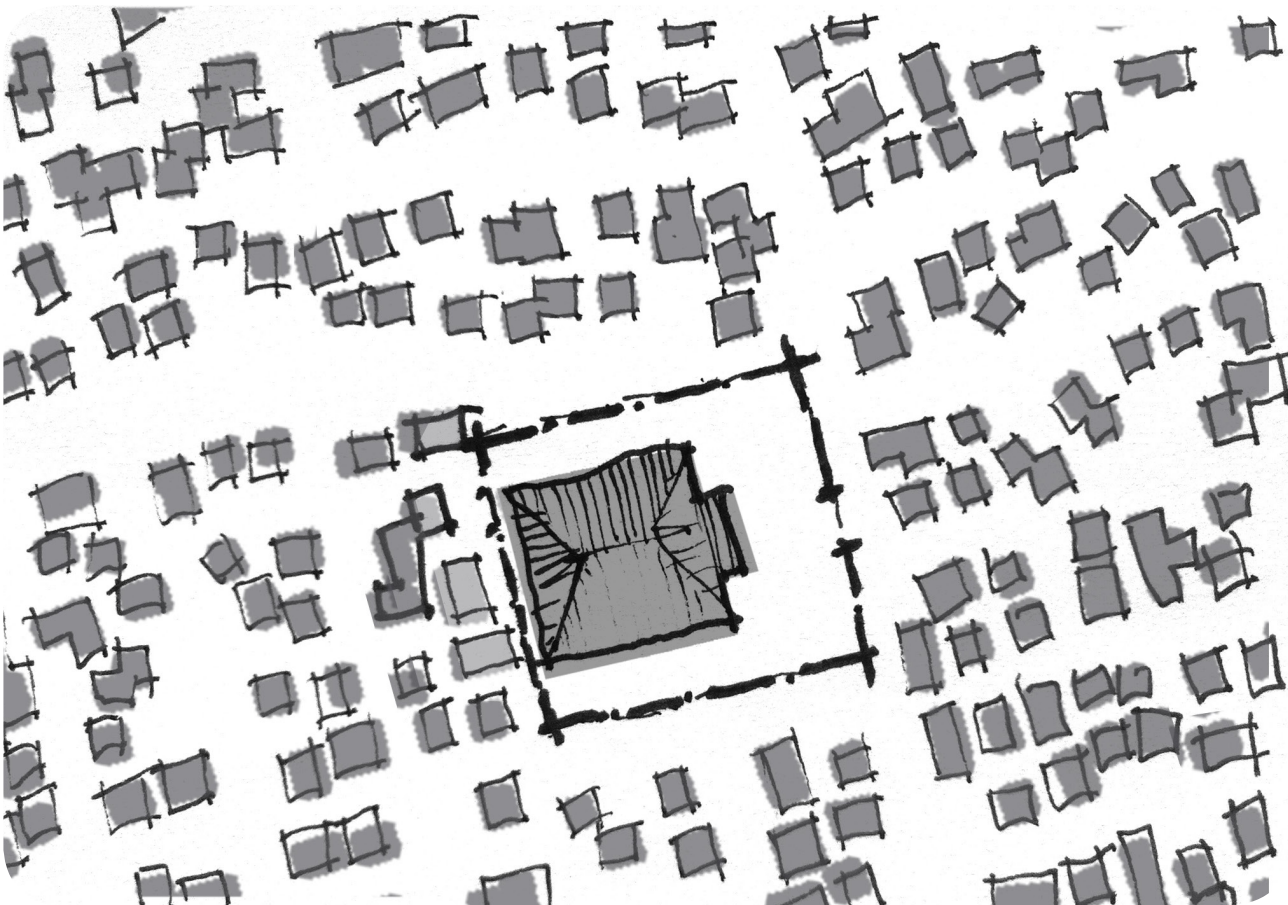
1.15: Diagram depicting waiting lines, internal waiting spaces and the threshholds between public and private space.   (Author, 2014).

[1.3.2] Tight Chest, Shallow Breaths & Congestion
The Architectural Issue: Pathogenic design solutions and poor user experiences. (fig. 1.15)

The design of these standard clinic layouts weas driven by the logical processes of various medical procedures and focused on staff efficiency and the practicality of services, rather than positive user experiences and comfort. The resultant design is often an enclosed maze of movement corridors, connecting internal waiting spaces to consultation rooms. The transition, and the dignity it affords patients, from public waiting areas to private consultation spaces is not considered or designed for. These facilities can be clinical and unstimulating environments, disease orientated and focused on treating symptoms rather than fostering healing and preventative habits within patients (Edwards 1986).

Visitor comfort – of both patients and accompanying family members – is not designed for and is most noticeable in the design of the waiting spaces and furniture within them. Waiting has become synonymous with public healthcare facilities in South Africa, and patients can be found queuing outside the clinic, long before opening hours and, according to patients interviewed at Soshanguve Block X Clinic, Tshwane, Gauteng, they can wait up to 5 hours before being attended to. (Mahlangu 2013).

Regardless of weather conditions, they have to stand outside for long hours only to be served by staff with bad attitudes - Sbongile Tshablalala (Nkosi 2014)

Internally, furniture, fittings and finishes differ from facility to facility, but surfaces tend to be hard and reflective for their anti-microbial properties and ease of cleaning (IUSS 2014). In the investigation of the clinics it was found that these sound reflective materials increase noise levels and concurrently, both patient and staff discomfort (Appendix B: Observations of a Sound Study).

Often the internalised waiting areas have no natural light, ventilation or views out of the space. Chairs are arranged in militant rows (fig. 1.16) and patient anxiety is caused by the potential of losing one's place in the line.

16
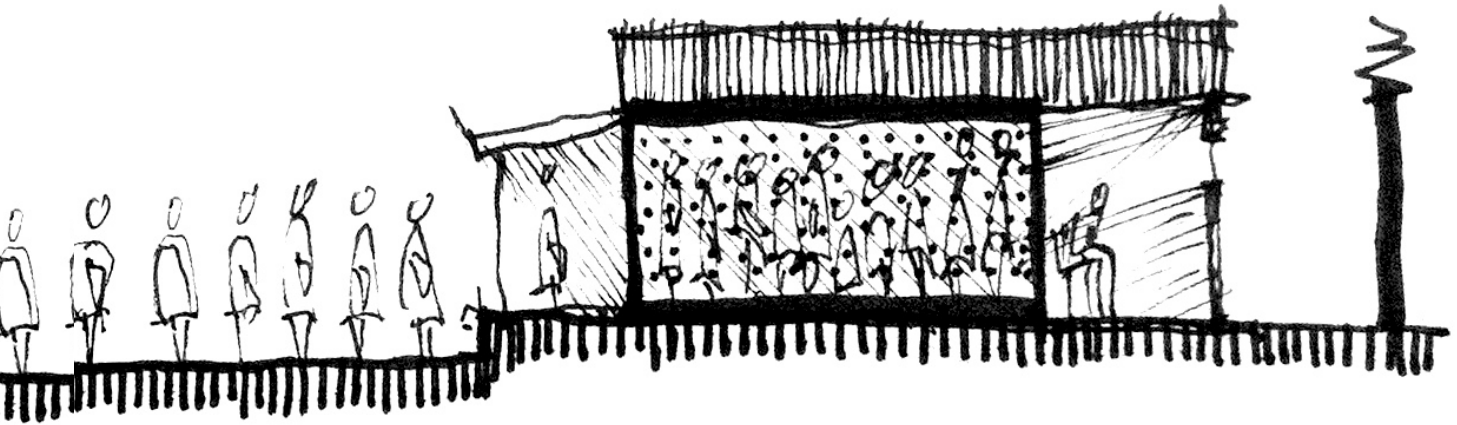
In a study conducted by CABE (2004), the comments from the majority of people who visited healthcare facilities, including staff and patients, included:

"cold, depressing, dehumanising, dirty, smelly, frightening, impersonal, confusing, dull shabby, windowless, grim, stressful… (IUSS 2014).

These comments are evident that the typical clinic does not contribute to patients' mental well-being and sense of security within the facility.

1.16: Photograph of monotonous rows of chairs in a clinic waiting area. (Author, 2014).

[1.3.3] <u>Coughing & Spluttering</u>
The Architectural Issue: Poorly ventilated congregate areas (fig. 1.17)

Tuberculosis (TB) is a severe and contagious airborne disease and is the leading cause of death in South Africa, claiming approximately 25 000 lives annually, the third highest TB infection rate, globally. Multi-drug-Resistant (MDR TB) and Extensively Drug-Resistant Tuberculosis (XDR TB) are forms of the TB bacteria that have developed a resistance to the common drug regimens (Tuberculosis 2013). These strains develop either through the inconsistent use of antibiotics, or through two different strains of TB coming into contact with one another. The delay between disease identification and treatment is increased by the lack of good quality healthcare facilities to diagnose and treat TB timeously.

Within existing healthcare facilities, the risk of contraction and mutation is compounded by poor ventilation in congregate settings such as waiting areas and hospital wards (IUSS 2014).

*Health facilities typically bring together known and undiagnosed infectious patients with high risk patients. **Airborne infection is a major risk.** Building designs need to be cognisant of the need to address infection prevention and control (for airborne and other routes for hospital acquired infections) through both the layout and effective ventilation.* (Abbott 2011; 01)
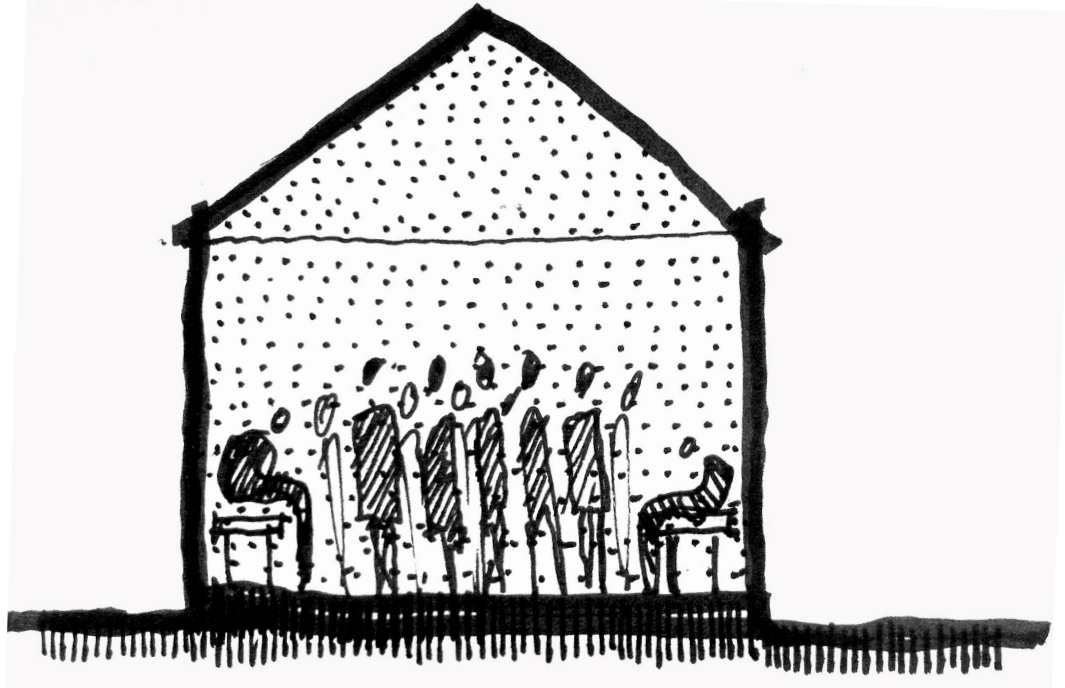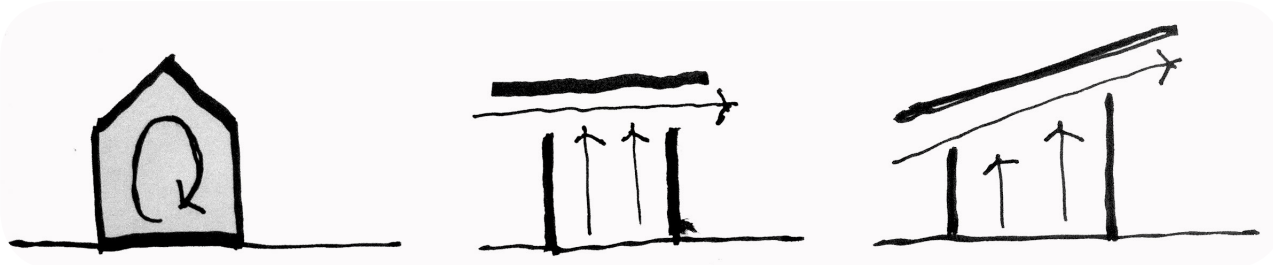
1.18: Diagramatic series of sections illustrating how the poor vantilation and air quality in congregational settings can be improved through simple design changes. (Author, 2014).
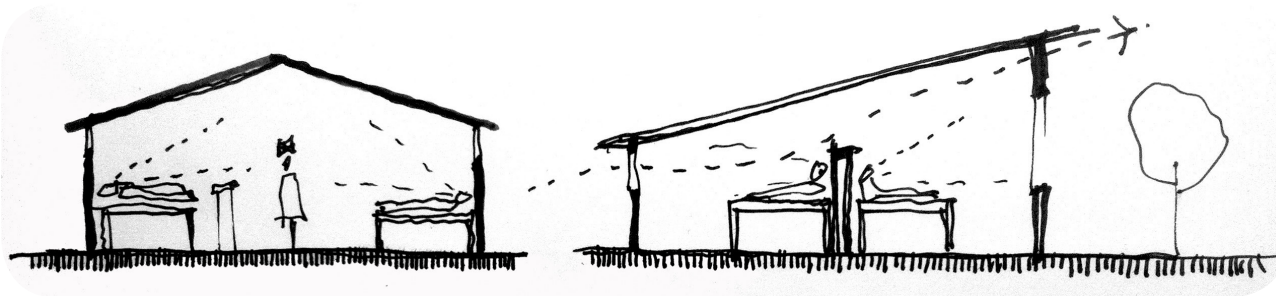
The designers of the Butaro District Hospital, Rwanda, recognised the role of architecture in spreading of TB among patients. Through making simple adjustments to a standard ward and waiting space design (fig. 1.18 - 1.20), they were able to create naturally ventilated spaces and reduce the risk of infectious airborne disease transmission.

The clinics investigated, all have internalised and poorly ventilated waiting areas, causing the risk of airborne disease transmission between patients (fig. 1.17). The use of mechanical ventilation systems which recycle air, while possibly achieving the WHO recommended ventilation rate of 160l/s/person (WHO 2014), runs the risk of spreading contaminated air from one room to another. The use of mechanical fans are only effective if there are sufficient in and outlets, to ensure the constant supply of fresh air and removal of stale air.
In addition to inter-patient transmission in waiting spaces, the layout and ventilation of consultation rooms of the standard clinic raises the risk of patient to practitioner infection. The doors of consultation rooms are closed for privacy, minimising the chance cross ventilation. In the colder months, the tendency to close the windows further increases this risk.

The spreading and mutating of TB, and other infectious airborne diseases in the internalised, poorly ventilated waiting areas and consultation rooms, is identified as a design shortfall of the standard clinic and an architectural design problem. Healthcare facilities offer the cure to the physical component of health. However, these poorly ventilated spaces, coupled with the high TB incidence in South Africa, means that the typical clinic does not even contribute to fully realising the state of physical well-being.

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[1.3.4] <u>Inability to Touch Toes</u>
The Architectural Issue: Unadaptable Buildings

The South African Patients' Rights Charter (1997) states:

Everyone has the right to a healthy and safe environment that will ensure their physical and mental health or wellbeing including ... protection from all forms of environmental danger, such as pollution, ecological degradation or infection. (IUSS 2014)

The clinics analysed were designed before the brunt of the HIV/Aids epidemic, and resultantly the resurgence of the TB epidemic. As diseases evolve and epidemics change, so should healthcare facilities, to ensure that they can mitigate the transmission of infectious disease, in order to remain healthy and safe environments for patients. The design of the standard clinic, is largely inflexible, in terms of being able to change how the space functions, how the air flows, where people gather or where they move. The inability of these designs to be adapted to the changing demands associated with the shifting burden of disease is a shortfall identified in the standard clinic. The standard clinic's layout, form and orientation were not originally designed for optimal ventilation, which would mitigate the risk of inter-patient contraction of airborne disease within internal waiting areas and consultation spaces. The rigid construction methods and fixed plans, means that even minor design changes would require a large amount of construction.

With the current understanding of the risks of poor ventilation in congregate settings and the inability of the building to physically adapt, some institutions employ cough and window monitors to move coughing patients away from the crowd and ensure that windows are kept open at all times, to increase air moment through the space, which can cause thermal comfort issues in winter (fig. 1.22).

The burden of disease will continue to change unpredictably with time. Each new disease, may bring with it a myriad of others, currently not considered in healthcare design. The resurgence of TB with the onset of HIV/AIDS is evidence of this unpredictability. If healthcare facilities are unable to adapt accordingly, they will continue to jeopardise patients and fester disease.

The original positioning of the standard clinic on its site, restricts the ease of expansion should the population demand on the clinic grow. The Warwick Communicable Disease Centre fills its entire site, while the orientation of the Steve Tswele Clinic's waiting area is located right on the boundary (fig. 1.23). In the latter case, the site had enough space for expansion and an additional clinic building was added. However, the two buildings share a reception area and patients are required to walk from one building to the other. Fig 1.23 is a sketch over the original plan, suggesting alterations that could improve the relationship between the two buildings. This solution would involve a large amount of interior rennovations and demolishion of external walls, meaning the clinic would be inoperable during that time. Fig. 1.24 is a sketch demonstrating how the building could have evolved, had it been originally positioned better.

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1.22: Photograph of a anti-TB campaign encouraging windows to be kept open. (Author, 2014).

new covered waiting

NEW WAIT

NEW ADMIN
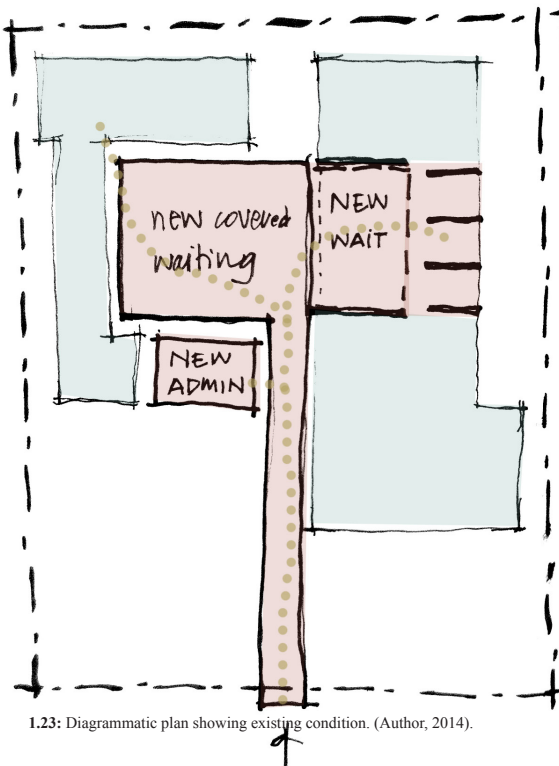
1.23: Diagrammatic plan showing existing condition. (Author, 2014).

NEW WING

NEW WING

NEW ADMIN
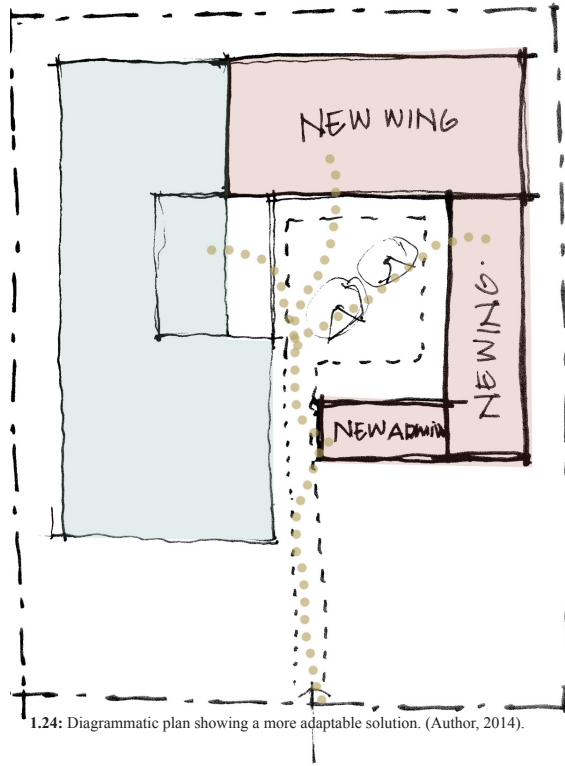
1.24: Diagrammatic plan showing a more adaptable solution. (Author, 2014).

While newer clinic designs have responded to mitigate the spread of TB and other airborne disease (see Grassy Parks Clinic precedent, pg. 84), they continue to be constructed in a rigid manner, inadaptable to future circumstances. Who knows how far off The Day of the Triffids[1] may be? A completely modular structure that could be added to or subtracted from, from one day to the next, constantly adapting to accommodate fluctuations in patients and changes in their needs, would be ideal.

1The Day of the Triffids is a 1951 post-apocalyptic novel about a plague of blindness that befalls the entire world, allowing the rise of an aggressive species of plant. It is used here as an extreme example of the unpredictability of future disease burdens.

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[1.4] <u>Suggested Surgery</u>
The Project Intentions

According to the Bill of Rights (Chapter 2 of the Constitution of the Republic of South Africa) South African citizens have the right to access healthcare (Section 27, 1a). Approximately eighty percent (80 %) of South Africa's population are dependent on its 4200 public healthcare facilities, resulting in 13 718 patients per clinic, exceeding WHO's suggested limit of 10 000 patients per clinic (SA, 2012).The result of this thirty seven percent (37%) patient excess, is overcrowded waiting areas, inter-patient disease spreading, long waiting hours, and, sometimes, patients being denied a same day consultation, thus violating patient's constitutional rights.

With regard to the WHO definition of health, the current typical South African clinic perhaps only aids in achieving physical well-being of a patient. The architectural shortfalls of the typical South African clinic discussed, illustrate that, currently, public clinics do not aid in reaching a state of physical, mental or social well-being within their settings.

In order to achieve a complete state of health within South Africa, it can be argued that a completely new type of healthcare facility is needed, one which addresses all three states of well-being. The intention of the dissertation is thus to challenge the current practice of clinic design and insertion, in order to create a social place of health and healing, not just a facility to treat the physical symptoms of patients.

In response to the issues raised from the critique of current clinic design and in striving to achieve the WHO definition of health, the intentions of the dissertation are established to create a new type of healthcare facility that realises the following design intentions

1.25: Diagrammatic plan showing typical clinics' exclusion from the public realm. (Author, 2014).
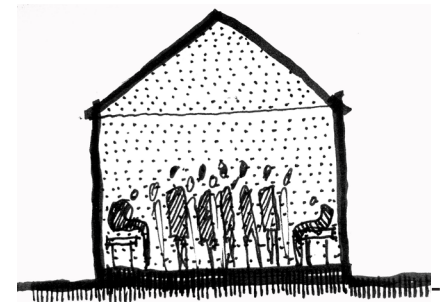
1.26: Diagrammatic section showing poor internal ventilation. (Author, 2014).

1.27: Diagrammatic section showing the rigid nature of current clinics. (Author, 2014).

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Defines a public space and is integrated into its context and community
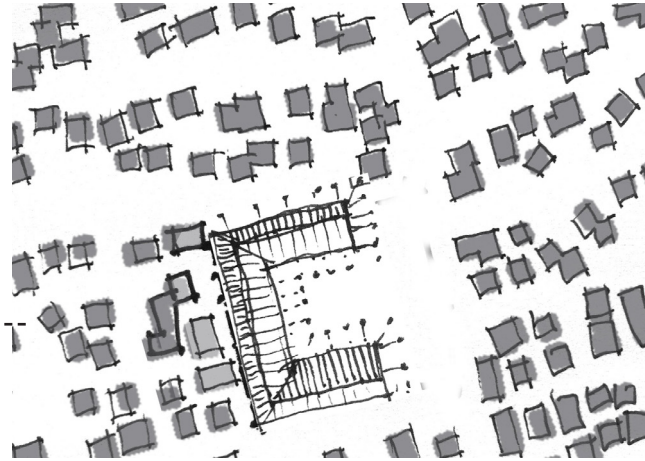
1.28: Diagrammatic plan showing typical clinics' exclusion from the public realm. (Author, 2014).

Considers and designs for user comfort and positive patient experiences

Mitigates both inter-patient and patient-practitioner contraction of airborne diseases through ventilation design
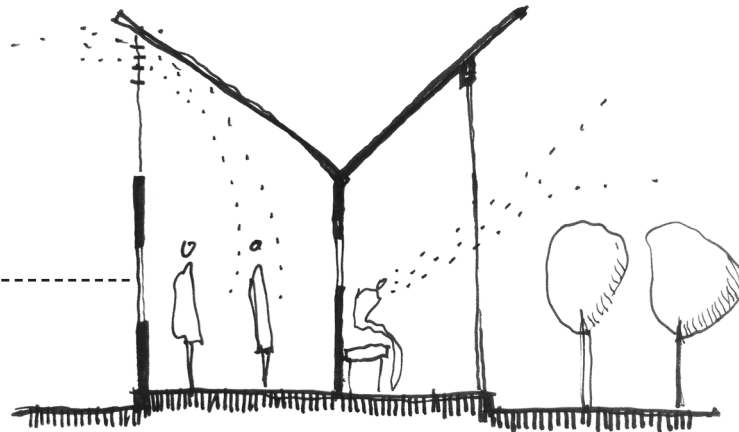
1.29: Diagrammatic section illustrating the intention to improve internal airflow. (Author, 2014).

Is easily **adaptable** and flexible in both program and structure, to allow for future expansion
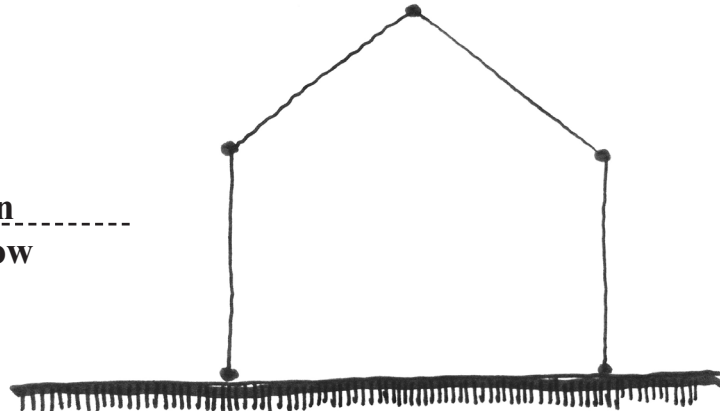
[1.5] <u>Potential Patients for Experimental Surgery</u>
Finding an appropriate site

With the issues relating to healthcare facilities discussed and intentions to counter these established, an appropriate context for such a healthcare intervention was sought.
An appropriate context, would need to be either an urban or informal context entirely void of a healthcare facility, or one which has an existing healthcare facility, isolated from its urban context and with enough room for alterations and expansions that would realise the dissertation intentions. (The search was restricted to the Tshwane metropolitan area.)

In 2011 and 2013, in the Human Settlements and Urbanism module (RFP 721), University of Pretoria honours students worked within Alaska; a peripheral informal settlement on the eastern fringe of Mamelodi. (Not the cold state of America in the Northern Hemisphere) The intention of the module is to introduce students to a participatory design process, encouraging them to go into informal settlements and identify needs, wants and issues that could be realised or improved through a design intervention. The issues are confirmed by the community and a design is developed in response to the engagement process.
Both years identified a lack of healthcare resources and facilities in the settlement; extensive commutes community members have to make to get to a public clinic and the general unhealthy, and often dangerous, conditions of the settlement. The healthcare issues were ranked, by the community, as important issues to be addressed. Thus providing evidence that Alaska is in need of a healthcare strategy and intervention.

The interpreted information gathered by the two honours groups was corroborated by the map; fig 1.31. Through the overlaying of the locations of existing public clinics, with the population densities of each ward, the map indicated areas both void of public clinics and populated enough to support a new healthcare facility.
The map supported the selection of Alaska as an appropriate context, void and in need of a healthcare facility.
Alaska is located 6km from the nearest public clinic, Stanza Bopape (2). According to WHO guidelines, citizens should have access to a clinic within a radius of 5 km (WHO 2014). From informal discussions with the staff at Stanza Bopape (2), it became evident that the clinic was catering to a population far bigger than it was designed for. The facility sees on average 500 patients a day, almost 3 times its designed capacity.

Alaska presented itself as an appropriate candidate for the proposed experimental surgery.

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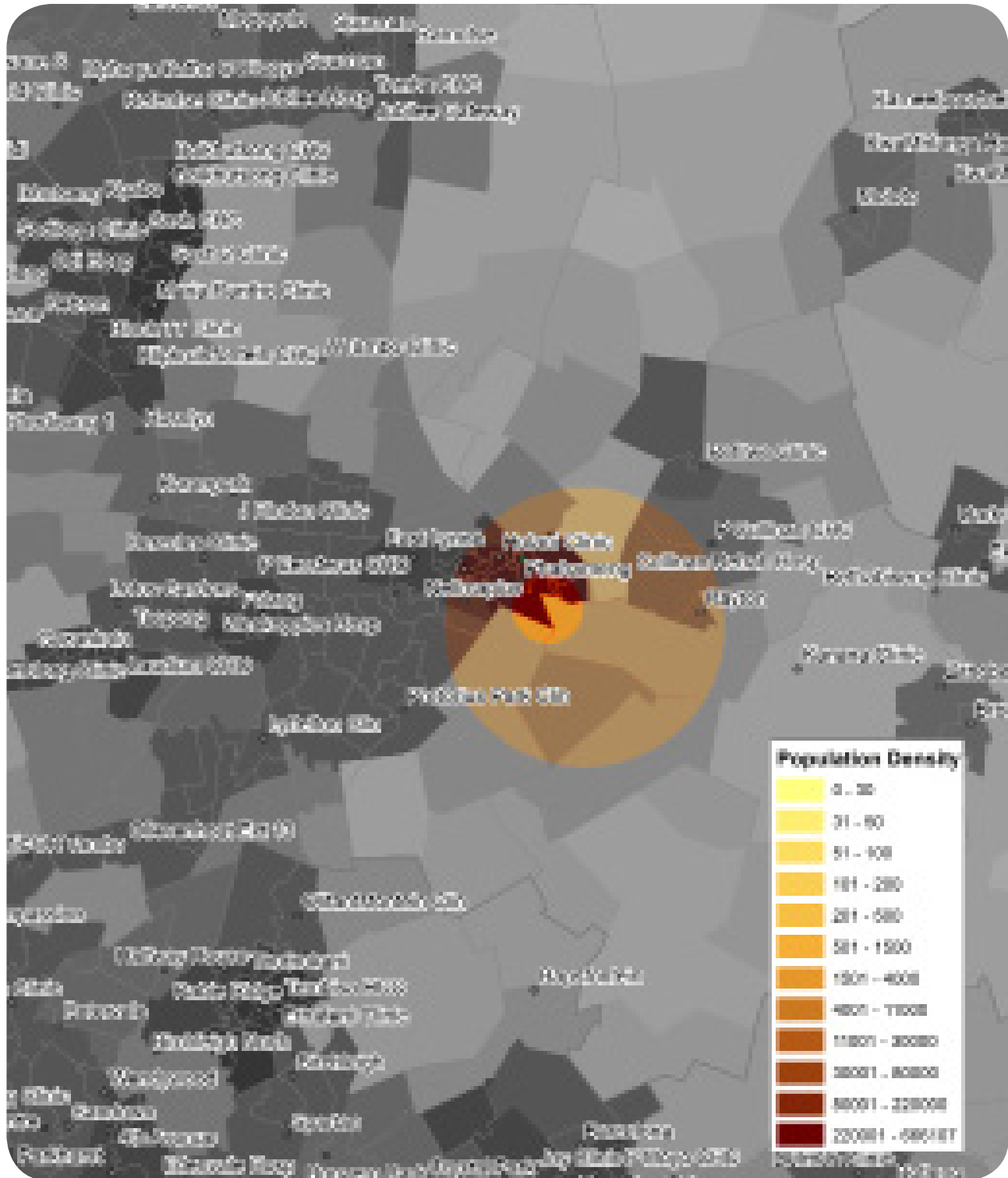
1.31: Image of a map depicting population densities overlayed with PHC locations. (CSIR, 2014).

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[1.6] Patient History
Contextual Background

Mamelodi was established as in 1951, 30 km from Pretoria's central business district, as a residential township for black South Africans (SAHistory 2014). Many black South Africans were relocated to the township in accordance with the Group Areas Act. Today, Mamelodi is a complex urban centre in its own right. However, depleted daily of resources and energy moving into the CBD to work, Mamelodi remains an outlying dormitory township, comprising of older suburbs, newer RDP developments, with informal infill and neighbouring informal settlements; Alaska being one of them.

1.32: Map locating Mamelodi within Tshwane. (Author, 2014).

According to information gathered from an informal discussion with the community leader, Joe Magoba (2014), Alaska began somewhat spontaneously in 2007, after residents were forcibly removed from the neighbouring settlement; Stoffel's Town. Magoba was one of the evictees of Stoffel's Town and founders of Alaska. He is co-operating with local government to register all the shacks and count the number of residents, in order to establish a way forward for the residents. The community have been told that they will be relocated, however no date or new location has been confirmed. Unfortunately, no documentation or formal evidence supporting this was found.

1.36: Diagram of settlement circa 2004. (Author, 2014).

While the settlement's exact genealogy is not certain, aerial photographs provide evidence of the incremental growth of Alaska. The settlement growth is supported by services - electricity and water - tapped off from the municipal supply from the RDP development of Lusaka, to the South-East of the settlement. In 2009, The Viva Village was established within the settlement by the Viva Foundation, a faith-based NGO. Their mission is to transform informal settlements through providing communities with education, employment, business and recreational opportunities (Kriel 2013). According to Kriel (2013), the manager of Viva Village, the population of Alaska is estimated at around 20 000 residents.

1.40: X-ray image of contours of the Magelisberg Mountatins . (Author, 2014).

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1.33: Map locating Mamelodi in relation to the Pretoria CBD. (Author, 2014).
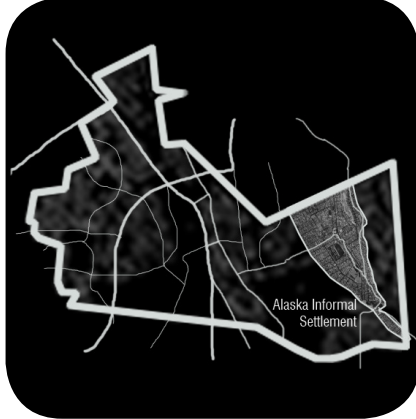
1.34: Map locating Alaska within Mamelodi. (Author, 2014).
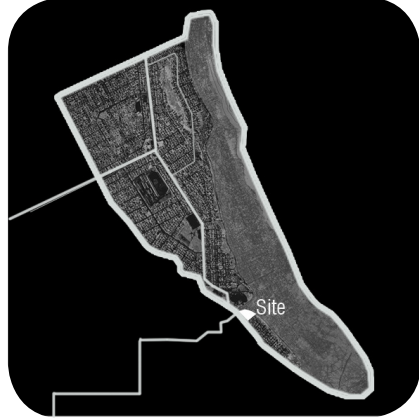
1.35: Map locating the site within Alaska. (Author, 2014).
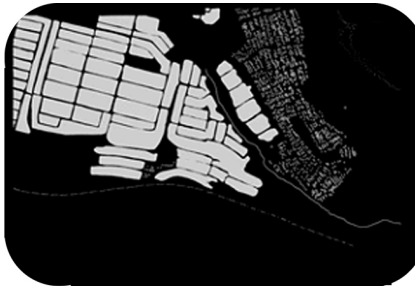
1.37: Diagram of settlement circa 2007. (Author, 2014).

1.38: Diagram of settlement circa 2011. (Author, 2014).

1.38: Diagram of settlement circa 2014. (Author, 2014).

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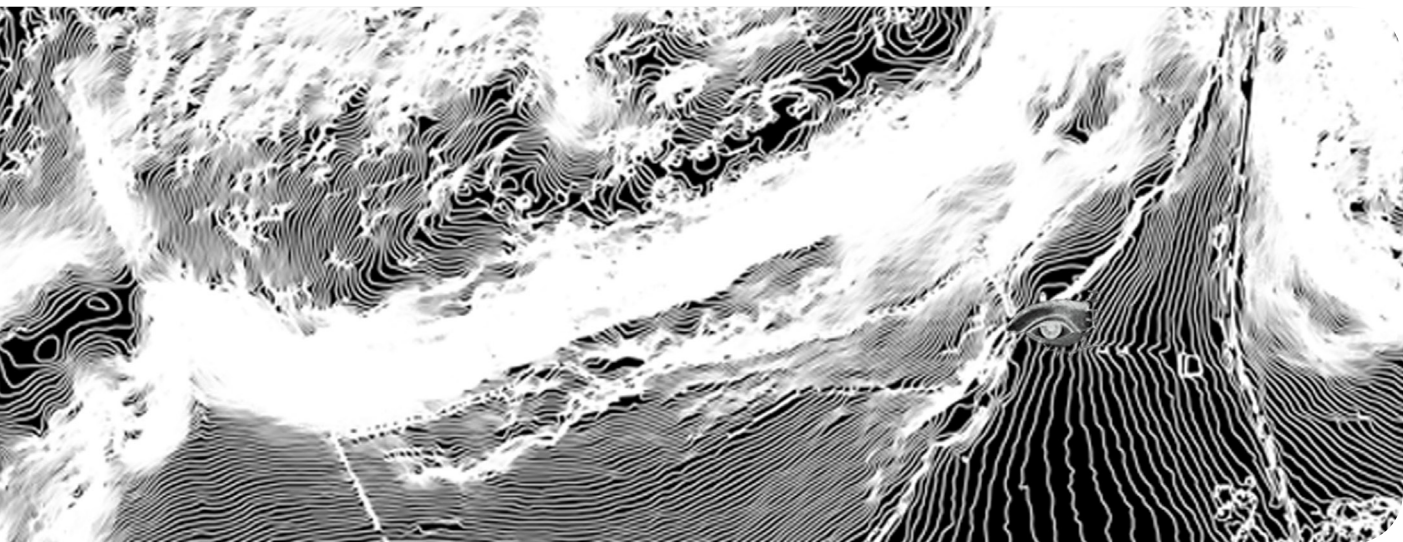
Doctor's Notes

Patient History

Alaska can be likened to an ill-patient.
One who has gained considerable weight over
the last seven years, and as a result is in a
poor health condition. It is immunocompromised
the lack of health care infrastructure raises
the chance of infections spreading.
Its bowels — the unclaimed spaces — are congested
with refuse due to a lack of service delivery.
It experiences high blood pressure along major
access routes at peak hours. The patient's
movement spines are arthritic; deterioration of
roads & pedestrian pathways, caused by a lack
of maintenance, unmanaged stormwater run off
and an over-increasing population they have to
service. A FATAL bleeding gash — the bridgless
river — creates a dangerous divide between
the site and important transport nodes.
The patient's LUNGS are tarred and damaged;
almost entirely deprived of public space, the
streets become soccer fields, footpaths host
meetings and the community gathers under
trees. THE PATIENT IS IN NEED OF A
PACEMAKER; a device for stimulating the
heart muscle & regulating its contractions. The insertion
of a pacemaker, though location specific, will not
only affect the heart. Improved heart function will
increase circulation; colour will return to the skin
and general well-being will improve!
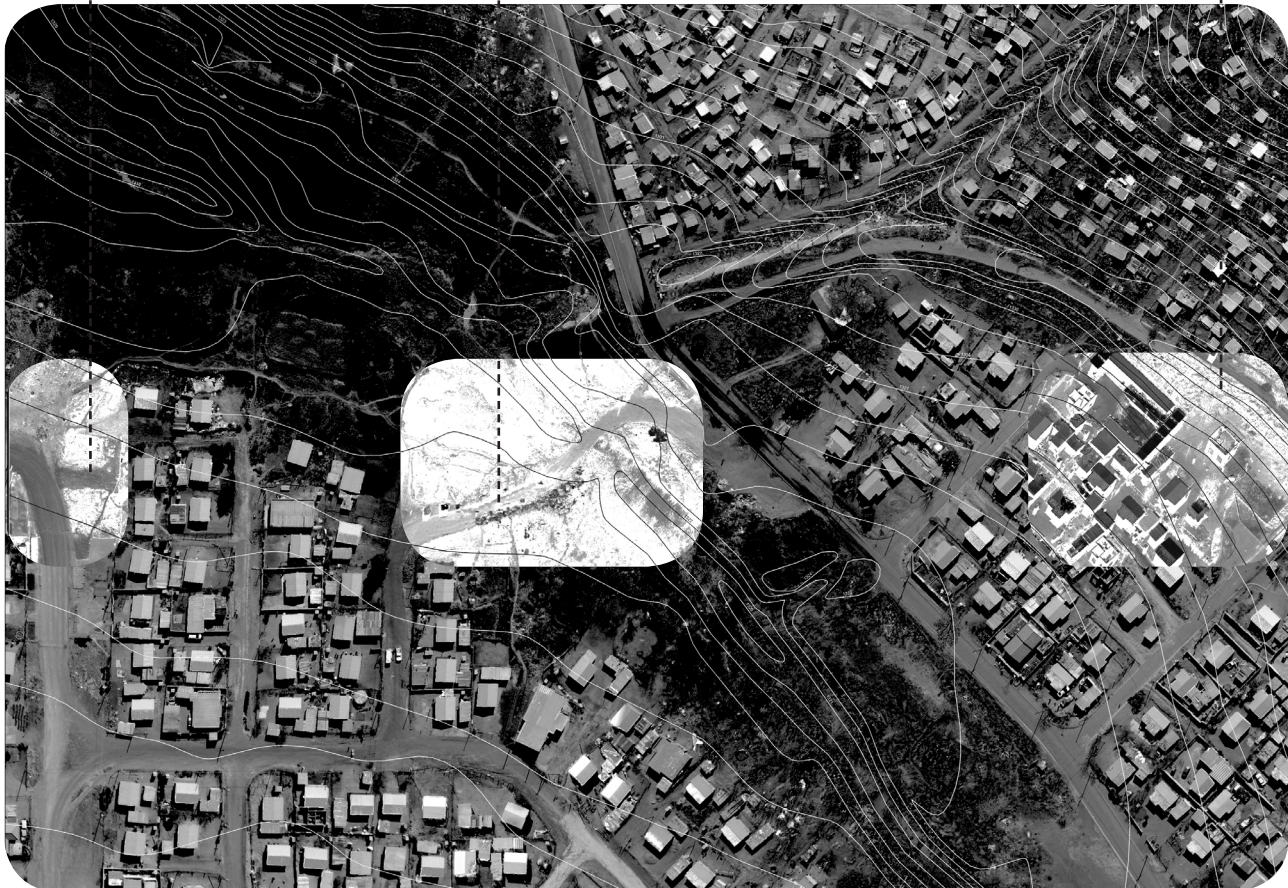
[1.7] The Risk of Rejection
Issues of Ownership in Informal Contexts

With any surgical transplant or insertion of a foreign object into the body – such as a pacemaker – the risk of rejection exists.
Within informal settlement contexts, the top-down provision and insertion of a facility runs similar risks of rejection.

The Nyanga Bathhouse (Nyanga informal settlement, Cape Town) is an example of the rejection of such a foreign object.
The project was part of the City of Cape Town's Dignified Urban Spaces Programme (DUSP), whereby public facilities and spaces were constructed in informal settlements, as such interventions are viewed as the highest order structuring elements in informal settlements, as well as important social infrastructure (Louw 2011).

> *The programme created an opportunity for public space provision to have better meaning and value to urban form and structure in areas where urban dysfunctionality was greatest.* (Mammon 2005)

Public facilities are viewed as the primary mechanisms through which dignity can be delivered to settlement residents. Due to the public nature of many daily activities, the dignifying of the public spaces enhances the enjoyment and quality of such activities (Louw 2011).
In accordance with the underlying theory and intentions of the DUSP, the Nyanga Bathhouse was designed for a community, in order to dignify and enhance the diurnal ritual of bathing. In addition to housing the primary function, the building defined a public forecourt and gathering area in front of it, opening onto a well-trafficked pedestrian arterial and guiding movement into and around the building. The quality of the public forecourt was regarded as important as that of the bathhouse itself.
The Nyanga bathhouse, despite its response to context, well designed public spaces and intention to heal a dysfunctional area, was rejected by the community and stripped bare of salvageable materials, scarcely leaving the foundations.
In a report, Cape Town 2025: Urban Form and Infrastructure (2005), reflection upon the rejection of the public facility is made and attributed to three key reasons. The first being that no managerial frameworks were established during construction that would take responsibility for the facility upon completion, to ensure that they were run and maintained efficiently. The second reason was due to The City of Cape Town's own planning and management issues, where one department creates spaces without another taking their function into the spaces as a complimentary and reinforcing layer of successful 'public space making'. The third is due to the lack of local participation and there-

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SURGICAL PROCEDURE

METHODOLOGY

fore local ownership and identity associated with the intervention (Mammon 2005).

In order to avoid such rejection, the proposed intervention should not be designed autonomously, or implemented in a top-down manner, as the Nyganga Bathhouse example indicates; suggesting a more inclusive, collaborative design methodology –
other ways of doing architecture (Awan 2011).
Spatial agency, participatory design, or architecture of empowerment (Tovivich 2010), is a collaborative approach to the design process, releasing the production of space from the soul authorship of professionals; into a much broader, social context (Awan 2011).
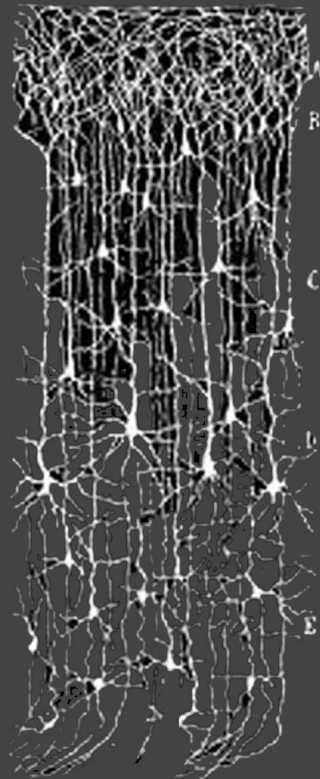
[2.1] <u>Surgical Procedure</u>
Introduction to Participatory Design Process

As the name suggests, the methodology uses a series of community engagement sessions in order to establish an understanding of existing social structures and networks, uncover existing opportunities that catalyst interventions may secure and enhance, form an understanding of spatial use patterns and spatial hierarchies, and allow a greater spectrum of skill-sets and paradigms to inform the design intervention, both programmatically and spatially.

The term architectural suggests only architects are involved in the creative production of the built environment, and spatial production is guided by the hand of the individual architect. Spatial agency does not replace architectural as a term or approach, but radically expands it (Awan 2011). This approach is not an alternative to the practice of architecture; a ditching of the traditional architectural skills of design and spatial intelligence, but rather, explores how to exploit these skills in diverse ways and contexts, all the while acknowledging the contribution of others (Awan 2011).

The conventional architectural design methodology typically solves a problem in sequence of: program and site selection; assessment of site opportunities and restraints; conceptual, sketch and detail design. This process (especially in respect to the architectural master's dissertation) is usually completed by an individual designer.

Spatial Agency branches out from this conventional process, which typically culminates in the production of an object, prioritising the static properties of buildings; the visual, technical and atemporal. The design methodology for spatial production, adopted by this dissertation, considers the more volatile aspects of buildings; their production processes, their occupation, temporality and their relation and response to society and nature (Awan 2011). The inclusion of community members in the decision making process, allows the local wisdom and remarkable innovation of the bottom up approaches to be heard and have influence, in a traditionally top-down system (Campbell 2014).

This dynamic inevitability shifts the focus of spatial attention away from the static objects of display that constitute the foreground of so much architectural production, and moves it onto the continuous cycle of spatial production, and to all the people and processes that go into it. The dynamic, and hence temporal, nature of space means that spatial production

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must be understood as part of an evolving sequence, with no fixed start or finish, and that multiple actors contribute at different stages. (Awan 2011)

Nabeel Hamdi (fig.) is regarded as one of the pioneers of participatory planning. His work epitomises an approach that looks for ways to use the learnt skills of an architect to bolster or enhance already existing structures, rather than starting from scratch. It is a way of working with the given and giving agency to those involved, rather than leading the process from the outside. (Spatial Agency 2014)

In the introduction to his book The Placemaker's Guide to Building Community (2010) Hamdi expresses the importance of participation:

> *Participation is not something you tag on if you have the time or good will, but an* **integral part of making design** *and planning efficient and effective.*
> *It underpins today's concepts of partnerships and good governance. It cultivates ownership and, with it, a sense of belonging and responsibility, both of which are important to the health of place and of community* (Hamdi 2010: xvii).

This design approach and process of engagement with communities is being utilised internationally as more architects acknowledge the importance of grass-roots knowledge and community agency. Cameron Sinclair's (1999) (fig.) Architecture for Humanity uses the process in post-disaster zones to not only rebuild shelters, but support community networks and long term resilience. Francis Kéré (fig.) selflessly returned to his home community and employs his formal architectural training to manipulate local building techniques into sensitive, climatically appropriate buildings that are built for, but most importantly, with communities. Tovivich (2010) describes the shift in the design paradigm, as

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Locally, Carin Smuts looks to collaborative design processes as a lens for understanding the
complexities of South Africa's menagerie of cultures and their varying understanding of space and place.

> *Because at all the architectural schools they are teaching you Western, European planning principles. You have no clue what's out there!*
> *Nobody in this country has any understanding of Africa. I don't know. You don't know! We don't know.*
> *So ask them if you don't know!*
> *You get as many of their ideas as you can, but at the end*

from one of providing to one of supporting and calls for a new role for architects and the greater profession, labelling it Architecture of Empowerment.

> *of the day, you as a designer have to make a building that stands up in the contemporary field of architecture. You as a designer have to create that dialogue.*
> *But in the end - participation allows for a much more relevant, contextual piece of architecture.* (Smuts 2014)

This methodology immerses the designer into the context. Any presumptions about the community needs, and preconceived ideas about gaps for design opportunity are eliminated through a series of mapping exercises. Hamdi (2010) highlights important tools for a placemaker:

Direct observation allow insight into the conditions of the context and for clues, which may be indicative of persistent problems: puddles of water indicate poor drainage. Mapping of economic centres, public space, where children play, where rubbish is disposed of, and similar observations made will start to form the grounds for enquiry. Transect walks coupled with interviews (formal or informal) members of the community allows further insight into social connections and interactions within the settlement. Stories and recollections told by various members of the community will unearth perceived problems, what works, what doesn't, what is aspired for, what is needed, power structures, fears and risks (Hamdi 2010).

> *While looking reveals information about the visible structure of place, interviews tell about the hidden social and economic structure of community* (Hamdi 2010; 70)

While these tools are important for gathering information, they are also about establishing a connection with the community involved.

Observing and listening can then be supplemented by measurement and data collection; measuring the width of path or distance between houses; counting the number of taps or day-care centres.

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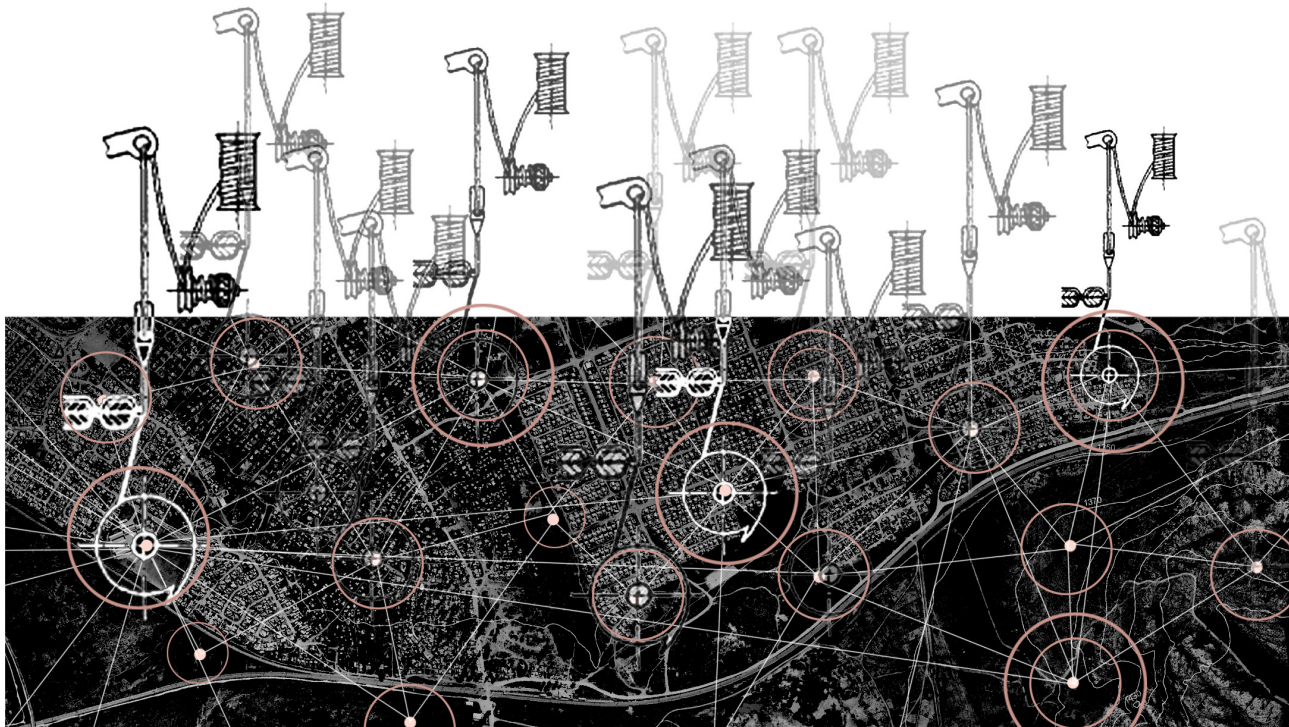
There are no fixed methods or structured tools for collecting information on community resources – both physical and social – however information collected through various surveying techniques can be interpolated into diagrams, maps, models and interactive activities to be used to further engage the community.

The process allows the designer the opportunity to make discoveries unique to that community that could have the power to have a large spread of influence. Campbell (2014) states that top-down has the real power to enable and through immersing oneself into the context and engaging with the community, the top-downers (architects/planners/designers) have the opportunity to truly enable communities and their existing bottom up innovations, rather than inserting an over powering system based on assumptions. The involvement of the community in the decision making process ensures a contextually appropriate intervention creates a lasting sense of ownership and responsibility for the intervention (Hamdi 2010).

While the sense of ownership, belonging and responsibility (for the tangible building and spaces) that is cultivated through the process of community engagement is one of the key intended outcomes of spatial agency, this project, being theoretical in nature, will be unable to measure these. The project will therefore focus on the local wisdom and innovation of bottom-up approaches, gathered during mapping and participatory sessions, to influence not only the planning of the intervention, but permeate into the design development (the tectonics and detail of the building). The methodology allows for not only the needs and wants, but also the aspirations of the community to be interpreted and included into the final design solution.

Hamdi engages the community in the initial planning processes, but does not collaborate with them into a detail design level. This dissertation intends to take the engagement and participation of the interested parties, further into the design development process.

This is by no means a relinquishing of architectural duties and obligation to design a product – but

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rather a process that refines the designer's ability to listen, translate what is being aspired for, and elevate the innovation of informality through interpretation into an appropriate, contextual architecture.

[2.2] <u>Patient Preparation</u>
The Specific Project Method

Using the published theory and understanding of community engagement and spatial agency as a general foundation, the specific method to be followed is outlined as follows.

[2.2.1] <u>X-rays, Observations & Scopes</u>
Transect walks and general mapping

The initial engagement with the community will happen on a very broad scale. Transect walks will allow insight into the conditions of the settlement; the distinction of social, economic and private spaces, and their relation to one another; potential sites for the intervention; as well as the collection of other sensory informants such as smells and noise.
Informal discussions with willing community members offers investigators the opportunity to gather subjective information; perceptions of health, space and safety of the settlement, the location of social gathering nodes (if any) and insight into how the settlement functions politically (Hamdi 2010).

By focusing the mapping and informal discussions through a health lens, the intention is to build

on the healthcare services and facilities; views on what is needed in the settlement to improve the general health and to identify active healthcare networks and role players within the settlement.

[2.2.2] <u>Checking for Vitals</u>
Networks and Engagement

The first phase of collaboration is then the identification of key role players within the healthcare networks existing within the settlement. Thereafter the engagement with these members will allow the designer insight into various opinions pertaining to the general perceptions of healthcare facilities, services, and routines. The engagement will allow the designer to gauge an understanding of the ideal clinic, which would best serve that particular community. This information – in addition to the physical site informants - will be used to guide the initial sketch design.

> *Critical reflection occurs when we analyse and challenge the validity of our presuppositions and assess the appropriateness of our knowledge, understanding and beliefs given our present contexts* (Mezirow, 1990).

Critical reflection will be used as a tool to analyse both parties' inputs. As an outsider – one's presumptions must be tried and tested against the actual needs and wants of the communities, voiced in discussions. While the expressed aspirations of the group, need to evaluated in terms of their present

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context. The difficulty lies in asking participants to describe/draw/point to their ideal school/house/ clinic as the response is often similar to current models of aforementioned buildings, because it is what is familiar to the participants.

[2.2.3] <u>Patient Opinions</u>
Collaborative Design Development

The second phase involves a discussion around an initial sketch plan, and, preferably, a mass model. The rudimentary design, generated from information from first phase participants, contextual informants and programmatic requirements, is explained to the focus group and then adjusted according to their concerns, or design impulses. A model that appears finished, fixed and finalized, may signal to the group that all the design decisions have been made, which could discourage participants from sharing their ideas and opinions. Ideally the model should be easily adaptable, allowing the participants room for involvement through manipulation of the model.
The input and suggestions made in the session are then reflected upon by the designer and interpolated into a sequential design.
Phase two can be repeated infinitely; until such time as an agreeable design solution is found, and the designer is content that the full potential of the focus group has been reached and further development of the design will not necessitate full group involvement; or until concerns or suggestions become too personal i.e.: "I prefer pink to blue in a doctor's room".

To avoid raising expectations and misleading the participants, the designer will need to make the theoretical nature of the project explicitly clear from the outset and explain what the participants will receive. In the case of this project, the community will be provided with a set of drawings highlighting the architectural possibilities for the site, as well as sketch plans for smaller interventions, that can potentially be constructed by community members
Once the design collaboration has reached its conclusion, the members will be thanked for their contribution to the project and willingness to participate.

The participatory process will, theoretically, not end there. Due to the structured exams with both internal and external examiners, the design will continue to be influenced, manipulated and evolve according to the suggestions and opinions of participants other than the designer. As with the input from the community participation sessions, suggestions will be scrutinised through the theoretical and conceptual frameworks of the project before having consequence on the project. The importance – and no doubt the challenge - being to maintain the essence of the design intentions throughout the participatory process –from both the bottom up and top down sessions. To not become merely a drafts person for the community, nor revert to a soul author, insensitive of the dynamics of
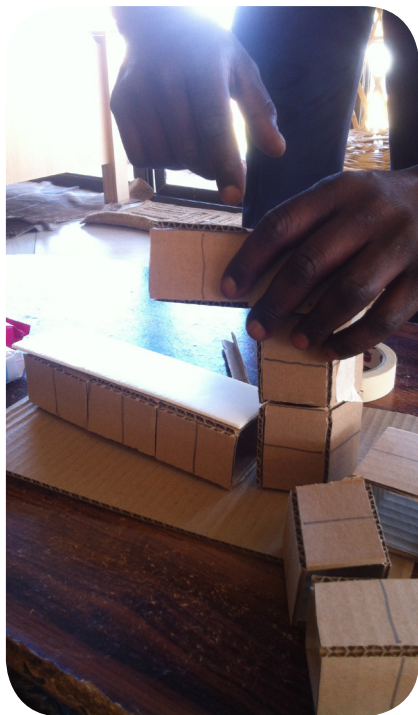
the context.

Chapter five (Design Development) follows a time line of engagement and maps the design consequences of collaboration on multiple levels of engagement.

[2.3] Similar Successful Patient Cases
Collaborative Design Precedent Studies

In Gugulethu, an informal Settlement in Cape Town, Carin Smuts used the participatory design process to improve the design and conditions of an existing informal Meat Market.

The women involved in the participatory process were adamant that their stalls and lockable areas have suspended timber floors – allowing them access to place muti (Traditional African good luck tokens and herbs) to protect their stalls and ensure wealth and prosperity (Smuts 2014).

Through engaging the women in participative workshops and seminars, Smuts was able to educate the women about the negative health implications that suspended floors would cause within a meat market and successfully negotiate an alternative position for the muti, to allow for concrete floors instead (Smuts 2014).

In a similar case, designers working on in situ upgrades to Durban's Warwick Junction Market, were vehemently opposed by traders, to moving a number of stalls into a particular area, which had always, mysteriously, remained open, despite the continually growing number of traders.

Designers agreed to mark out the proposed new positions and monitor them to understand while no one was interested in moving. A downpour, a few weeks later, proved to the designers that the open space was the path of un-channeled storm water (Dobson 2009).

These cases highlight the benefits of the participatory process, where the beginnings of the middle

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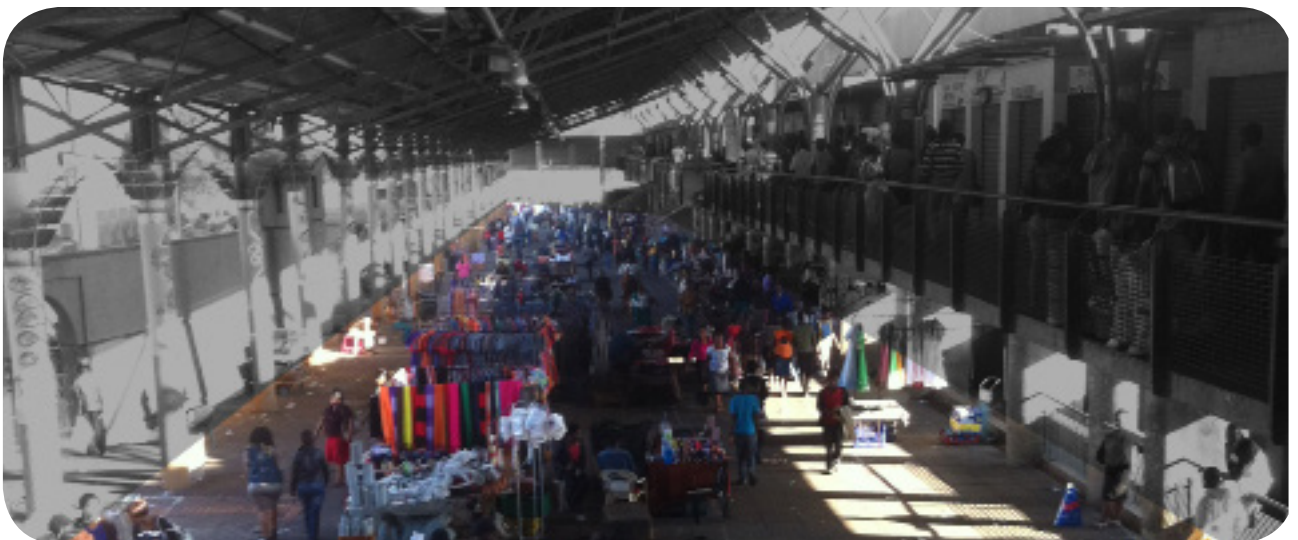
ground between the top-down and bottom-up approaches can be found.

Smuts demonstrates how the learnt knowledge of the top-down can be disseminated in an inclusionary manner, while the Warwick example illustrates how the local knowledge of the grass-roots can be invaluable to the design process.

[2.4] Additional Surgical Outcomes
Amended Project Intentions

The participatory process as a design methodology challenges the way of doing architecture in order to reach a middle ground between the power of top-down provision and the innovation of bottom-up approaches.

Engagement with the community allows for empowerment of the affected parties, for the existing to be acknowledged and agency given to those involved. The approach has been selected as an appropriate design methodology for the chosen context, because, as the Nyanga Bathhouse example illustrates, top-down insertion, without community consultation or engagement, can result in the rejection and eventual destruction of the facility. Through the use of this design methodology, the projects intentions extend to include the following:

• To create a building that is a **part of and responsive** to the dynamic context of networks in Alaska, and is able to adapt to fluctuations in the context

• To instill a sense of **responsibility** to ensure the **ownership** after construction

PLANNING

CONCEPT

DESIGN DEVELOPMENT

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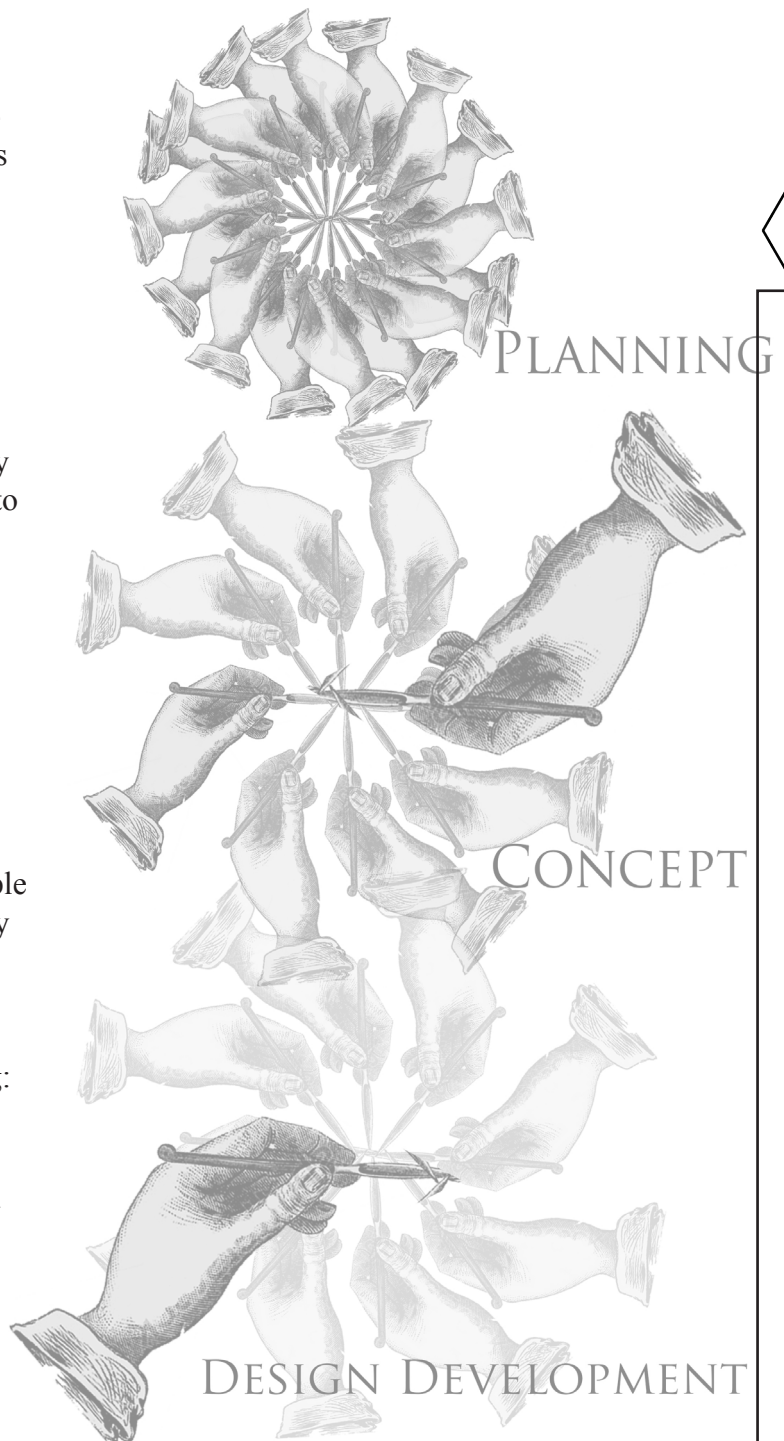
• Include **local knowledge and innovative building techniques**,
allowing the construction of the building to create opportunities for local employment

[2.5] <u>Biopsies & Blood Tests</u>
Immersion and mapping of the Physical Context

The initial mapping exercises were done in collaboration with a group of honours students, who were working in the group looking for and connecting with the healthcare networks in Alaska.

Having chosen Alaska as an appropriate context, the initial visits to gather information and connect with networks, also focused on selecting a site. The majority of the potential open sites were either inaccessible or too small; despite the intention to challenge the current clinic design conventions, the minimum site size standards were used a guideline in assessing potential sites. This lead to questioning whether the healthcare facility should in fact be one building on one site – or if certain programs could be removed and positioned as satellites throughout the settlement. If there were existing healthcare practitioners within the settlement, whose facilities could be upgraded in situ and associated with a centralised facility, the existing social structures would be strengthened and because trust already exists between community members and these practitioners, their association with the new facility would increase its acceptance.

It was assumed that there would be midwives living throughout the settlement, who could become these satellite hubs. And so the mapping focused on testing this assumption – however the assumption was proved incorrect. Mothers of small children interviewed all attested to giving birth at the local clinic, as the dangers of giving birth in unsterile conditions were largely understood and as a result, there were no midwives in the settlement.
The mapping did however reveal another network of health practitioners – traditional healers.
The WHO defines traditional practice as the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness (WHO 2011).
In a broad sense, there are three groupings of traditional practitioners in South Africa; traditional doctors or *Inyanga*, Diviners or *Sangomas*, and Faith Healers or *Umprofethi* (Krige, 1998)

The honours group also found that there were community health care workers, living and working in the settlement and adjacent ward. Community healthcare workers, an initiative of the University

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of Pretoria's medical education department, are a group of foot soldiers, sent out to serve patients in their homes, thus alleviating patient numbers at the central clinics. CHCW's are not nurses, but are trained to measure a patient's vitals and distribute chronic medicine. The CHCW have a central meeting point – called a community health out post – where they gather for training and to get supplies for the day. (The programme is still in its early stages, but each community healthcare workers will be issued with a GPS enabled phone, loaded with a custom app that will allow the input of data collected by the CHCW at each household. This will allow for real time mapping of disease distribution and a more accurate census of the settlement population and demographics.) (Hugo 2014). The discovery of these two networks of healthcare workers introduced a new aspect to the investi-

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gation that had not previously been considered: a faction between networks; between two contrasting healthcare systems.

Historically, traditional practitioners have been excluded from the medical fraternity. It was hoped that the post-apartheid government would include traditional practitioners into the new healthcare policies and be acknowledged as legitimate practitioners. However, health professionals, for practical and quantifiable reasons, avoided the mystery associated with traditional healing (Gerlach-Spriggs, 1998), and western medical practice prevailed.

Following the initial transect walks, and having discovered the two healthcare networks, the first collaborative sessions were set up with each group. (Unfortunately, the nurses could not attend the meeting arranged with the traditional healers, and so the groups were met on separate occasions.) Both the CHCW and traditional practitioners were asked to draw their ideal clinic.

The initial assumption that participants would 'draw what they knew' was validated to an extent – more so with the CHCWs than the traditional healers.

Figures x and y are those done by the nurses. Their detail attention focuses on interior spaces and the relation of internal spaces to one another. The layouts are generally similar to those of existing clinics.

In the meeting with two medicine men, a faith healer, a self-proclaimed nurse (she distributes panado's and plasters to friends and family) and a community leader, the results were not as supportive of the assumption.

The medicine men drew a clinic which included a separate area for traditional practitioners, but that was still considered a part of the facility.

The faith healer, drew a traditional rondavel fig x. And the community section leader, drew a hybrid solution, where traditional practitioners were included within the facility and a referral system would be used between western and traditional practitioners.

To gauge a further understanding of the practice of traditional medicine, the homes and healing spaces of the traditional practitioners present were mapped and analysed(fig x). The entrance progression and spatial layering from public to private is softened through multiple thresholds. The healing spaces are dependent on the various rituals and happen both inside and outside. Traditional practitioners are considered channels for the ancestors and therefore are not superior to patients, rather equals. This sets up a mutual consultation space, which is less intimidating to patients. This in contrast to the power structure indicated in a typical western consultation room, with the doctor perceived as being superior Fig x.

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The intentions of the project were derived from the criticism of current clinic designs. These designs were largely driven by the requirements of western medical practices and processes.
The healing spaces of traditional practitioners – although varying from one to another, owing to a lack of design regulations – offer an alternate healthcare model to that of the western practice.

[2.6] <u>Revised Treatment Options:</u>
<u>Surgery, Stitches or Rolling Bones?</u>
The Research Question

The evaluation of clinic design, the starting point for this architectural investigation, found that clinics are typically provided to communities in a top-down manner with little consideration of context or patient needs, often resulting in; facilities that are isolated from the public realm, uncomfortable waiting spaces, unhealthy interior environments and inadaptable buildings. Evidently, a new type of healthcare facility is needed to address the shortfalls of current clinics.
Having identified Alaska, an informal settlement, as an appropriate site for such an intervention, a collaborative approach to design was established as a methodology that would reduce the risk of rejection. The participatory process allows the design skills and spatial intelligence of an architect to mediate between the blind provision and insertion of top-down of public facilities, and the innovation and contextual understanding of bottom-up approaches, in order to establish a middle ground solution, cultivating sense of ownership for a truly contextual intervention.

The issues of the typical (western) healthcare model, coupled with the risks of top-down provision, informed the project intentions to create a patient-centric healthcare model, responsive to and reflective of its context, and one which promotes health; the state of physical, mental and social well-being. The initial exploration of the context, revealed that a healthcare model, realising these intentions on a small scale, exists. It is that of the local traditional practitioners.

Rather than symptomatic treatment – traditional practitioners tend to the cause and promote preventative health behaviours among community members. Their healing facilities are responsive to context and forge an intimate relationship with place. Within communities, traditional practitioners

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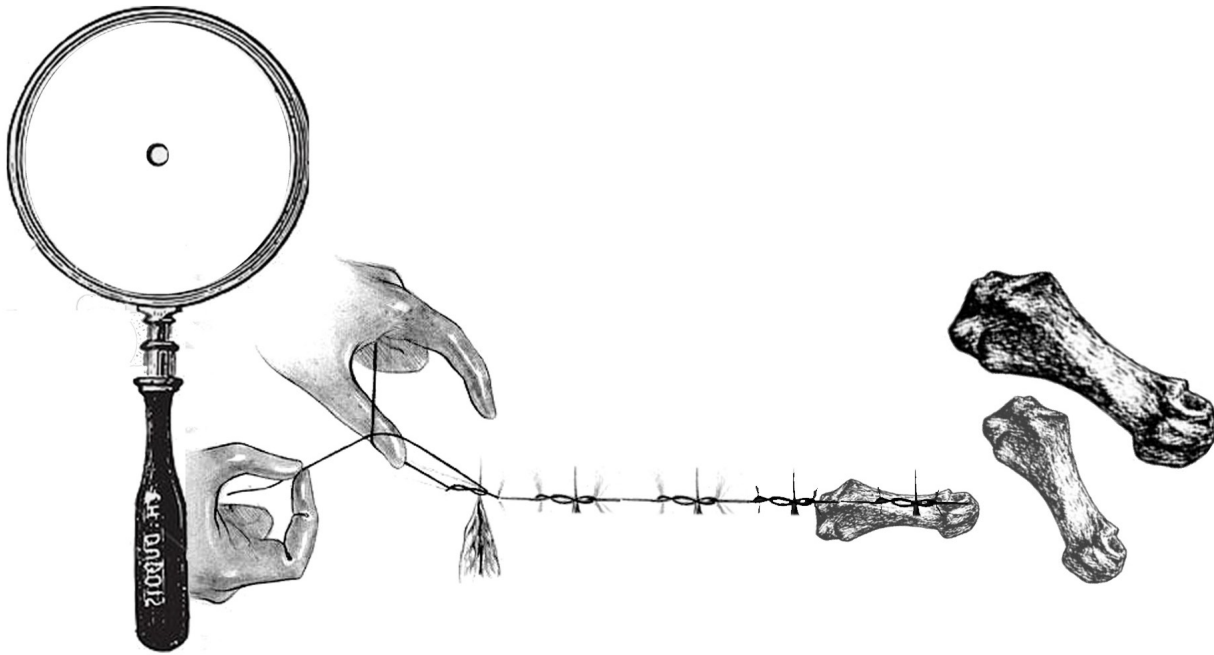
play a very important social and educational role.

They do however – fall short in some regards to healthcare. Traditional practitioners interviewed on site, admit that upon seeing signs of TB or HIV, they will refer their patients to the conventional western medicine – an exceedingly unusual, yet encouraging, healthcare model (de Jager 2014). The holistic and bottom up approach of the traditional practitioners, combined with lessons in efficiency, from the current top down approaches could result in the middle ground, that is needed for the design and provision of healthcare facilities, in informal contexts such as Alaska.
Born from this need, the research question is posed:

Through investigating the overlaps and areas of antagonism in scope between **western and traditional medical models** and engaging in a **collaborative design approach**; the dissertation sets out to investigate how the architectural, spatial and detail

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expression of these similarities and disparities, can result in a new health-care facility model? One which is **integrated into place, patient-centric,** and **adaptable** , in order to constantly **foster physical, social and mental well-being,** despite any fluctuations in the context or changes in disease which may occur.
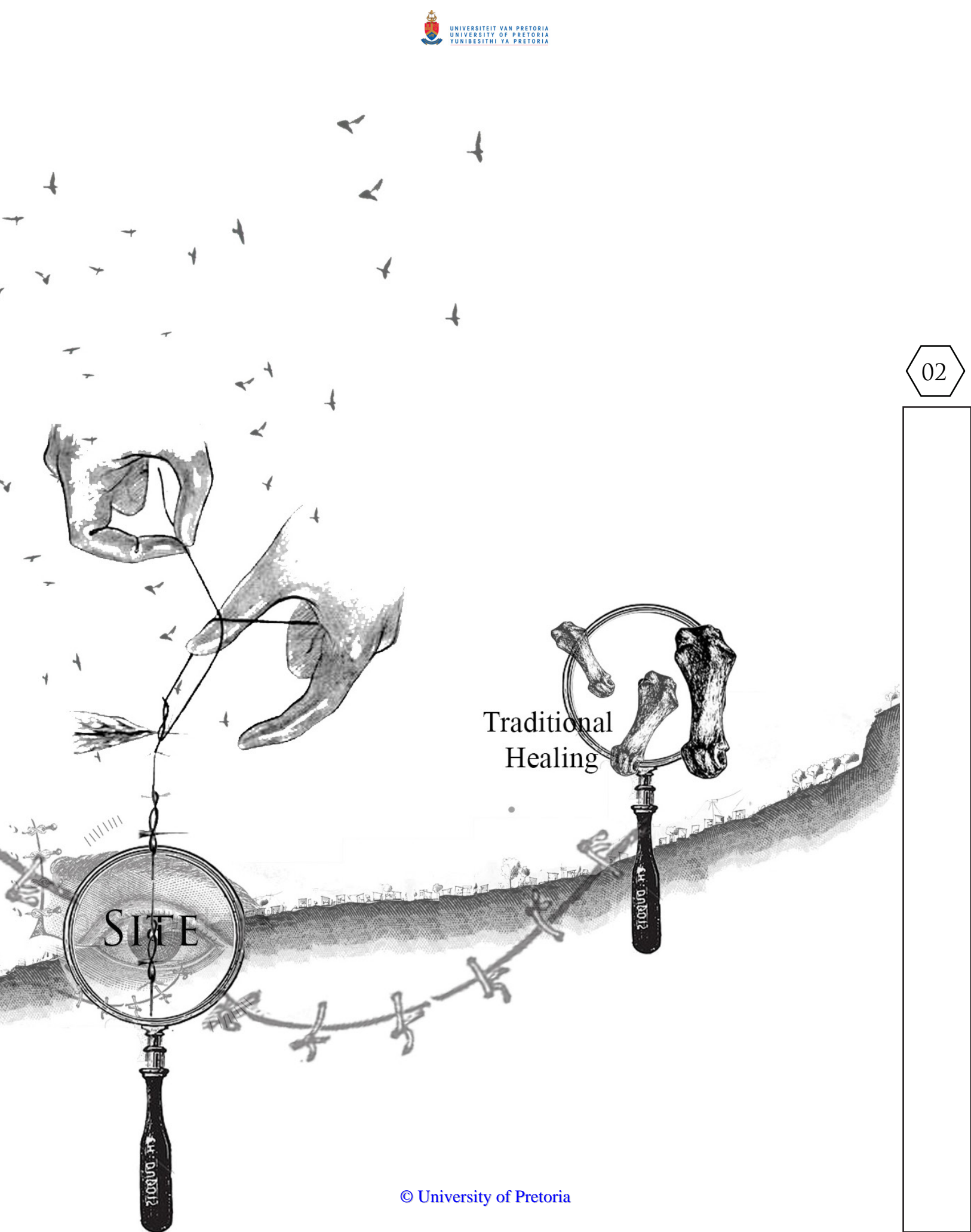
[2.7] Prognosis
The Dissertation Hypothesis

The assumption that the insertion of a western clinic into the informal context of Alaska would be perceived as an imposition and therefore rejected, as it emanates from elsewhere, gives rise to the hypothesis.

It is hypothesised that an intervention generated through both the programmatic and spatial reconciliation of the two health-care models and the mediation between top-down imposition and bottom-up innovation, will be accepted by the community. The insight into contextual nuances that participatory methodology affords, will result in a design that is reflective of and responsive to the context; patient centric and fosters healing.

Through the acknowledgment of the given – the traditional practitioners – and spatial agency given to the community – through community collaboration – it is surmised that the intervention ut will be a catalyst for change within

Western Practice

Traditional
Healing

Site