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Varsity

Newby, Nathan

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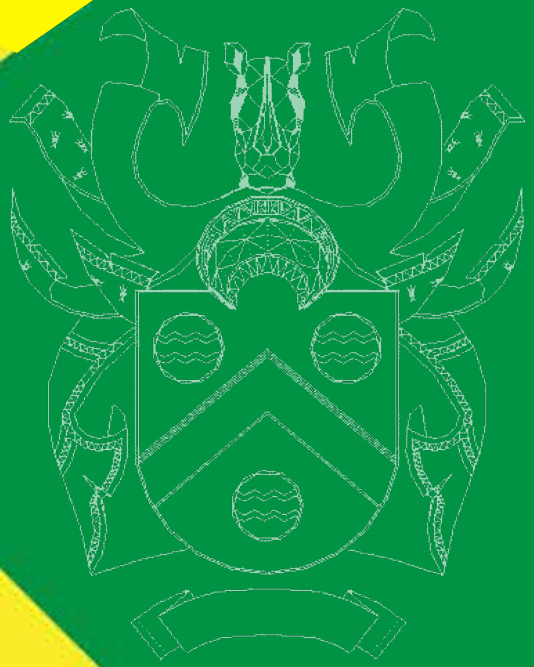
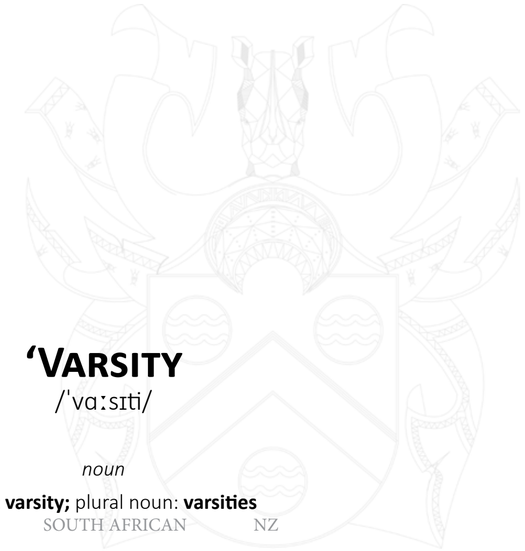
‘Varsity

25 January 2019



• Nathan Newby



‘Varsity

/ˈvɑːsɪti/

noun

noun: **varsity;** plural noun: **varsities**

BRITISH SOUTH AFRICAN NZ

- The Future of Education and the Mining Town of Springs. •

•

25 January 2019

Front Cover: Coat of Arms
Fig 0.1: Author’s own, 2018



Fig 0.2: Author's own, 2017

I, Nathan Mark Newby, am a student registered for the course Bachelor of Architecture (Honours) in the year 2016. I hereby declare the following:

I am aware that plagiarism (the use of someone else's work without permission and/or acknowledging the original source) is wrong. I confirm that my work submitted for assessment for the above course is my own unaided work except where I have stated explicitly otherwise. I have followed the required conventions in referencing thoughts, ideas and visual materials of others. I understand that the university of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my unaided work or that I have failed to acknowledge the sources of the ideas or words in my own work.



Nathan Mark Newby
6 May 2018



Mining Remains
Fig 0.2a: Author's own, 2014

The East Rand, or what is now known as the Metropolitan area of Ekurhuleni, is experiencing a sluggish transformation in its spatial, economic and social qualities. The deserted infrastructure, established in the prosperity of the mining boom along the Witwatersrand reefs, now lays dormant with a tentative future. The towns within the regions confines suffer from a degeneration of commercial and industrial activity, resulting in the inevitable loss of prosperity, the general abandonment of expertise and the enterprise for social and spatial improvement. One such of these towns is Springs, a town of an estimated 375 000 population which, due to the effects of urban de-growth and urban sprawl, has lost its qualities of community and unified ambition. There is however, still the opportunity to change direction.

In order to foster and fast track the development of skills and to expand opportunities within this framework, local municipalities have developed a major strategic goal of establishing an Ekurhuleni University. Those with authority on the initiative have stated that the "university is no longer a matter for discussion, it's a developmental imperative for the City's future and that of the country." (Masina, 2017;1) The intention however neglects the re-imagining of what already exists in terms of infrastructure and facilities. It does, however, understand the factual reality of a new generation that is striving for education, with the problem not always being the funds, rather the access to facilities which provide the education.

The intention of this project is to understand how this trouble found in The East Rand, which is in truth a national concern, can be considered within the existing framework and context found in Springs, in order to more fully realise a solution which restates it's position and develops the innate and inherent social climate of a multi-racial, post-colonial town in a changing country. Bound to this intention is the questions revolving around the future of a South African tertiary institution and the role of emerging technology and evolving ideals. This is without even yet considering the realisation and form of a de-colonised university or the architectural language developed by such a concept? Or how a new large-scale intervention can be placed within a town rich in architectural heritage?

Though these questions and ideas of an entire university campus cannot, and will not, be answered with this project, the driving factors and proposed solutions will be represented in a single intervention, set within an architecturally rich environment, that gives an example and proof that the broader scheme could result in a new direction for an up to date Springs.

I was raised in a semi-traditional conservative English family on a plot a short distance from Springs. My father was raised on that same plot in the same town. My grandfather was the first to settle that plot and he too was raised in Springs. While I was young I heard the stories that my grandfather would tell at family dinner parties; stories of the family. Not just the stories of his immediate family, his brothers and parents, but stories which told the history of the Newby family till before they were Newby's, rather just men and women, followers of William the Conqueror. It was to my grandfather that I would show my first architectural project and in return he taught me the concept of Legacy. He taught me that there is always importance in history. He taught me that without it we are strangers in time.

Perhaps my upbringing makes me biased when I judge towns such as Springs. I have grown to love the town and its potential, but I have also come to notice the extreme lack of history that it willingly shares. Still today the town is a nomadic one; its people never truly settling within it. I am forced by those teachings of legacy to seek the roots of a city, to attempt to understand its qualities and interpret how to explore its past.

The conceptual backing of my selection of Springs ,as my focus, was based on my attempt to grapple with these ideals surrounding memory and its antithesis: change. As my hometown there is the inevitable connection to the town. As the fourth generation of my family to live in Springs, my history is tied to the town from birth, but this unasked-for endowment has also granted me the ability to imagine how it could change

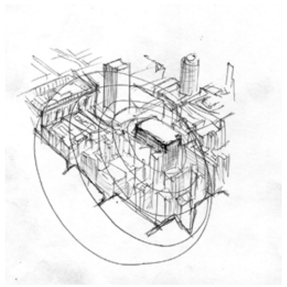
My References are neither dogmatic, nor bound to any single architectural tendency: my references are emotional, but logical first. I do not want to go back to what the town has or less importantly, what it was. I do not intend to restore what the town had before. I intend to address the need to restore an identity to the town. And what can change that identity. There are very few things that can completely re-invent a town. The metropolitan council of Ekurhuleni itself has provided a potential idea, and my research and intervention attempts to provide a potential concept.



Grandfather
Fig 0.3: Author's own, 2017

Step 1. Planning the Journey
Step 2. Mapping the Terrain
Step 3. Locating Your Position
Step 4. Crossing the Terrain
Step 5. Interpreting the Map
Step 6. Recounting the Journey"

The six steps of research according to "Visualising Research" by Carol Gray and Julian Malins



Cities
Fig 0.4: Author's own, 2017

Contents

PAGE 13 **A University**
- Ekurhuleni University
- A Different Approach
- South African Universities
- End of the South African University
- The Need for Community

PAGE 45 **A Continent**
- Our African context
- Post Colonization
- African Renaissance
- Senegal
- Future

PAGE 69 **A Town**
- History of Ekurhuleni
- Art Deco Movement
- The Importance of the Street
- Interviews

PAGE 141 **An Idea**
- Fictitious Worlds
- Who do we Empower
- New Ways to Educate
- Architects and their Worlds
- Decolonised Education

PAGE 165 **The Process**
- Brief
- Schools
- Program
- Models
- Adding Technology
- Using Fly Ash

PAGE 199 **The Campus**
- Campus Plan
- Pedestrianised Streets
- Site Selection
- Adding Landscaping
- Stages of Design
- The Triangle
- Abstracting Light
- Adding Public Art

PAGE 259 **An Intervention**

A University

Where has this idea for a University come from?
How can we interpret the need for a University in Springs?
Where are the roots of the need for a University
What are the current conditions of a South African University?

01



Left: **Proximities of Universities**
Fig 1.1: Google Satellite Image, 2018

Ekurhuleni University

A university for Ekurhuleni has been a long time coming. The need is clear. The metro itself is one of only two metros in the country without a university. Ekurhuleni Mayor Mtzwandile Masina is convinced that the potential and interest is clearly apparent. Speaking at a symposium held in February this year, the mayor laid out concrete plans to see his, as well as the metro's plans and dreams come to fruition. Following on from the March 2017 State of the City address, where the initial concept was proposed, the mayor himself attempted to convince his audience of his argument. Statistics such as Ekurhuleni's contribution to the economy of Gauteng (23.1%) And the national economy (8.1%) were used to convince officials and delegates that the metro deserved a university within its borders. Under the proxy name of 'Ekurhuleni Applied Sciences and Technology University (east-U) Mayor Masina proposed the towns of Germiston, Boksburg and Kempton Park as prospective sites. The symposium itself was to outline the financial and legislative backing for the university itself, but the primary goal, though mentioned, was not the highlight of the talk itself. The primary backing of a University is the students and communities it could impact positively. A consideration not of location, but who the university is for?

The previously stated sites of Germiston, Boksburg and Kempton park are with little doubt selected in terms of their proximity to the airport and the plans the metro has for the region. The officials have gone as far as to say that they may have been granted free land for the university from a developer, without stating what the developer gets in return. However, we need to be thinking of the people populating the Metro and their access to tertiary education. It is clear that a new university bordering on the boundary of a Metro with two well recognized and accessible universities, fails to acknowledge the need of students who either need to relocate or travel long, time consuming, costly pilgrimages to reach one university.

With costs as high as they are, the Metro should be forced to consider alternatives, especially in order to service the needs of those with homes further to the east of the metro. It is there where access to a university would continue to be impossible. Locating the university closer to Johannesburg begins to appear as a trophy or accomplishment to glorify a metro rather than a means to initiate social capital and the improvement of its people.



+ - ***R60 000***

University of the Witwatersrand
Architecture (BAS)
2018 R53 630
BA (Performing and Visual Arts)
2018 R45 350
BSc (Sciences)
2018 R47 920
BDS (Health Sciences)
2018 R66 860
BEngSC(BME)
2018 R61 810

University of Johannesburg
Architecture (BAS)
2018 R40 000-R48 500
Humanities
2018 R34 000-R56 900
Sciences
2018 R35 600-R59 400
Health Sciences
2018 R42 200-R71 300
BEngSC(BME)
2018 R40 200-R49 700

Average R50 224 pa
(Minimum three years)

It would cost on average R150 672 for a three year degree till graduation

min R25 200

Residence fees in Jo'burg close to either Wits or UJ

House Share Scenario
Melville Area
Rent per month: R3 500
R42 000 pa
W&E per month: R800
R6 000 pa (R48 000 total)

Vrededorp
Rent per month: R2100
R25 200 per month

Single Apartment
Milpark
Rent per month: R5 450
R65 400 pa

Aukland Park
Rent per month: R4 500
R54 00 pa

Average R48 140 pa
(Minimum three years)

It would cost on average R144 420 for a three year degree till graduation

min R36 000 -R61 000

University of the Witwatersrand
Cheapest Residence Price
2018 R36 300

Average Residence Price
2018 R52 000

University of Johannesburg
Cheapest Residence Fee
2018 R25 280

Average Residence Fee
2018 R29 000

Cheapest Average
R30 790pa

Average Average
R40 500pa
(Minimum of three years)

It would cost a minimum of R92 370 for a three year degree till graduation

min R12 000

University of the Witwatersrand
Cheapest Residence Food Bundle
(10 meals per week
Mon to Fri: breakfast & supper)
2018 R16 030

Self Catering (Daily)
Supper: Min R30
Lunch: Min R20
Breakfast: M R10
Other Consumables
Other:Min R370
Total Per Month: R2 170
R26 040pa

On bare essentials, the average price of consumables is R21 035pa

It would cost on average R63 105 for 3 years.

min R33 600

On the occasion where a student chooses rather to drive in to a university .

From the furthest point in Ekurhuleni.
Wits: 56.4km
Average R1.3/km
Cost R73.32
Cost of tolls
Gosforth Plaza +Dalpark (R11+R12)2 =R46
Total: ((R119.32)5)4
(R2386.40)10
R23 864pa

Taxi from Springs to JHB
R42 one way (R84)
Total R16 800pa

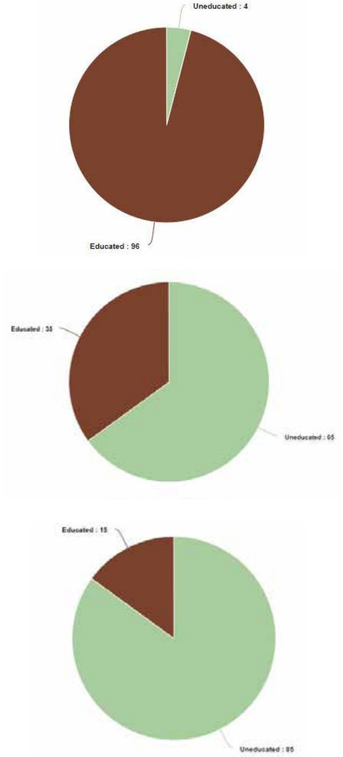
It would cost a minimum of R50 400 for 3 years

COST TO GET A DEGREE

R201 072	TRAVELING TO A UNIVERSITY FOR 3 YEARS
R375 598	RENTING CLOSE TO A UNIVERSITY FOR 3 YEARS
R306 147	LIVING AT A UNIVERSITY FOR 3 YEARS
R150 672	ATTENDING A UNIVERSITY CLOSE TO HOME

“A university is no longer a matter for discussion, it’s a developmental imperative for the City’s future and that of the country.”

Mayor of Ekurhuleni, Mzwandile Masina



Educated vs Uneducated
Fig 1.3: Author’s own, 2018

Currently, when reviewing the state of education in the metro, tertiary education is the most dire. Four percent of children in the metro are not receiving schooling at all. Fortunately that amount is relatively low, evidence that the primary phase of education is well serviced and catered for. When you encounter Secondary Schooling (ie. High School) thirty five percent of those students matriculate. Due to many students leaving schools to take up apprenticeships, trade business opportunities, this amount is easily viewed in a positive light, but it is a start for concern. Of those thirty five percent, only fifteen percent have a tertiary education. This number becomes a major concern. With most job opportunities and fields now requiring at least a matric certificate as well as at least a diploma, the opportunities for students in Ekurhuleni stagnates. With qualified students with degrees moving out of the metro to areas such as Johannesburg, where they would receive higher incomes; Ekurhuleni comes to a figurative stand still.

Other tertiary education is available for students on the East Rand, but this is limited to their access to correspondence and/or TVET colleges. Technical and Vocational Education and Training (TVET) Colleges are facing their own challenges. There are concerns generated when students of these colleges are interviewed. One student lamented on the lack of guidance of qualified staff and the lack of facilities, making the courses a form of correspondence and self-learning rather than of committed teaching methods in place to advance the learning of students. Another student shared an experience of attending an exam where no adjudicator was present, allowing all to share answers from books and friends. Another option needs to be in place for students who are serious about their education and desire to study along different paths.

The site selection of the university is at the core of the success of the intervention. Within the towns that have been selected, vacant unbuilt property is being considered, as well as green space and open public space. The model would be to follow on from previous universities to complete a campus with minimal urban integration and majority new build sites. These ideas neglect to understand the current conditions of majority of the metro’s central business districts. The major resource to initiate this and perhaps the driving factor for this intervention, is the resource of the existing facilities themselves.

Though most are relics of mining towns and may lack the spine and supporting structure of a University, the other facilities are already in place. Theaters are seldom used. Grand cinemas lay in ruin. Countless abandoned and hijacked buildings lay dormant with no



3 379 104
Estimated population of Ekurhuleni: Target Market



10 571
Estimated amount of students proposed by Ekurhuleni



46 Hectares
Footprint Ekurhuleni expects the University to cover



R1 200 000 000
Estimated cost of the University



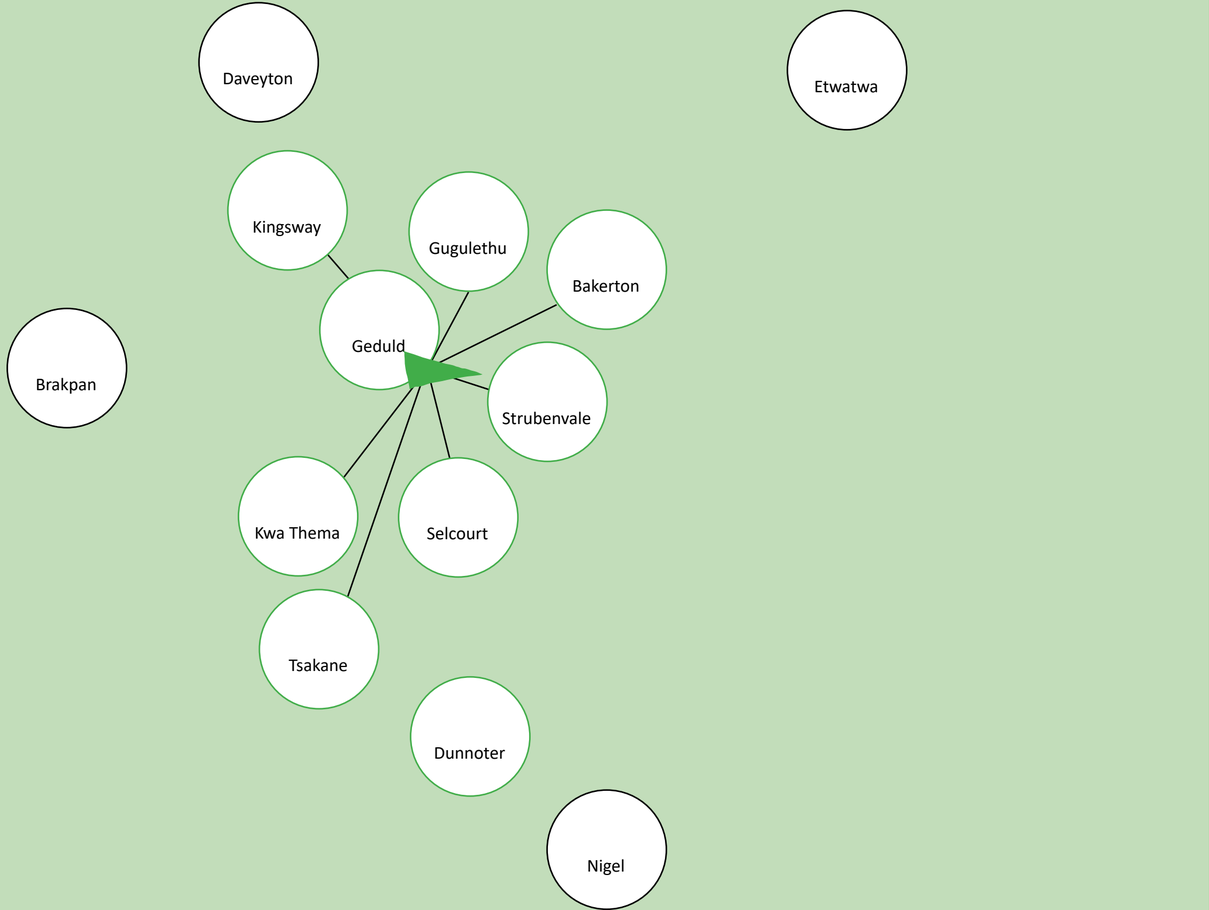
foreseeable future. A university can be built on forgotten spaces, places were the facilities and context are already clear and apparent. “Old ideas can sometimes use new buildings. New ideas must use old buildings.” (Jacobs,1961)

“In South Africa, specifically, it is hard to imagine that urban space can be benign – a place for personal development and the enjoyment of daily interactions.” (Kotze, 2017) These spaces however are what we need to capitalize on. The Metro’s plans are to build a considerable part of the University from the ground up. The approach needs to be considered more thoroughly. “This approach requires the clear prioritization of growth alternatives, from smartest to ‘dumbest’, as follows:

1. Urban Revitalization
2. Urban Infill
3. Urban Extension
4. Suburban Retrofit
5. Suburban extension
6. New neighborhoods on existing infrastructure
7. New neighborhoods requiring new infrastructure
8. New neighborhoods in environmentally sensitive areas”

However, we need to acknowledge that the Ekurhuleni Mayor and his office has dedicated themselves to seeing this University built. However, with state funding of universities now entering an uneasy, speculative point in the countries political climate, after the effects of the ‘fees must fall’ movement, one must question whether or not the metro can afford to build a university. The initial budget, set to expand once the proposal moves forward, is an estimated R1.2 billion. Already the office of the Mayor has approached various stakeholders, including the private sector and government. Though there has been positives which have emerged from the fees must fall movement, we need to keep in mind that free education is not viable accessible education.

One must also question whether or not a metropolitan steeped in a tradition of maladministration and backward thinking can gauge a future-necessary university. Auditor General Kimi Makwethu said what was missing in the metros governance, ‘was basic principles of accountability, built around a central theme of strong internal control and good governance – if these are in place, municipalities should be well geared to live up to the expectations of the communities that they serve.’



A DIFFERENT APPROACH

1. Access
2. Infrastructure
3. Historical Significance

This intervention attempts to offer a different approach to the plans set out by Ekurhuleni. As mentioned above, the primary role of this intervention is to serve those with no access to a University. By that criteria alone, the intervention needs to be pushed further east along the East Rand. Secondly, the University needs to be located in a town with a significant state of dormancy, where the infrastructure and potential is already inherently apparent. Finally the town needs to hold significant history.

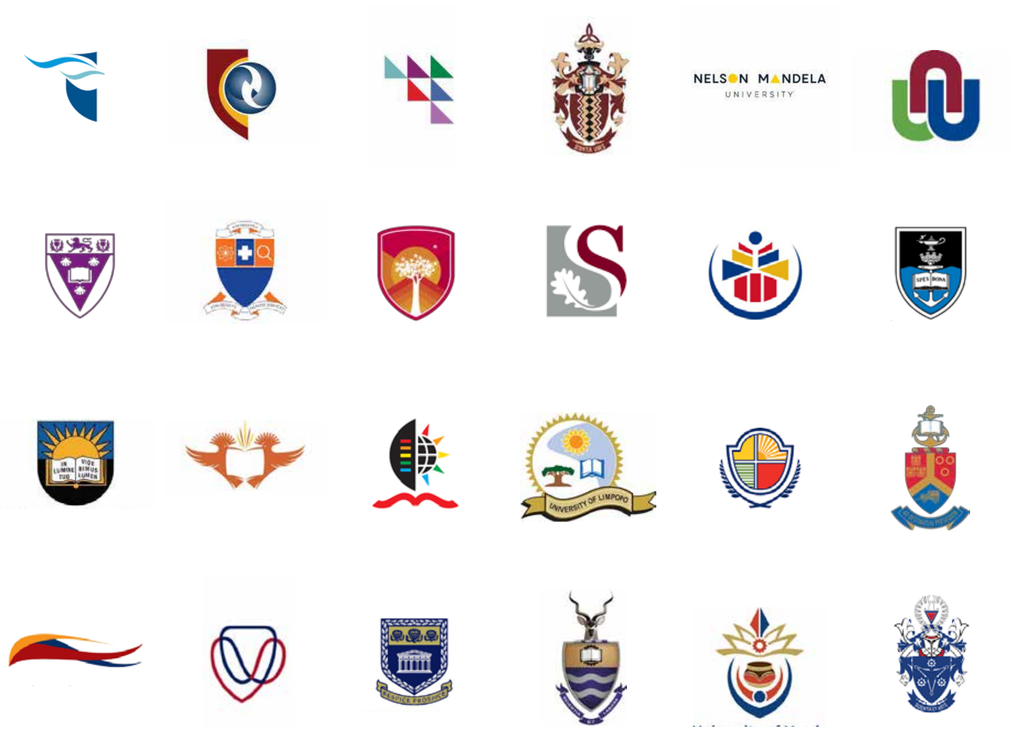
The desire for historical significance stems from the need for a university to have an identity, evident in almost every South African University. Historical values can form the basis of a universities early reputation and then progress as it begins to generate its own identity with time. In return the university would then enhance the reputation of the town. This section has a tendency to lean towards a personal perspective.

From the above criteria one town stands out as a matrix, combining the selection criteria while also acting as a functioning matrix for the surrounding areas. That is Springs. The town holds a complex and at times divisive urban environment, bringing together the regions, towns and suburbs around it in a unique blend of necessity and apprehension, while at the same time offering a feel of a post-apocalyptic environment adapted to the needs of immediate residents. The town offers the opportunity to integrate a university into its existing framework with little alteration and create a university in the city rather than a bastion of secluded knowledge, a concept only recently explored in South Africa.

Left: **Ekurhuleni**
Fig 1.5: author's own, 2018

Below: **City of Springs**
Fig 1.6: unknown author, n.d, 'Springs', Pam Golding Properties





Left: South African Universities
Fig 1.7: unknown author, n.d, '2018 South African University Ranking', uniRank

from left to right
Cape Peninsula University of Technology
Free State University of Technology
Durban University of Technology
Mangosuthu University of Technology
Nelson Mandela University
North West University
Rhodes University
Sefako Makgatho Health Sciences University
Sol Plaatje University
Stellenbosch University
Tshwane University of Technology
University of Cape Town
University of Fort Hare
University of Johannesburg
University of KwaZulu Natal
University of Limpopo
University of Mpumalanga
University of Pretoria
University of South Africa
University of the Free State
University of the Western Cape
University of the Witwatersrand
University of Venda
Vaal University of Technology

South African Universities

South African universities serve the feelings of early South Africa. They act as enclaves of learning, majority located separate from the city. They addressed the primary concerns of the time which was mainly around security. One might even describe it as a further representation of segregation, but not purely on a race basis. Our fort-like universities, just as our cities, seem frozen in what was described as only one step in a universities progression.

They could easily be likened to the universities who served religion and spirituality, not in a literal sense, but rather they seem to take the form of the hallowed monastery on the hill where the community has little access and even less opportunity, unless their wealth opened their way to enlightenment. Our Universities function just as the German model functioned before us. That model is what most think of when a university is mentioned. Each department is segregated into their separate enclaves within a greater in-cohesive enclave. Each of these departments is separated by roads and access, 'public space' and indulgent sports facilities. It is a pattern of orderliness but without order (Dewaar and Louw,2018)

The recently completed Sol Plaatje University in Kimberley, South Africa, attempts to rewrite this model. By integrating the university into the existing urban fabric of a stagnant and de-urbanising Kimberley, the university not only acts as a stimulant for the urban regeneration of a city, it also makes access to education open. A border-less university takes us one step closer to a university that encourages spaces of community and learning. We need to "make education into something that teaches people how to find, and then more importantly validate, information and then to combine that information in unique and creative ways that produce something of value to the individual and to society, and that requires moving beyond the 19th-century boundaries of disciplines". (David Helfand,2015)

On further analysis of South African universities we find that each is fragmented into separate campuses, breaking the cohesion of the whole. This is apparent in the top three universities in the country most clearly (UP, UCT and Wits), isolating disciplines in their separate campuses and allowing little interaction between those disciplines. Unfortunately this lessens the chance of cross-discipline innovation and places disciplines on islands of utter solitude.

Edges



Departments



Public Spaces



Green Belt (excluding sport)





University of the Witwatersrand

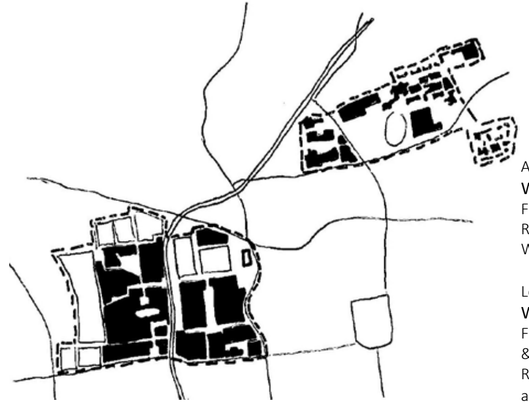
First established in Johannesburg in 1906 and proclaimed a university in 1922, Wits is the third oldest University in South Africa, sprawling over two campuses. It suffers from weak city connections and disruptive entrances. Fortunately the university is currently embarking on plans to re-integrate their grounds with neighboring Braamfontein and attempt engaging spaces between the two.

Pedestrian Movement



Critical Building Facades





Above: **University of Witwatersrand**
Fig 1.8: drawn after Preston, R., n.d, 'University of the Witwatersrand', Times Live

Left: **University of Witwatersrand, Master Plan**
Fig 1.9: drawn after Louw, Dewar & Urban Solutions, n.d, ''Issues Relating to University Planning and Design', ArchSA



Sol Plaatje University

The universities master plan by Ludwig Hansen brings forward new ideas of an inclusive institution, in terms of community and host city. The university is designed as a new build within the existing fabric of the city and was developed not only as an institute of education, but also as a major player in the economy and sustainability of the city as it emerges from a post-mining environment.



Above: **Sol Plaatje University**
Fig 1.10: : drawn after McLaren, T., n.d, 'GXY Architects', Tristan Mclaren Photography

Right: **Sol Plaatje University, Master Plan**
Fig 1.11: drawn after Hansen, L., n.d, 'Campus Design and Architectural Development for Sol Plaatje University and the University of Mpumalanga', Digest of South African Architecture

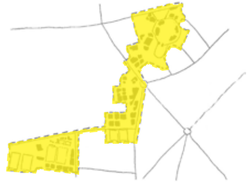
Edges



Axes



Public Spaces



Green Belt (excluding sport)



Pedestrian Movement



Critical Building Facades











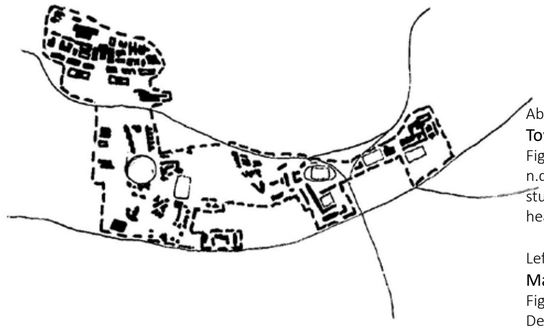


University of Cape Town

Initially designed by Joseph Solomons, the university lies on the lower slopes of Table Mountain. The upper campus epitomizes a campus planned university, but the university suffers from a separation between upper and other campuses and, similar to Wits, has very little connections to the urban corridor its based on. The way the university integrates with nature, however, is commendable.







Above: **University of Cape Town**
Fig 1.12: drawn after Adams, T., n.d, 'UCT to make provision for students during fast, Eid after heavy backlash', IOL News

Left: **University of Cape Town, Master Plan**
Fig 1.13: drawn after Louw & Dewar, n.d, 'Issues Relating to University Planning and Design', ArchSA



Nelson Mandela University

The university is easily classified as a suburban campus of free standing and classically oriented buildings. However, the buildings generally do not relate to each other and the campus is designed to accommodate vehicles more than pedestrians. The lack of iconic places and cohesion is a major let down but the university is still relatively young, established in 2002, and has time to improve its spatial qualities.















Above: **Nelson Mandela University**
Fig 1.14: : drawn after unknown author, n.d, 'Advancing science tourism with Amazing Mission Race', RNews

Right: **Nelson Mandela University, Master Plan**
Fig 1.15: drawn after Louw & Dewar, n.d, 'An Approach to University Planning and Design Part 3', ArchSA







Rhodes University

This is one of the few universities which does not isolate itself within a confined boundary, but does not need to as it takes up the entire Western part of the town of Grahamstown. With an almost ceremonial approach to the university along the High Street, the university fragments after the Rhodes tower into disarray. The university focused much on vistas and its natural surrounds as it expanded haphazardly.











Above: **Rhodes University**
Fig 1.16: drawn after unknown author, n.d, 'No name change for Rhodes University following council vote', Mail & Guardian

Left: **Rhodes University, Master Plan**
Fig 1.17: drawn after Louw & Dewar, n.d, 'An Approach to University Planning and Design Part 3', ArchSA

End of the South African University

It would be amiss to not discuss the current trends and political concerns which are currently combating the progression within South African tertiary education institutions. The 'FeesMustFall' movement which found its roots in the October 2015 protests began at the University of Witwatersrand. What began as a protest against fee increases for universities, progressed into a statement against the undefined colonised education found in our universities in 2016. This statement of decolonisation resulted in damages of R600 million (Nzimande, 2016), numerous cases of police brutality and a limited maximum fees increase of 8%. What has emerged however is the role the countries political whims and ideals had in influencing these events. Dr Jonathan Jensen has published his book 'As by fire: The end of the South African University', shedding light on the situation.

Dr Jensen is not just another author left to be ignored or dismissed for political and racial rhetoric. The distinguished pedagogue's job has found him as the vice-chancellor and rector of the University of the Free State (UFS) and awarded the inaugural Alumni Excellence in Education Award at Stanford University, among other prestigious qualifications. His book focuses on the origin of the protests held during the 2015-2016 disruptions. Creeping state interference is highlighted at points through the book, painfully exposing the extent at which political agendas fall in the way of progress.

There is no doubt that the government of a country has a role in the running of universities. Macro-planning on the quantities of educational institutions and the subsidised spending of those institutions is integral for them to function well, but the autonomy of the institution, or the educational freedom of universities, should not be tampered with, whether to achieve political goals or to speed up transformation of unrealistic statistics. This is a problem that unearths itself on the lawns and streets of universities, but is rooted in an educational system which is failing to meet expected performance levels according to his sources. Though the title leaves us with daunting thoughts the book leaves us with hopeful aspirations at what could be without state interference or a lack of action.

However negative or critical his book is, whether it be blunt honesty or not, the read reminds us that movements such as FeesMustFall or RhodesMustFall are not to be unexpected, rather expected. Transformation is needed but as Dr Jensen says "No matter how hard institutions try to correct this wrong, it takes time, money, strategic commitment, and a good dose of patience" (Jensen, 2018)





THE NEED FOR COMMUNITY

To understand the reason for universities one needs firstly to analyse the reasons within the human psyche which culminated in cities and settlements. Early forms of settlements were formed for collaboration. Being together was easier than working on one's own. Interaction was key. When cities became larger, hierarchy became more prominent and feudal systems gave rise to fortified towns, making the defense the prime function. When control was exerted by feudal masters we begin to see that residents move out of defensive cities, creating centers where focal points of religion or education were key. Cities have become places of opportunity now, with illusions of potential wealth where residents stake their claim, creating hubs of commerce rather than communities of people. It is the last phase of city life wherein much of the Witwatersrand was founded and where it has remained, neither evolving beyond its paradigms or adopting any of the qualities of the other stages. Cedric Price, an English Architect who rethought ideas of using architecture and education as a way to drive economic redevelopment, represented this development in cities by likening it to ways in which you would cook an egg. The yolk he likened to the nucleus of the city, progressing from early cities as a boiled, well defined egg, 17th to 19th century cities as an ill-defined fried egg and modern cities as a scrambled egg of little order or governance, the nucleus spread throughout, separated and belittled.

Previous: Student Protests
Fig 1.18: unknown author, n.d., 'wits feesmustfall protest 10 october 2016 braamfontein', The Daily Vox

Springs Surrounds
Fig 1.18a: Author's own, 2018

Cities form a platform for creativity and innovation. We must learn from examples, noting what is relevant and what is not. In the 1960's, Jane Jacobs (1992: 6) argued, Cities are an immense laboratory of trial and error, failure and success, in citybuildining and city design. This is the city laboratory in which city planning should have been learning and forming and testing its theories.'' It is the last phase of city life wherein Johannesburg was founded and where it has remained, neither evolving beyond its paradigms or adopting any of the qualities of the other stages. The reason perhaps is its negligence of street and public life. By 1940 there were hardly any green lungs, spaces for recreation or lively squares in the city centre. With mines in their height of production, smoke pouring from rooftop chimneys, dust rising from the mine dumps, the power station belching out smoke in Newtown and machines roaring all day, Johannesburg was a machine of productivity. A machine has no time or place for the quieter things, for community and general liveability of its subjects. In the words of Manuel de Solà-Morales, "...without public space the only things left are the rural setting and castles.". All the city did to counteract this was to make sure that the parts of the machine, its architecture, was clean cut and exact. Which doesn't counteract this at all. The city was, and is, obsessed with the machine and its capabilities.

Throughout human society, universities filled a similar process and function to cities, each responding to the needs of society in different ways. Professor Ronald Barnett, Emeritus Professor of the University of London, shared his ideas on this progression of higher pedagogy and much of what he states helps us understand how universities have evolved till today. This includes the considerable effect universities have had on human history. Barnett describes this evolution of tertiary education in two distinct phases: 'in medieval times, universities operated in the service of religion and spirituality; post-industrial universities were driven by research that promoted technological advances.' (Barnett, 2018)

Prof David Helfand of Quest university in Canada shared his views on what universities are today, stating that ''universities today are fractious places, populated by customers (formerly known as students), who pay increasingly large amounts of what is mostly borrowed money, in exchange for high grades from researchers (formerly known as professors), who report to real estate developers (formerly known as university presidents).'' (Helfand, 2013).
This fails the primary core of what universities are meant to do; they are meant educate. Generation by generation universities serve to make students think. (Boulton;2015) Instead we have adopted the 19th-century notion of education as a means to fill empty minds with knowledge in a corporate and political environment lacking the space for ingenuity or even



Left: The City as an Egg
Fig 1.25: Cedric Price's drawing from Jacobs, F., n.d., 'The Eggs of Price: An Ovo-Urban Analogy', Big Think

Right: Early Days of University of Witwatersrand
Fig 1.26: Nel, L., 1930's, 'Wits University's East Campus and Great Hall in the 1930's', Artthrob



social interaction beyond its walls. Prof Helfand eloquently describes it as "academics who have a full beaker of information and pour little bits of information into all students' empty beakers and then asks them, as students, to regurgitate on command." (Helfand,2015)

A new kind of university needs to be developed. To some it's a university which is ultimately already emerging today. This is a university so networked and ingrained within our communities and within society, specific to that community, in the attempt to bring about a better world. Throughout the majority of known history regarding education; information and the opportunity to gain knowledge has been limited to privileged few, which is not in itself a negative connotation as it led to where we are today. Now information is a swipe away, it ubiquitous, free and unlimited. Yet still our universities act on fundamentally archaic notions ignoring that students, and civilians (who are students in their own right), are flooded by information on a daily basis.

Universities of the historic western world already achieved this collusion between society and education. What is now the ancient lawns and courtyards Cambridge have seen more than 800 years of students and society living and operating in one city. What is referred to as the 'history of the town and the gown' has evolved from a small college of intellectuals to a university of close to 20,000 students. At its beginnings it was said that there was much 'rancor' between the residents and the students, but what has emerged is an inseparable harmony of the one feeding off the other and visa a versa. This same phenomenon can



Right: Oxford Streets
Fig 1.27: Turner, 1810

be seen in other Universities in the European region. The first university, as we know it today; the University of Bologna began by the whim of society. The institution arose around mutual aid societies students seeking validation against city laws. These students then took the initiative to hire scholars and learned individuals to teach them. In time the students decided to form a larger association, or ***universitas***, what we now know as the university. The movement was begun by the society and was for the betterment of society.

If society and a community is then this important, if we learn as a collective much more than learning on our own, does this bring into question the competency of distance learning? Bologna, Cambridge, Oxford, Stanford, John Hopkins; are all universities of distinct architectural and social unity. Though times my be changing and technology advancing, should we abandon a tried and tested method of collaborative learning all to stem the tide of people striving for knowledge?

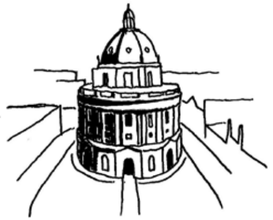
Below: Streets
Fig 1.27a: Author's own, 2017





Above: **Oxford University**
Fig 1.19: drawn after unknown author, n.d., 'Oxford University partners with Berlin academics to cement world standing after Brexit', Express

Left: **Oxford University, Master Plan**
Fig 1.20: drawn after unknown author, 1850, 'Oxford University City Hand Tinted Town Plan', Finbar MacDonnell



Oxford University

Oxford, England

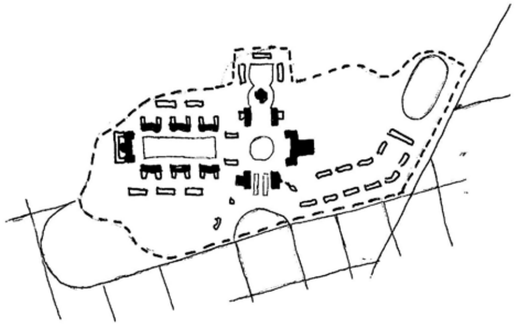
Though not the oldest university on record (that honor is awarded to the University of Bologna, founded in 1088), is a fantastic example of how a medieval college of education could grow within a city to sustain the dire need and demand for education.
It has record of being used for teaching in the year 1096, but only really flourished from the year 1167 onwards when England began to restrict English students from attending the University of Paris, another great example of the early university. It is a city university, negating the need for a central campus and opting rather to scatter its buildings and facilities throughout the city. The city itself had already been established before the University was founded, being a city of political noteworthiness. But the university for which it is now known for increased its fame and raised its economy. Unfortunately, though the town and the institution are inseparable, they did not always meet each others expectations.



John Hopkins University

Baltimore, USA

A more modern university; if we are referring to what we have come to expect from Universities. The university is an ideal specimen of the German model of departmentalized schools around a quadrangle. Though considered a German model by most, this distinct style of campus design flourished especially well Following the publication of ***The American Vitruvius.*** The document is a classic handbook on American City Planning and extensively covers the benchmark for American College design. The book was the brainchild of a collaboration between the German urban planner; Werner Hegemann and American landscape architect Elbert Peets.
The emphasis of the design is on the quad, which is highly reminiscent of a cloister, and has a primary goal of collaboration. This layout allows for distinct department boundaries and jurisdiction, but the quad itself is designed to break those boundaries and create a neutral space, while still giving emphasis to the schools.



Above: **John Hopkins University**
Fig 1.21: drawn after unknown author, n.d, 'Johns Hopkins University Office Photos', John Hopkins University

Left: **John Hopkins University, Master Plan**
Fig 1.22: drawn after unknown author, 1909, 'Proposed plan for John Hopkins University', Wikimedia Commons

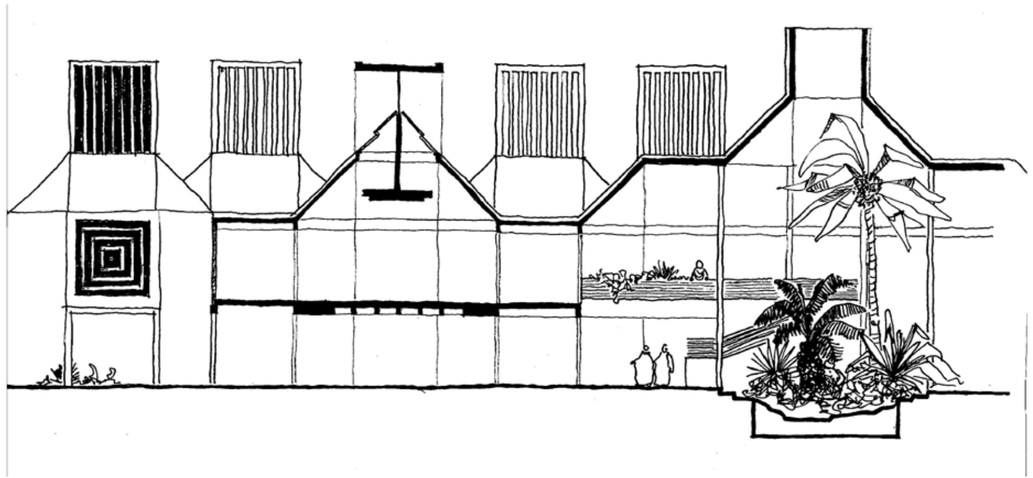


Qatar University
Fig 1.22a: author unknown, n.d, 'bq-magazine.com'

Qatar University

Doha, Qatar

A look at a non-Western University of general high status. The University was founded to satisfy a political decree, At its start the university only had 150 members; now counting above 7660. The design of the university needed to break from the western rule to adapt to its location. The arid climate of Qatar was handled in the 1975 design by making majority of the university roofed, with internal courtyards placed independently and systematically through the master plan. These courtyards work to draw the heat from the buildings through vents above, some being decorated with contextually accurate motif. Many of these courtyards also house landscaping features. The 1975 design consisted of one consolidated structure in a rigid grid of function and courtyard. Though the following structures built in more recent years tended to sprawl across the reclaimed land, the design is commendable for integrating departments and avoiding the suburban feel of most universities, and the use of cultural geometry and form.



Qatar University Section
Fig 1.23: drawn after RHWL Design International, n.d, 'Gulf University Master Plan Report'

A Continent

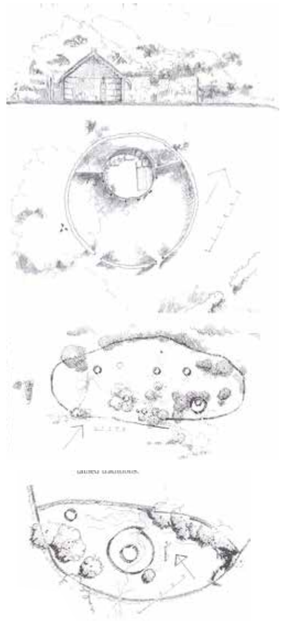
This chapter is written from my own perspective, as a white male living in an African context. Though my heritage belongs elsewhere I identify as an African in an African nation.

“The greatest products of architecture are less the works of individuals than of society; rather the offspring a nations effort, than the inspired flash of a man of genius.”

Victor Hugo, The Hunchback of Notre Dame

02





Above: Traditional Homes
Fig 2.1: Biermann, B (1997) 'KZ-NIA Journal'

Left: Rhinoceros
Fig 2.1a: Bohan, M., n.d., 'White Rhinoceros Pencil Sketch', Bohan Art

Our African Context

"Africa's tragedy will turn into the festering disaster of our age."(Kissinger;4444) So writes Nobel laureate Henry Kissinger, former United States Secretary of State. This is a taste of the common misconceptions which many foreigners belief of Africa. A 'country' of starving children, civil war and HIV infestation. Popular media portrays Africa as a land where all people live in extruded huts between the wildlife, its people interacting with lions in their back yards and riding a rhinoceros into battle.

Perhaps one of the factors that make foreigners doubt the wisdom of Africa is the way in which stories and folklore are passed down in symbolism and proverbs instead of volumes of written fact. Oral histories were passed down among families and communities to represent the workings of governance, ancestry and survival. The Rhino is one example of these oral histories.

An early account of the history of the traditional rhino is noted by Andrew Smith (1849: n.p.; cf also Kirby 1940, II: 221–2), which goes as follows; 'Mohoohoo [mogohu, the white rhinoceros], is considered by them to be one of the original animals of their country, and to have issued from the same cave out of which their own forefather proceeded.' The Rhino is described simply by Schapera, a student of the Tswana people (1938: 620) as follows: 'He is the symbol of tribal unity, the central figure around whom the tribal life revolves. He is at once ruler, judge, maker and guardian of the law, repository of wealth, dispenser of gifts, leader in war, priest and magician of the people.'

Though these legends may seem like common myths presented for the enrichment of context, they hold the threads of the histories of their people. The legends of the black rhino emerging from the cave with its people, attests to the ancestral homeland of Western Africa from which majority of Bantu speaking tribes of Southern Africa originated. The black rhino and his association with the people stem from his existence in Western Africa. And likening a rhino to a leader and warrior stems not only from the fierceness of the animal, but also as symbols of previous leaders such as King Mzilikazi of the Ndebele. Similarly, the ox-pecker found commonly on the backs of a rhino are often likened to the kings subjects and people. These may not be completely factual accounts of the origins and status of the rhino according to written fact and science, but it reminds us that 'deep, dark Africa' is not a saying to be associated with the wisdom and inherent knowledge found on the continent.



The rhino is just a selected example of how knowledge was passed on. Its legends do not begin and end with the Bantu speakers of Southern Africa. The original inhabitants of that region, the bushmen/San/Khoisan, the symbolic first men of our country also had myths and legends of the rhino, and in so doing, incorporated them into their study of cosmology and the heavens. For centuries, Africans have tracked the direction of the stars and the heavens in order to measure times, seasons and cycles. The customs based upon religion and passed down legends reflect this link, establishing a connection between Africa's people and the stars. Though the tracking of cosmology may not be considered devoutly academic, bordering divination and fortune-telling, there is no doubt that it is significant enough to mention.

Even the science of astronomy and the mathematics of composition of our galaxy were studied by African scholars in centers of civilization and learning, such as Timbuktu, the ancient city of Mali. These are areas of study that would often be considered a European or Mediterranean association. The mini megalithic arrangement of Nabta Playa in the Sahara, (Africa's Stonehenge, constructed before Stonehenge), the advanced calendar of the Dogons of Mali, the myths and legends which we associate with San legends and Adam's Calendar in Mpumalanga all contribute to an understandings that the African continent holds more than only the origin of mankind.

The San also had their theories of the universe. The Nyae Nyae !Kung Bushmen regarded the heavens as the home of all the divine beings and spirits of the dead. The traditional Tswana shared the fascination with the heavens, believing the stars to be holes in a rocky vault that is the sky, and they tracked these stars to foretell the comings and goings of seasonal phenomena.

The wisdom, if not even scientifically backed up, holds Africa above the misconceptions of Western culture. The cost of a rainbow nation, with all its positives, is a rich culture which was diminished and partly forgotten. The poet, John Dryden's 'Noble Savage' was corrupted by 'civilization' when colonization arrived on African borders. The colonizers in their own histories suffered the same suppression of their culture. In terms of South Africa, the English colonizers seemingly lost their own ancestral culture when they were colonized by Romans, Danes, Saxons and Norman invaders. Perhaps this is why they cared little for the suppression of other cultures.

Previous: Infinity Mirrored Room
Fig 2.2a: Kusama, Y (2013) The Broad

Africa's Stonehenge, Nabta Playa
Fig 2.2: author known as 'Raymbetz', n.d., 'Africa's Stonehenge, Nabta Playa, in Aswan Nubia museum, Egypt', UCT News



"My argument is that history is made by men and women, just as it can also be unmade and rewritten, always with various silence and elisions, always with shapes imposed and disfigurements tolerated."
— Edward Said

Post-Colonisation

In 1951, Georges Balandier wrote about the 'Colonial Situation'. He states that in his time, more than 700 000 000 people on the planet were, or had been, under the subjection of European rule, going as far as to say that; 'the major part of non-white populations have known only a dependent status controlled by one of the European colonial powers.' The late French anthropologist dedicated majority of his life studying the social and ethnic situation in Sub-Saharan Africa, highlighting the negative effects of colonization, and bringing forward the question of how nations recover once the colonial powers have been liquidated and removed. He was a stalwart on confronting the post colonial perspectives and their effects on people and landscape, as they struggle to unshackle from hegemonic power.

There have been a handful of intellectual influences who have considerably effected the movement to date, namely; Franz Fanon, Edward Said and Micheal Foucault. Franz Foran was a vocal critic of Frances colonization of Africa and completed powerful work on race and colonization which lead to the anti-colonial liberation of the country. Micheal Foucault followed different means but still challenged the existing notions about the relationship between culture, knowledge and power. He believed that architectural spaces could be a mechanism of self control. By studying asylums and prisons he analyzed how easily people step outside their expected norms of behavior. Finally, Edward Said established the theories that these identities with which we associate ourselves are culturally constructed rather than inherent characteristics, questioning the validity of their importance.

Post Colonial interrogations consider the empowering of alternative narratives and forms and removing the dominations on gender, race, caste and religion to lead to effective post colonial thought. The movement takes into account the perspective of architecture and urbanism; where our main interest lies. Are there ways of thinking of built form and space as cultural landscapes? In particular, the movement challenges the notions of modernism which privileges those in power and authority. Africa finds itself in this dilemma following the independence of many of its countries since the 1950's.

This is however, not only an African problem. Among many others, the cities of Jakarta and Hong Kong represent a decent precedent at how to solve the issues of Post-Colonization. If they have solved them at all? Both share similarities to South Africa as previous colonies of the British Empire.

Siddhartha Raychaudhur of Cambridge University shared her thoughts on how the situation proceeded in India. 'The processes of transformation in cities in the non-western world during the colonial period have often been described as one-way processes through which European colonial regimes restructured the physical and social environments of the cities and established their dominance there… [and] the ordinary residents of the city had hardly any voice in those developments.' In her paper *Colonialism, Indigenous Elites and the Transformation of Cities in the Non-Western World* she laments the control the state and financial elites have in seeing the process carried out, with little input from those 'below' them. In the Indian context many elites and authorities appropriated the colonial neoclassical elements to traditional building fronts to construct imagined identities of reinforced and defined positions of power. In Bengali, it is apparent that the middle class appropriate the architectural forms of the coloniser to increase their own authority and status. The same phenomena can be witnessed in our own country, where Tuscan and ionic columns form part of the facade of rural homes.

Hong Kong, which only broke its ties from British rule three decades ago, shares problems of a global and culturally independent community who still hearken back to their British education.'The internal mental structures of colonial power outline their epoch. Habits of thought, from the most inconsequential practices of everyday life through to the most highly formalised systems of philosophical abstraction, still reproduce inherited and often unseen colonial mentalities.' Bill schwarz, ''actually existing post-colonialism,'' radical philosophy review 104(2000): 16-24

The fundamentals of this movement, (whether or not implemented in the above cases) can be focused on four emphasizing factors.

An emphasis on region; site and context in a global world
An emphasis on the in depth knowledge of its people
An emphasis on social responsibility; addressing the needs of the marginalized
An emphasis on sustainability; as a state and community more than nature.

These points have to be addressed in a post colonial environment. All our modernities are indeginised interpretation of an imagined ideal and a constructed 'heritage'. Nations are perhaps imagined into existence, not determined by language or religion. The citizens within these constructed boundaries are of importance. We cannot ignore the politics involved, as architecture relates extremely closely with them, but the focus on de-colonisation cannot be a ploy and rhetoric of politically charged movements if the people, those who are tasked keeping a country functioning, are not at its core.



Rural Romanesque
Fig 2.3: Google Street View

African Renaissance

South Africa is unique among its neighbouring African countries. Our country brushed off colonialism and gained independence in the year 1961. Yet still faced global and local oppression of majority of its people following the era of apartheid. In practical senses, even though the oppression came from internal powers, we can claim that South Africa gained its long awaited independence only 24 years ago. Where other countries on our continent used the time following independence to construct a rebirth of their modernized nations, South Africa made efforts to primarily restitch scars of broken and segregated societies. In our case these efforts led to an urban movement of healing. However, this failed to carry through comprehensively in architectural form.

The rest of Africa experienced a rise of an architectural style in Modernism. At the time of Central and West African independence, late modernism had been brought across the seas with Europeans and Americans. Its ideals mirrored African independence. Manual Herz, editor of the book African Modernism, stated, 'the countries of Sub-Saharan Africa adapted and adopted a mode of architectural expression-Modernism-and made it partially their own.' (Herz,2015;14)

The architecture of late modernism after World War II falsely implied that its ideologies developed in no specific culture and did not lean towards any particular people. This allows all to stake a claim while none could claim ownership of the style. With it came the claim that the style would hold no prescribed ties to local history or the ideologies and language of colonialism. In truth the style originated in the schools and offices of Europe and the USA. It is from here where architects came to design a large portion of the new modernist and independent buildings of the African states which were meant to be icons of a new beginning. In the defence of these states, the rate of architectural education and the amount of professionals practicing at the time were few and, as Dr Jensen reinforced, this takes time and patience to remedy

However, the utilisation of a global workforce, whether from bases of colonial power or not, may ironically be along the lines of the existing ideals of independence. Though the local work force, which was minimal, is being set aside for a foreign architect, it allows ties to develop in a global society. Becoming more of a global community, not an isolated African realm of fantasy secluded from the world. This was just as important as recreating a national identity in space and form. It could be said however that the architect may

not be important in that situation, for even if the design is not based on the needs of the community, the community will adapt it and use it as they desire. Modernism allows that clean slate and blank page upon which a nation can find its identity.

Does this mean that architects need to design according to one, locally recognised and accepted architectural language? Should an architectural style be set aside by the state by which all architects have to adhere? And then what of the designers of these buildings? Is there hand allowed to be apparent? Is there opportunity to show ones own creative identity? Or are we confined to design according to an imagined ideal?

Roger Fisher, vastly decorated South African Architect, Academic and Author covered this topic in his published article on Pretoria architecture- (inter)-nationalism, regionalism and identity. He questions the common trends in architecture at the moment such as green architecture, pondering about these structures, which often result in 'alien' places and spaces. He states that ' The debate on what might constitute a 'South African style has flared from time to time...we have it again, now, as part of the post-94 realisation of full democracy. (Fisher, 2015;75) He further criticises the authenticity of the idea, a theme reiterated in many forms of architecture today.

A new movement attempted to answer these questions. Following the de-constructed forms of modernism and the whimsical and chaotic façades of Post-modernism, a third school of thought emerged; critical regionalism. The style set out to reflect the tradition and culture of the region within which the architecture is found through the use of materials and form. Alvar Aalto, Finnish architect of world acclaim, demonstrated the use of the style famously when designing the Saynatsalo Town Hall. Through the use of traditional materials like brick and timber, he complemented the accents of the surrounding dense forest; paying respect to the customs of the region and the site itself. He did this while still designing with an emphasis on function and rationality. Tadao Ando, Japanese architect of equal status, abstracts and simplifies the theories of critical regionalism, focusing on the traditional forms of Japan. This is seen in the project the Chapel on Mount Rokko. His building focuses on framing the surrounding landscape including an interpretation of the Japanese garden. He further interprets the traditional procession of worship (Torri Gates) along an arched corridor. All while still having a material palette of concrete and glass.



Above: Saynatsalo Town Hall
Fig 2.5: author unknown (n.d) Moma.org

Right: Kopanong Precinct
Fig 2.6: author unknown (n.d) The Heritage Portal



This creates an argument between a nationalist architecture and the architecture of critical regionalism. One highlights the independence of a region, while the other celebrates the region as it stands in a modern global world. Designing according to a national style is evident most notably on the streets of Paris, where Haussmannn's plan led to the major renovation of majority of the city, forcing it to adhere to a certain state defined style which renders Paris as we see it today. However appealing that may look now, we need to remind ourselves that his master-plan of streets radiating from a focal point was set in place for control rather than aesthetics. A space dictated and muzzled by the state into a large scale, deceiving prison, far from the ideals of freedom and independence. This style is now still in use while ignoring its past. It is painstakingly restored to maintain Paris's economy of tourism.

As seen in Paris the role of heritage is extremely pivotal in maintaining a countries imagined identity. Post-colonized countries and cities have an extra layer of complexity. It is essential however to maintain the usage of our heritage buildings, just with new ideas for old buildings. Common practice names three ways in which to approach heritage buildings. Firstly; renovation of a building results in a new use for a building. Secondly; restoration is an option, falsifying the age of a building in order to maintain its use and appeal. Thirdly conservation, most commonly in a pursuit to maintain a memory of what came before, no matter its current state. How though is this decision made, as each comes with its positives and negatives? And how do we determine what is heritage?

Nick Shepherd, in the book ***New South African Keywords***, suggests: '...rather than thinking about heritage as a set of objects, it may be more useful to think of it as a set of effects... What we might call the 'heritage effect' lies in edging us towards essentialised notions of culture and identity. Heritage weighs down on the side of reification. It places notions of culture and identity beyond critique.'

Noeleen Murray, in her article ***The Heritage Effect***, analysed a few of the current projects in South Africa which point to the troubled and limited debate on how heritage is considered in South Africa and how spatial practices in our post-apartheid cities are handled. One of these projects was the proposed Kopanong Precinct which was planned for the CBD of Johannesburg. Though the re-conceptualisation of the city centre was proposed in early 2004, the issues surrounding the proposal are still a threat today. The precinct plan was to service as a 'Gauteng Provincial Government Precinct' (Murray, 2012;52). In order to make space for the scheme and redefine the colonial city, the architect proposed that ten

buildings around Beyers Naude Square would be demolished. In its place would stand a vernacular African village with considerable open and unused space set aside as squares. Though these ideas of African space making are commendable and the ideas of culturally inspired spaces relevant, the 'material imaginaries' (Murray, 2012;52) proof that we are rationalising old forms to remove old ideas.

The Koponong precinct, designed as an attempt to create African identity in a post-colonial and post apartheid city is an attempt at finding a voice for African people, whether successfully or not. Attempts will need to continue to take shape and are demanded to do so. The movement RhodesMustFall surrounding statue of Cecil John Rhodes at the University of Cape Town demanded these attempts at transformation. Transformation within the architectural industry, carried out in its natural process, will hopefully lead to a variety of views upon heritage. This may produce many perspectives from which our cities can be considered, instead of focusing on one idealistic perspective. However, we cannot indulge in imaginary heritage, whether it be vernacular African, British colonial or Nationalist architecture.

The need for transformation in the architectural industry of South Africa and Africa is said to be at the forefront of concerns regarding the profession. The arguments for transformation focus around two main narratives. The first is the lack of black architects in the profession. The second is the limited definitions of Afrocentrism. Melvin Mitchell an American architect from Harvard and Howard Universities affirms that the African Renaissance is no longer purely idealistic and that it is inconceivable that it cannot move forward. Positive as that might be he goes on to mention that 'Afrocentric architecture evolved to its logical aesthetic conclusion in Le Corbusier's voluptuously curvilinear chapel of Notre-Dame-du-Haut and that the Chandgarh, in India, is openly black-African inspired.' (Steyn, 2017;24) Though this is based on his opinion, architecture and the movement of Afrocentrism cannot be held by these notions of staking claim and historical bigamy.

He goes on to say 'Black architects should promote black social and economic development.. focus(ing) on community development and urban housing.' (Steyn, 2017;24). Bookmarking and isolating what a black architect, which will hopefully become a term of the past, stigmatises a portion of architects and lessens the argument introduced by Afrocentrism. If these notions are continued; Afrocentrism has the potential of becoming a mere mirror image, a view of lesser importance, than Eurocentrism which preceded it. Animal farm, by George Orwell, can not be our precedent.





Left Top: Africa
Fig 2.7: Goff, B (n.d) Shuttershock

Left Below: Europe
Fig 2.7a: author unknown (n.d) 123rf

Afrocentrism is defined as; 'centred on, emphasizing, or showing the influence of African or, sometimes, African-American history and culture' (Collins Dictionary, n.d.)

According to the Britannica encyclopedia 'Afrocentrists assert that traditional African culture contrasts with European culture in being more informed by its history (''circular'' rather than "linear"); more cooperative; more intuitive; and more closely integrated with the spiritual world of gods and ghosts' (Early, 2015). According to the beliefs of the movement African history and culture began in ancient Egypt, being the birthplace of world civilisation, and from which they ruled over a 'unified black Africa'. It was from Egypt that the technologies and ideas of achievement, including records of their accomplishments were stolen by the Western World. According to the beliefs of the movement.

The strive for an African voice cannot and should not be diminished. Afrocentrism itself is a an American movement, or at least it is from the New World that the movement began. Globalisation has spread the movement, but in Africa, where we can acknowledge the facts and realities, it is important we do not fall into the same pitfalls of developing a voice based on racial ideologies. In order to ensure the African Renaissance, we need to consider a few aspects of Afrocentrism which could service it's rise; namely history and cooperation. When reading the book Invisible Cities, it is apparent the mutual benefits that Kublai Khan (himself a coloniser) experienced in accepting western emissaries into his court. It is simpler to do this in architecture than it is in politics. Buildings have no race; but they do respond to history and try aid the development of cooperative, integrated communities.

“[t]his African who emerges from the volcano, facing the West ... symbolizes that Africa which freed itself from several centuries of imprisonment in the abyssal depths of ignorance, intolerance and racism, to retrieve its place on this land, which belongs to all races, in light, air and freedom.”

President Aboulaye Wade



Senegal has often been regarded as a beacon of African Independence and democracy following its rebuttal of French colonizers. In so doing, it has inadvertently placed itself in a leading position in terms of the African Renaissance. Senegal has reinforced that position by completing the African Renaissance Monument in its capital; Dakar.

The statue represents a Senegalese family cast out of Bronze facing in opposition across the sea towards the West. It is vital that the position of a liberation and independent Africa is represented.

The Senegalese president at the time; Abdoulaye Wade drew inspiration from The Thinker and other Parisian art pieces while studying in Paris. Built by the North Korean state owned company, Mansudae Overseas Projects, the statue could easily be likened to a giant soviet styled monument which stands at 49m tall. It was reported that the statues heads had to be recast, as the North Korean artists had cast faces with an Asian likeness.

The monument cost an estimated $27 million (Holloway, 2018;d) and was completed in 2010 following in the wake of the 2008 economic crisis, many questioning the use of funds. Questions also arose after the religious backlash of the statue was fully realized: the scantly clad individuals generally considered an insult to the iman and Christian community. “It brings to life our common destiny,” said President Wade “Africa has arrived in the 21st century standing tall and more ready than ever to take its destiny into its hands.” (John &Valdmanis, 2010;d). Though valid in theory one must ponder how and why this statue represents Africa, no matter how powerful and magnificent it looks.

Of important focus in Dakar, particular to this research document is the Cheikh Anta Diop University, an institution which boasts a student count of 60 000. The majority of the university was designed by foreign architects, many of French birth due to the limited amount of Senegalese architects at the time. The programs of the university reflect their independence and the architecture follows suit. ‘The architects (show) an active celebration of form and material...represent(ing) a distillation of the principles of late modernism ...in which lessons of a abstracted vernacular



Left: **African Renaissance Monument**
Fig 2.11: Blackwell, R., n.d., from ‘For Many in Senegal, Statue Is A Monumental Failure’, National Public Radio

Previous: **African Renaissance Monument**
Fig 2.8: unknown author, n.d., ‘African Renaissance Monument--Dakar, Senegal’, Forget to Remember

Left to Right: **Cheikh Anta Diop University**
Fig 2.12- 2.17: Baan, I., & Herz, M., n.d, ‘Universite Cheikh Anta Diop UCAD Dakar’, African Modernism

Below: **Cheikh Anta Diop University, Master Plan**
Fig 2.18: various authors, n.d, ‘Universite Cheikh Anta Diop UCAD Dakar’, African Modernism

















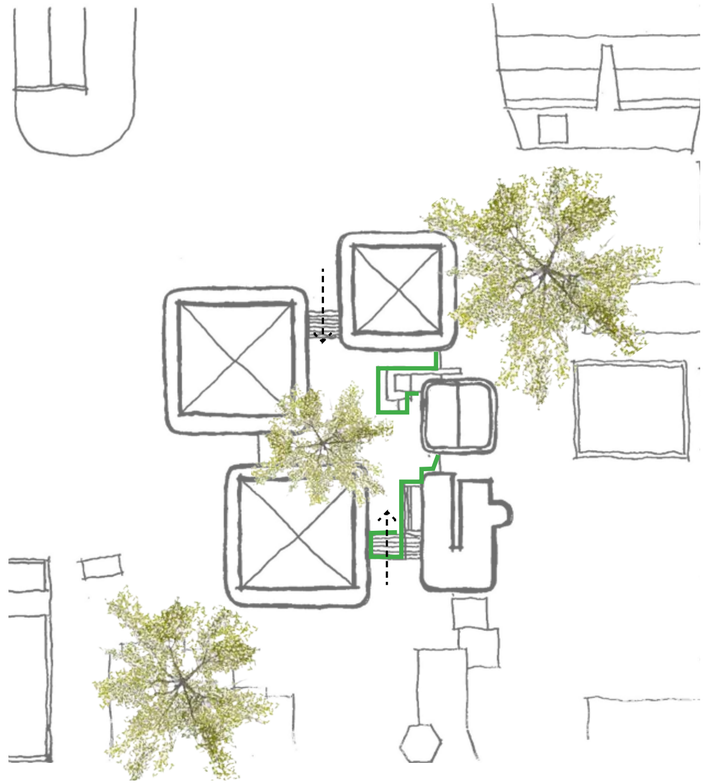
are brought to the fore.' Herz, 2015; 214) In particular, the Khaly Amar Fall Auditorium represents a blending of these initiatives.

The building responds to the typical quad ideal by creating an enclosed backdrop to a subdued social space to encourage informal meetings and social encounters. This space is raised on a plinth above the auditorium and is reached by stair cases placed strategically between monolithic forms. These auditorium boxes are simply decorated with shells which are pressed into the facade to represent the universities locality; a short distance from the Atlantic Ocean. The spaces are further softened by their rounded edges, allowing light to play along its surface.

This building considers its location and its meaning far more than 45m tall statue.

Left: **Khaly Amar Fall Auditorium**
Fig 2.19: Baan, I., n.d, 'Khaly Amar Fall Auditorium, UCAD, Dakar', African Modernism

Right: **Khaly Amar Fall Auditorium Site plan**
Fig 2.20: drawn after Google Satellite Image, 2018



With the future evolving at a rapid pace, we need to consider how a unified and independent Africa can represent its own development and culture. Three simplified options seem to present themselves, whether a hybrid of each is used or the question in its pure form.

The first is a complete abandonment of everything that represents the last four centuries, including all forms which may represent the ideals or symbolic nuances left by colonizers. This would result in the gradual removal of western influences and an influx of African vernacular and space. This scenario seems unlikely at present. Who would decide in this scenario what defines African space? And would that not change according to every area? And who is to say what is African and what is not? Is a statue a western monument? Is a university a western institution?

The second direction to suggest is the incorporation of what is currently on a site with African Ideals. This would take into consideration the critical regionalism movement. In this manner, former Western infrastructure and style is retrofitted to represent more African spaces surrounding community and social interaction. This option could be considerably more effective than the first, allowing the cheaper monastery expense while acknowledging the history of a continent instead of attempting to remove a portion of it. Has colonization become part of African culture? Perhaps.

The third option could be the adoption of the ‘Global Village’. In our time, where technology has insured that humankind are connected far more than ever in history, should the African people maintain their own distinct culture. With distinction, not black African, but all Africans. In our global society is there a need for individual states (imagined into being by political powers), individual cultures (ingrained into our souls while young) or even divisive religions (a choice in a manner of living) still necessary? Or do they further divide? This third option is probably a Utopian ideal and will not likely emerge any time in the near future.

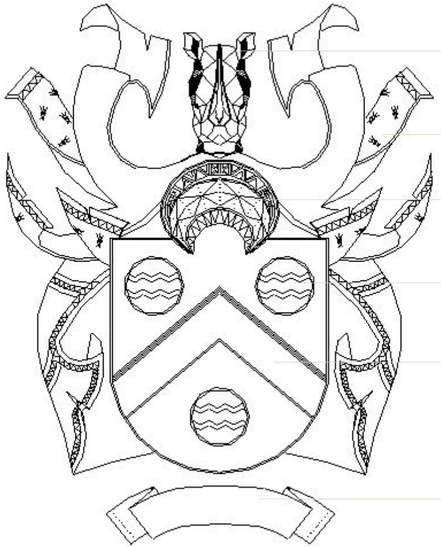
With reports of Noe-Collonisation surfacing recently in regards to Chinese investment and acquisition, how do we ensure that these questions are raised and answered before the continent is once again placed in a speculative position? And should there be a statue placed at each compass point of the continent, showing opposition to the West and the East?

On the following page an extract is given from the novel ***A Bend in the River*** by Nobel laureate V. S. Naipaul. The novel tells the story from the eyes of Salim as he experiences the ebb and flow of a country following its independence and how it emerges from this to create its own voice. We cannot ignore that the African Renaissance is here not to glorify politics and intimidate the Western World, rather it has emerged to give an Africans a voice and a place in an unaltered history. It is through trials and asking important questions that voice is found. A call to decolonize education could be one of these trials, a way for individuals to question the validity of subjects which have been presented to them. These questions are often simple, but the answers are complicated. The opening line in Mr Naipauls book affirms the need for our voice in the world; ‘The world is what it is; men who are nothing, who allow themselves to become nothing, have no place in it.’ (Naipaul,l,1979;)

The answers to these questions are currently unobtainable. However, this research and the intervention to come is not about who currently owns the land. It does not represent the selective politics of our time. Rather a consolidation of what this land and its people have experienced. In turn, it may bring to the fore issues which have been birthed in political movements, but it is not from these that inspiration is absorbed.

“He was creating modern Africa. He was creating a miracle that would astound the rest of the world. He was by-passing real Africa, the difficult Africa of bush and villages, and creating something that would match anything that existed in other countries. Photographs of this State Domain--and of others like it in other parts of the country--began to appear in those magazines about Africa that were published in Europe but subsidized by governments like ours. In these photographs the message of the Domain was simple. Under the rule of our new President the miracle had occurred: Africans had become modern men who built in concrete and glass and sat in cushioned chairs covered in imitation velvet. It was like a curious fulfilment of Father Huismans’s prophecy about the retreat of African Africa, and the success of the European graft. Visitors were encouraged, from the _cites__ and shanty towns, from the surrounding villages. On Sundays there were buses and army trucks to take people there, and soldiers acted as guides, taking people along one-way paths marked with directional arrows, showing the people who had recently wished to destroy the town what their President had done for Africa. Such shoddy buildings, after you got used to the shapes; such flashy furniture--Noimon was making a fortune with his furniture shop. All around, the life of dugout and creek and village continued; in the bars in the town the foreign builders and artisans drank and made easy jokes about the country. It was painful and it was sad. The President had wished to show us a new Africa. And I saw Africa in a way I had never seen it before, saw the defeats and humiliations which until then I had regarded as just a fact of life. And I felt like that--full of tenderness for the Big Man, for the ragged villagers walking around the Domain, and the soldiers showing them the shabby sights--until some soldier played the fool with me or some official at the customs was difficult, and then I fell into the old way of feeling, the easier attitudes of the foreigners in the bars. Old Africa, which seemed to absorb everything, was simple; this place kept you tense. What a strain it was, picking your way through stupidity and aggressiveness and pride and hurt! But what was the Domain to be used for? The buildings gave pride, or were meant to; they satisfied some personal need of the President’s. Was that all they were for? But they had consumed millions. The farm didn’t materialize. The Chinese or the Taiwanese didn’t turn up to till the land of the new model African farm; the six tractors that some foreign government had given remained in a neat line in the open and rusted, and the grass grew high about them. The big swimming pool near the building that was said to be a conference hall developed leaks and remained empty, with a wide-meshed rope net at the top. The Domain had been built fast, and in the sun and the rain decay also came fast. After the first rainy season many of the young trees that had been planted beside the wide main avenue died, their roots waterlogged and rotted. But for the President in the capital the Domain remained a living thing. Statues were added, and lamp standards. The Sunday visits went on; the photographs continued to appear in the subsidized magazines that specialized in Africa. And then at last a use was found for the buildings. The Domain became a university city and a research centre. The conference-hall building was turned into a polytechnic for people of the region, and other buildings were turned into dormitories and staff quarters. Lecturers and professors began to come from the capital, and soon from other countries; a parallel life developed there, of which we in the town knew little. And it was to the polytechnic there--on the site of the dead European suburb that to me, when I first came, had suggested the ruins of a civilization that had come and gone...” (Naipaul,1979;

Right: University Coat of Arms
Fig 2.9: Author’s own, 2018



Rhino Head
The Rhino is utilized as the crest of the university and to symbolize its stance and status.

Simulated Zulu Print
Represents the ethnic majority in the area.

Simulated Zulu Headdress
The headdress replaces the Coronet and Golero of traditional armored helmets found on heraldic shields.

Underground Waters
Heraldic charge is an emblem of the underground springs upon which Springs was built and received its name.

Springs Crest
Historic crest of Springs. Replaced by the Ekurhuleni emblem in 1995. Displays three water heraldic charges between a chevron ordinary. Establishes the importance of history in the development university.

Simulated Ndebele Print
Historic crest of Springs. Replaced by the Ekurhuleni emblem in 1995. Displays three water heraldic charges between a chevron ordinary.

The Town

“The (town) already has a story, all you have to do is add an interesting next chapter”

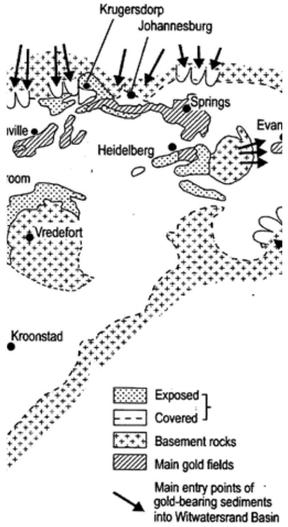
Brand 1994,pg 105

03



Left: Arrival of New Families along the Town of Springs
Fig 3.1: unknown author, 1891, 'Springs-History of a Gold Town', Facebook

Below: Springs Mines
Fig 3.1a: McCarthy, 1986, Gold Fields Diagram



To many this region is still The East Rand, but for fourteen years it has now been named Ekurhuleni. The name of 'Ekurhuleni' itself means 'place of peace in XiTsonga'. Though the effects of the Tsonga people have all but dwindled through time in the area, the name hauntingly remains as a hope of what things could be. The name was selected specifically to readdress the hurts of the near past; as it had suffered harshly under the conflict between the Inkatha and ANC is early 90's. The municipality is one of only eight metropolitans in the country. The metropolitan is made up of the major historical centers of Germiston, Kempton Park, Brakpan, Boksburg, Benoni, Edenvale and Alberton, among many more. They comprise to create an uninterrupted urban link extending from Johannesburg to the West and Springs to the east. Springs and Johannesburg, act as bookends to a story of intense mining and urbanization, framing the borders of Ekurhuleni. However, it is an exodus of knowledge and citizens from Springs to Johannesburg that is evident, with the latter not returning the favour. Marred by misconduct of officials and the stagnation of industry, regions such as Springs have evolved into towns populated by citizens at the junction of moving on to another chapter in their own stories.

Towns such as Springs have innate potential, ready to be extracted. Each CBD mentioned above has the potential to act as matrix to the densely populated suburbs and 'places' surrounding them. Springs itself has the vast possibility of bringing together countless individuals from areas within its vicinity, many of which suffer from extreme poverty and lack of opportunity. Even though the footprint of the town of Springs itself is considerably smaller than each other area respectively, the CBD of Springs could most certainly act as the proverbial yolk to Cedric Price's egg.

The intentions of Post-Apartheid urbanism seem to never have reached Springs. The movement highlighted attempts to stitch together urban fabric which had previously been well segregated. In Springs however, the suburbs such as Bakerton, Kwa Thema, Geduld and Strubenvale, as examples, form clusters and hubs of ethnically differing distinction. The Indian area of Bakerton to the north as well as the Zulu stronghold of Kwa Thema to the south were created to remove those of colour from what was previously white privileged suburbs. Today they are still removed and separate, towns in their own right. This has given the areas the opportunity to develop their own sense of identity and act as the core of cultural revivals. Springs has reverted back to the neutral zone where each of these groups come together. Or that is its potential. This brings into question whether blurring these

boundaries was a successful idea.

Much like the foundations of what we now know as Johannesburg, Springs found its alluvial roots in what was a left-over space. In truth, much can be compared between Johannesburg and Springs. The original expansive farms of the South African Republic had been inaccurately measured and when their borders were documented, a small portion of land remained which did not fall within their borders. Geduld (meaning 'patience'), De Rietfontein ('the reed fountain') and Brakpan (literally, 'small, brackish lake') together framed and revealed the land designated to become Springs. It was upon this wedge that Springs was developed. The town sprout from coal and gold roots in 1904 and was built out of necessity and acquisition of wealth. By the mid 1930s Springs was one of the six largest towns in South Africa.

Though little of the street or the state of the mining town is mentioned in historic accounts it must be assumed it shared theses attributes with Johannesburg. Louis Cohen remembered his first glance of Johannesburg and recorded it was a ''Bare veld where saffron clouds of red golden dust settling on a hotch-potch of what looked like moving dirty sand dunes, or a huge flame-fanned crucible of molten opals in a state of boiling agitation turning out future magnates. Satan was angry!''. (Cohen, 1924) With little documentation recorded of the founding conditions of Springs, one must assume that Springs suffered from the same conditions as those found on the streets of Johannesburg. The Witwatersrand community cared little for the social or cultural value of its streets. The streets became little more than traffic arteries, void of any character or public space. The streets were fashioned by the buildings on either side with 'space' little to none. No traffic islands, broad sidewalks with trees and street furniture. The condition of the streets prompted the British architect F L Emanuel to remark ''The roadways of Johannesburg are its disgrace; mere morasses during the rainy season, in dry weather they are Sahara's of hot red sand which, on the approach of wind, rises in blinding, choking clouds of dust which permeates everything.''

In the 1960's the last Gold mine in Springs was emptied. The town however did not flounder. The industrial sector took the helm as the towns primary means of survival. Industries such as Sappi, Keloggs and Kimberley Clark, to name only a few, took advantage of the perks provided by the city council, bolstering the towns economy. Today the town is considered an industrial hub in the region, but the majority of this industry has removed itself from the historic centre and its immediate surrounds. Just ten years earlier, in 1950, forceful removals had taken effect. It was to this newly available land, previously inhabited

Right: 1940 Street, Springs
Fig 3.2: unknown author, 1940, 'Springs- History of a Gold Town', Facebook



Below: John Orr Building
Fig 3.3: drawn after unknown author, 1922, 'Springs- History of a Gold Town', Facebook



by people of colour, and the fading mining grounds that the industry which Springs is known for; removed itself. This left the centre of Springs open to retail and civic culture and for a time they flourished.

With the ever-changing context of the town, one must ask; What is the identity of Springs? For many years it was known as a mining town and to some it still is. To some it is known as an industrial hub. In more recent years, the identity of Springs has most likely not been considered at all. Once it became part of the Ekurhuleni Metro it became just another town on the East Rand, furthest away from the wealth and infrastructure of Johannesburg. Indeed, this has become partly the towns new identity. A town forgotten. The larger centers of Kempton Park and Boksburg dwarf Springs in favour. Can we readdress the identity of the town in a way that leads to its renewed existence?

As previously stated, our communities form a dais from which creativity and innovation may evolve. For Springs to engage in that opportunity it must learn from examples found locally and internationally. Emphasis needs to be placed on the question and a solution is craved. Jane Jacobs, the influential American-Canadian journalist, author, and activist, believed

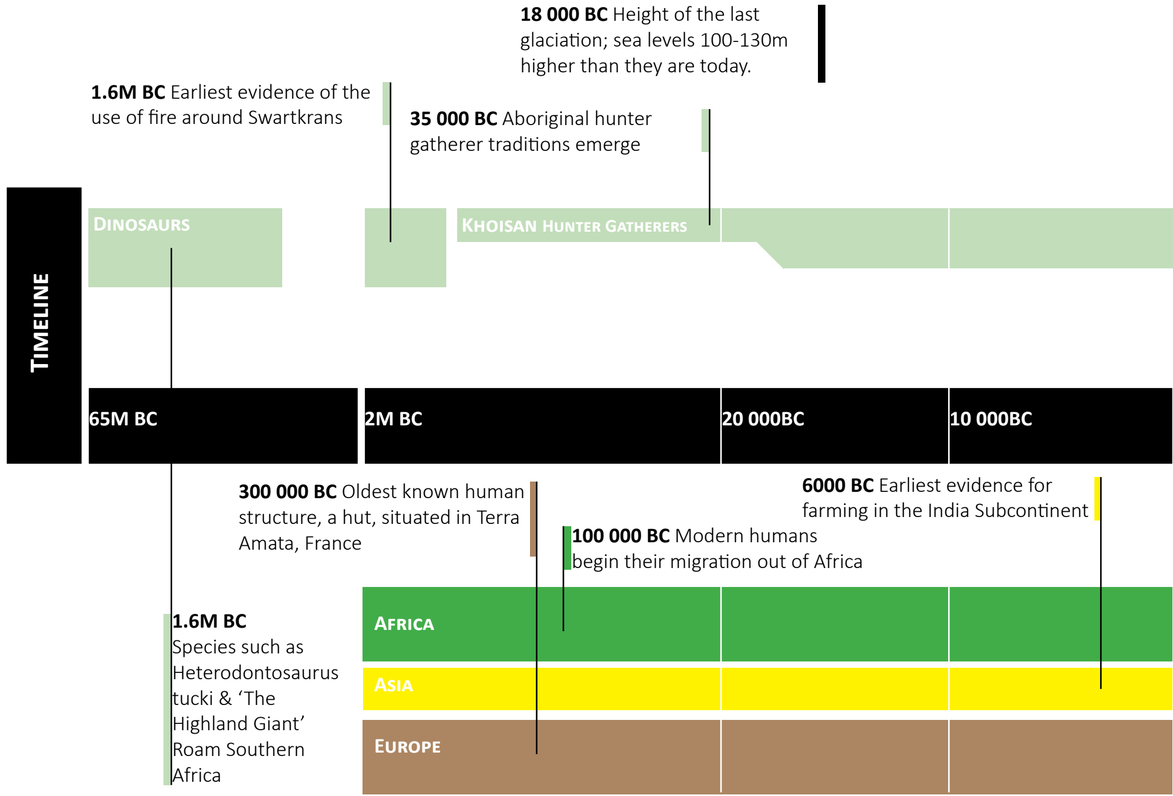
that urban renewal did not respect the inhabitants of a city and yet, when she said ‘Cities are an immense laboratory of trial and error, failure and success, in city building and city design,’ she acknowledges the faults already experienced in a city. ‘This is the city laboratory in which city planning should have been learning and forming and testing its theories,’ she said. This can only be if there is a city, a functioning city, to test our theories on.

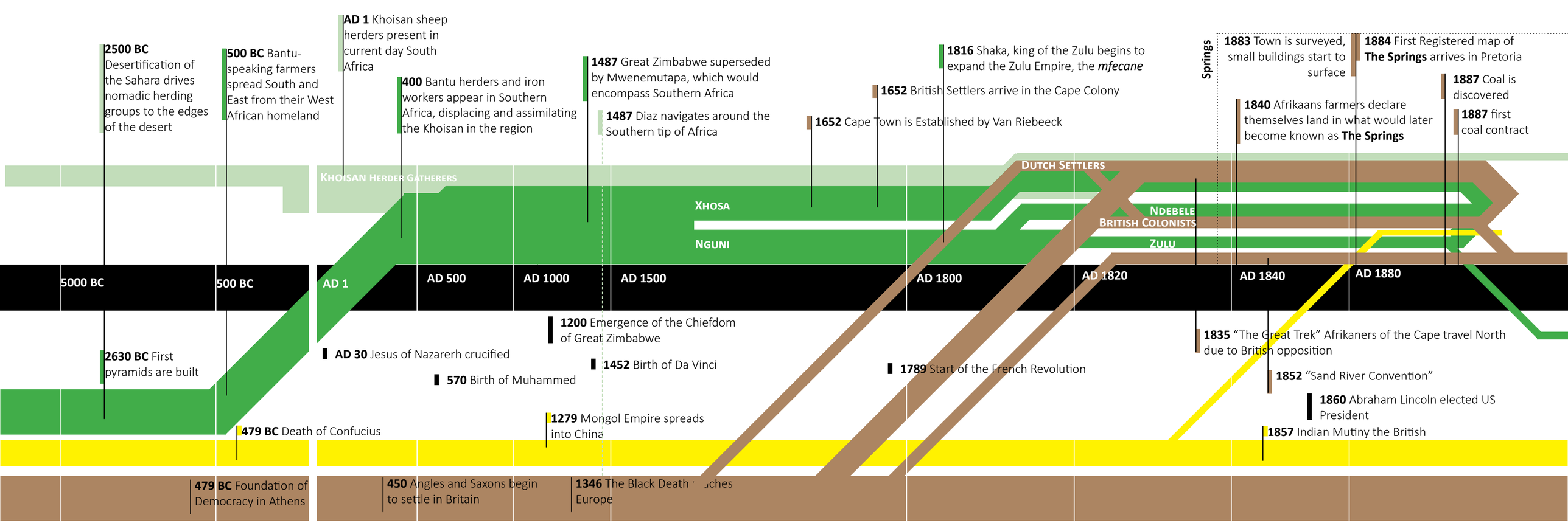


Left: Springs CBD
Fig 3.3a: author unknown (n.d) ‘Springs-History of a Gold Town’, Facebook

TIMELINE

To understand the true progression of the developement of Springs a time line has been developed. To understand the identity of the land and analyse what it has witnessed it begins at the beginning of known history for the area. This would help gauge the state of the world and the validity of claims in regards to identity and ownership. Though the timeline is concise and selective, it begins to grasp the complete history of the site without notions of discrimination.




2500 BC Desertification of the Sahara drives nomadic herding groups to the edges of the desert
500 BC Bantu-speaking farmers spread South and East from their West African homeland
AD 1 Khoisan sheep herders present in current day South Africa
400 Bantu herders and iron workers appear in Southern Africa, displacing and assimilating the Khoisan in the region
1487 Great Zimbabwe superseded by Mwenemutapa, which would encompass Southern Africa
1487 Diaz navigates around the Southern tip of Africa
1652 Cape Town is Established by Van Riebeeck
1652 British Settlers arrive in the Cape Colony
1816 Shaka, king of the Zulu begins to expand the Zulu Empire, the mfecane
1883 Town is surveyed, small buildings start to surface
1884 First Registered map of The Springs arrives in Pretoria
1887 Coal is discovered
1840 Afrikaans farmers declare themselves land in what would later become known as The Springs
1887 first coal contract
Springs
Khoisan Herder Gatherers
Xhosa
Nguni
Dutch Settlers
Ndebele
British Colonists
Zulu
5000 BC
500 BC
AD 1
AD 500
AD 1000
AD 1500
AD 1800
AD 1820
AD 1840
AD 1880
2630 BC First pyramids are built
AD 30 Jesus of Nazarerh crucified
570 Birth of Muhammed
1200 Emergence of the Chiefdom of Great Zimbabwe
1452 Birth of Da Vinci
1789 Start of the French Revolution
1835 "The Great Trek" Afrikaners of the Cape travel North due to British opposition
1852 "Sand River Convention"
1860 Abraham Lincoln elected US President
1857 Indian Mutiny the British
479 BC Death of Confucius
1279 Mongol Empire spreads into China
479 BC Foundation of Democracy in Athens
450 Angles and Saxons begin to settle in Britain
1346 The Black Death reaches Europe

1890-1891 Transvaal Republic's first railway, the Randtram Line, was built by the Netherlands-South African Railway Company (NZASM) to carry coal from the East Rand coalfields to the gold mines of the Witwatersrand.

1902 Health Committee is appointed as the town grows

1907 Infall of the Ermelo Colliery along Ermelo Rd

1909 The first major building, the Goodman Hotel, is built

1927 Springs Town Hall Built

1936 South African Pulp and Paper Industries Limited (Sappi) establishes itself in Springs

1938 Railway Station is built

1947 Queen Elizabeth II visits Springs on tour

In April 1904 The Springs was proclaimed a town, called Springs

1948 Apartheid Begins

1952 The Apartheid government divides Springs according to race and class. Bakerton is formed for Indian Residents, Kwa Thema for black residents and white residents are split by income

1968 The last gold mine in Springs, Daggafonteinmyn, is emptied

1974 Kreepy Krauly is invented in Springs

INFORMAL | BRITISH COLONIAL | ART DECO | MODERNISM

1899 Gold is discovered on the farm named 'Geduld'

1902 Main Gold Reef discovered

1904 Registration of the Grootvlei Proprietary Mines

1909 The great snow storm

1910 Roder Joyce Bushell is born in Springs

1923 Nadine Gordimer is born in Springs

Peak of Gold Mining in the region. Springs boasts 8 Gold mines, making it the largest single producer of gold in the world

1948 Kelloggs Factory opens only South African plant in Springs

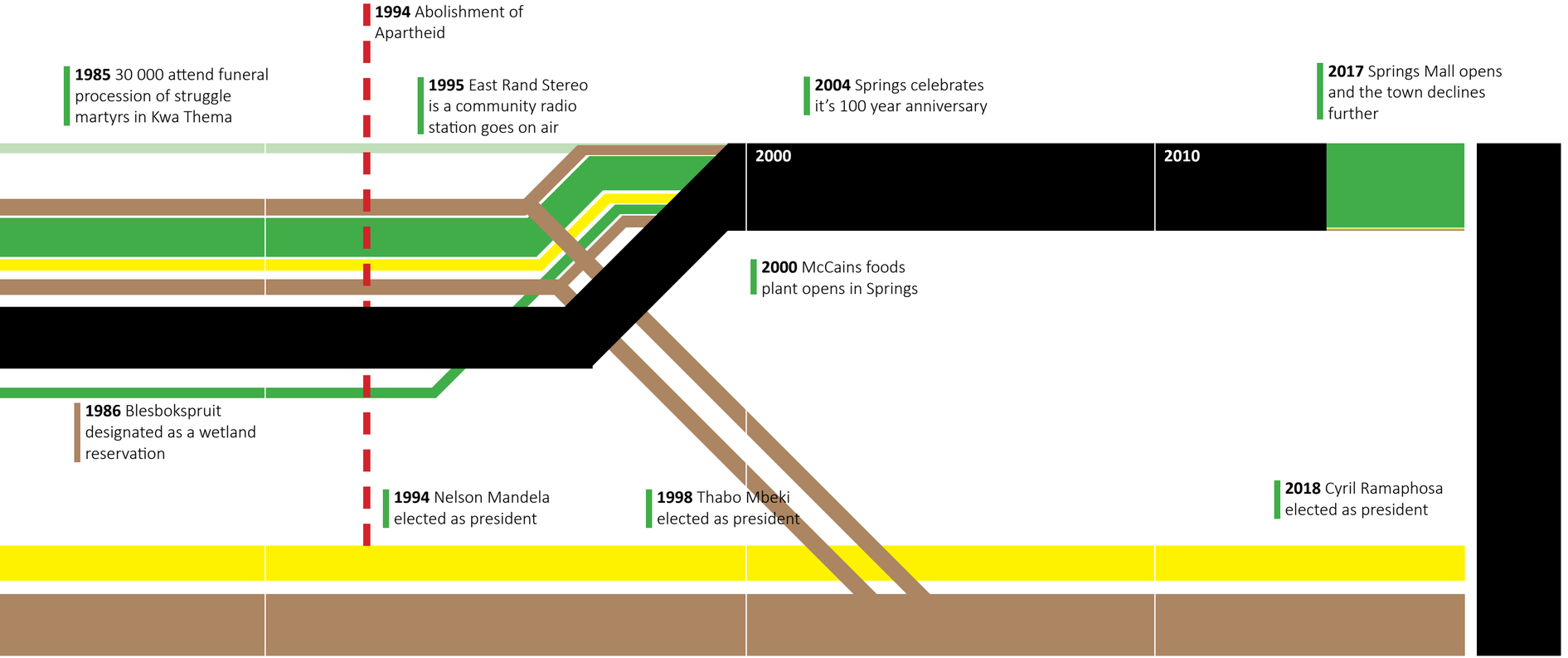
1952 Death of Job Moseko resident of Springs

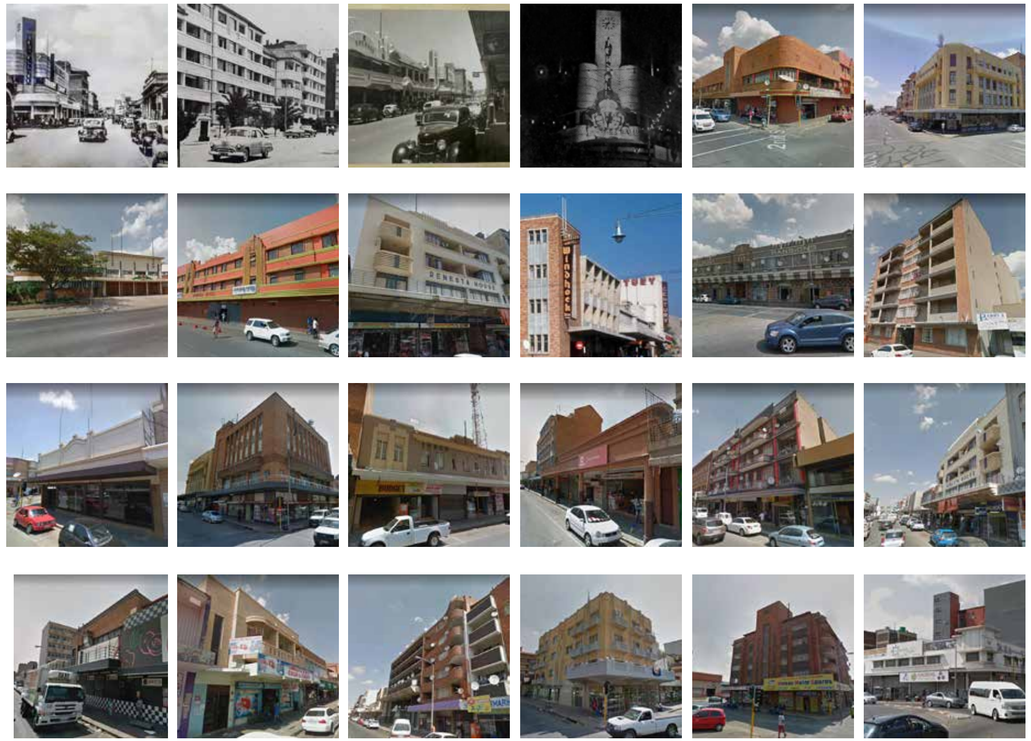
1973 Impala Platinum begins operating

1974 Penny Haynes is born in Springs

1975 Springs Zoo opens to the public

1977 Robert Smit Assassination


1994 Abolishment of Apartheid
1985 30 000 attend funeral procession of struggle martyrs in Kwa Thema
1995 East Rand Stereo is a community radio station goes on air
2004 Springs celebrates it's 100 year anniversary
2017 Springs Mall opens and the town declines further
2000
2010
2000 McCains foods plant opens in Springs
1986 Blesbokspruit designated as a wetland reservation
1994 Nelson Mandela elected as president
1998 Thabo Mbeki elected as president
2018 Cyril Ramaphosa elected as president



Left to Right: **Springs Photo Documentary**
Fig 3.4- 3.27

It has been stated that Springs houses the second largest collection of small scale Art Deco buildings in the world, after Miami. The majority of these buildings have now unfortunately fallen into disrepair. In an article by Nechama Brodie, a veteran journalist, she made the quote, “Johannesburg (as well as Springs) was never considered a city with a future. It’s one of the reasons the city has always been incredibly bad at preserving its past”. (Brodie,2012) However, from the year 2014 a push to obtain heritage status and recognition for these buildings has begun. On March 18 2018 a tour viewing the Art Deco relics was held to aid awareness of the cause.

The English colonial architectural fabric of Springs laid the foundations for Art Deco. The Parisian style was born in 1925. It spread to the American continent soon after, adding extraordinary facades to commercial building and most commonly theaters and cinemas, which were beginning to become a major form of entertainment. The colorful designs are highly influenced by the development of colored motion pictures which only became a reality at the beginning of the century. Springs seems to have subconsciously remembered this fact by painting many of the Art Deco buildings bright colours, highlighting their dynamic facades. The style is said to have represented wealth and exuberance, a stark contrast to the times of World War one a few years before. Its streamlined facades and flag adorned parapets were partly inspired by the recent developments in the transport industry, namely the developments of cruise liners. Buildings therefore set out to mimic the cruise liners attributes with sleek lines, deconstructed faces and porthole windows. The form also had other influences. The effect of artists such Picasso and Braque, claiming to be modernists, can be found in the buildings. The emergence of reinforced concrete and further technological advances around this time gave the style precedent. But most interestingly, the style is said to have roots in Eastern and African art forms. Was art deco perhaps contextually correct for a town developed by Europeans in an African setting?

Within a decade this style made it to Springs. The mayor at the time, a twenty-nine-year-old, considered it a way to modernise the town. The movement far exceeded the city councils expectations. Fifty two *Streamline Moderne* Art Deco buildings are said to adorn the streets of Springs. Though many of these have been altered or masked with obstructing advertising, the atmosphere which these structures add to Springs makes us recall a time of flair and an air of distinction and affluence. They stand out as great parapets over an adapted and vitaited streetscape.



Left: **Burning of Buses in Stadium**
Fig 3.28: Parsons, G., n.d., 'Update: Vehicles turn to ashes in Pam Brink Stadium', Springs Advertiser

The Importance of the Street

As Charles Moore used to say, "When the revolution starts, there should be no question of where to go". For this reason, every neighborhood should include a plaza, green, or square as its social centre. In towns such as Springs, where the footprint of the town itself began on a seven square kilometer footprint, little space to generously dedicated or reserved for the public realm. In most cases the street fills that function.

A symposium last year, set to address this issue of street had the following to say: "Gauteng's streets are a hostile place, designed to facilitate the rapid flow of motor traffic at the expense of almost everyone who uses them—including many drivers. They facilitate enormous flows of people around the city, without encouraging economic activity, social cohesion, or indeed any engagement with the city beyond work and home on either end of a long, arduous commute. The value of streets as spaces connecting the city has been lost, and rather they function to move people away from each other as quickly as possible. Such street life as survives under these conditions is despite, not because of, the best efforts of public and private actors in the city." (Harber & Parker, 2018; 8)

The key to active street life is to create a 24-hour city, which is defined by ensuring that an area is populated by such diverse typologies that it is inhabited throughout the day and most of the night. All functions must co-exist in close proximity. As recommended by Jane Jacobs almost 50 years ago, revitalization should begin by reinstating this urban balance. What you find in Springs at the moment are spaces which locals even fear to cross. When speaking to locals you would hear of the 'dark street', said with an ominous tone, and other areas of the like. Jane Jacobs stated, "…if a city's streets and parks are safe from barbarism and fear, the city is thereby tolerably safe from barbarism and fear." (Jacobs,1961;29-30)

Friedmann argues that "the strength of a region is its people, their ways of life and engaging local citizens in a common effort by giving them stake in society of which they are part." (Friedmann, 1986;) Too often those who play a role in creating the facilities which surface a region and the citizens fail to recognize the humanity aspect, working rather at efficiency and numbers. 'Identity, belonging, love, respect, home, job; these are words used by people. But we urbanists use such words as spatial planning, development node, urban

corridor, economic opportunity and son on. Can such spaces be designed to reflect a human approach to the building of cities? '(Ewing,2017)

In Springs, the 'barbarism and fear', mentioned by Mrs Jacobs, has clutched the town in a tight vice. Numerous cases of muggings are reported. Smash and grabs are more common in the CBD. Abandoned buildings do far more than a single broken window. Locals are wary to mention it, but many do , considering the fault to be related to the influx of foreigners from Northern Africa. According to these same people, the drug trade in the area has increased in the historic heart of the town. Certain streets are avoided at all costs due to their infamous reputation. But one must first question what catalyzed this change, being a consequence rather than a source. Many claim it is the lack of retail governance in the town.

In the past, the town planning scheme of Springs allocated strict macro-planning for retail and businesses. Each profession, each category of store, each shop-front was allocated a set percentage of quantities. Only one butchery was allowed in this region. Only 3 fruit and veg shops in this region, and so on. Even contractors, in no set confine location for any duration of time, required a shop in town which would be inspected of approved or scolded regularly. The set quotas of the town were exact. The zoning of each site was exact. However, with time and the eventual effects of free trade arrived in the region, these quotas were proverbially thrown out the window. Businesses became free to operate in their own terms and relatively where they wanted. Though this was a break from a dictated urban space, the effects of limited governance can be seen in the lack of public space, the lack of street life, the rise of the empty building and the re-appropriation of site at will.

Retail stores perhaps suffered the most. The emergence of shopping centers on the outskirts of the town removed the 'feet on the ground' out of the CBD. Shops either relocated or struggled to maintain a customer base. The recently completed Springs mall, located on the edge of the N17 highway has further dismantled the cohesion of retail in the historic town. Shopping centers such as the ***Palm Springs*** and ***The Avenues*** found in the center of Springs, now stand relatively empty, relying on banks and the department of education to fill a few of its stores. If businesses continue to leave, as they are, we are forced to realize that it is not the fall of mining in the region that crippled Springs, it is the fall of commerce with no plan to rectify it.



Above: Springs Mall
Fig 3.30: unknown author, n.d., 'Springs Mall Robbed', The Citizen

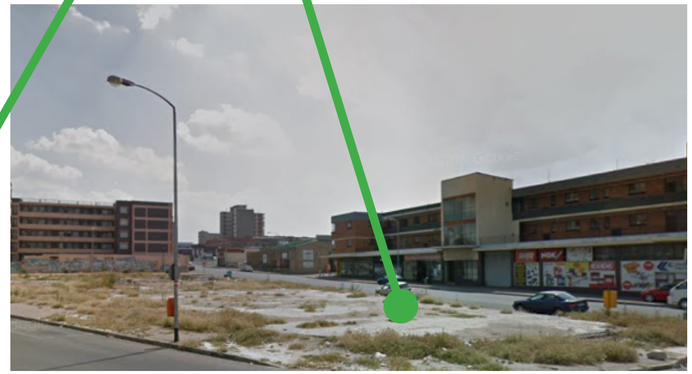
Below: Springs Mall Location
Fig 3.31: Google Satellite Image, 2018

Right Above: Before
Fig 3.35: Google Street View, 2017

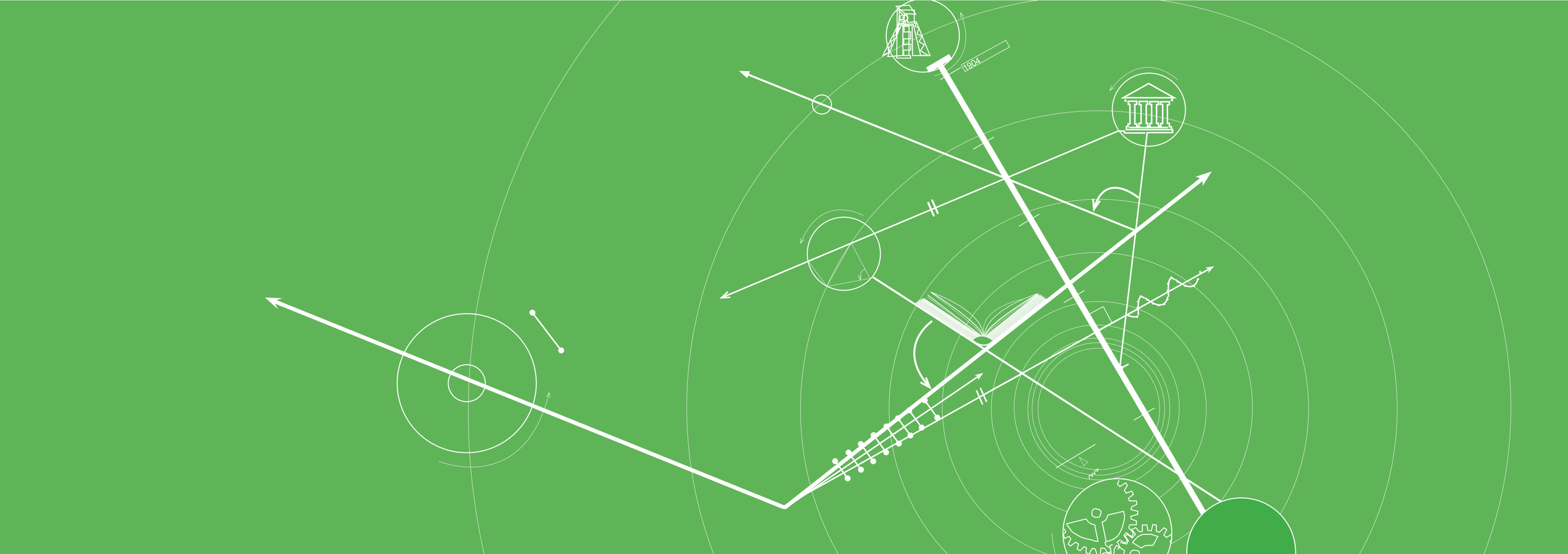
Right Below: After
Fig 3.36: Google Street View, 2017







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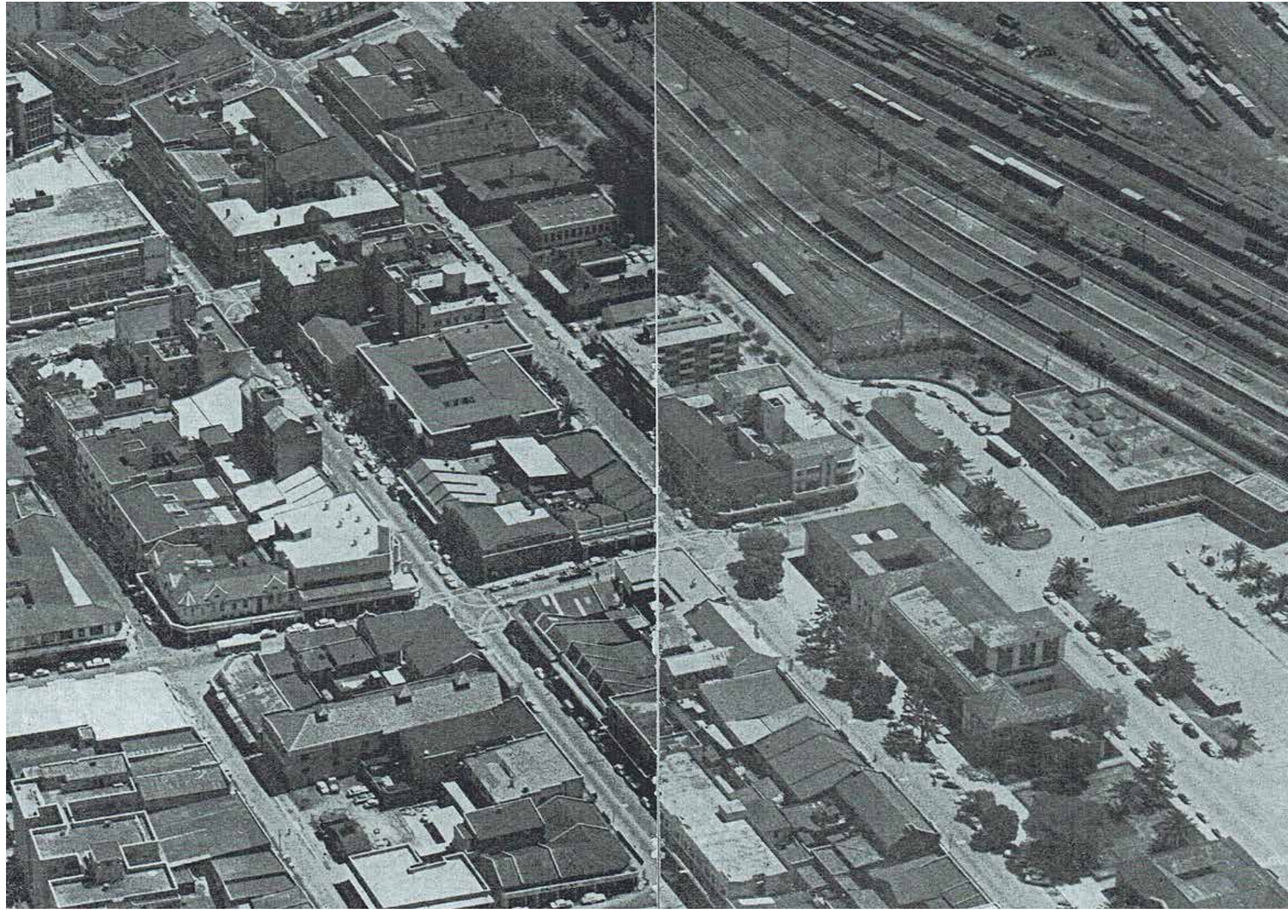
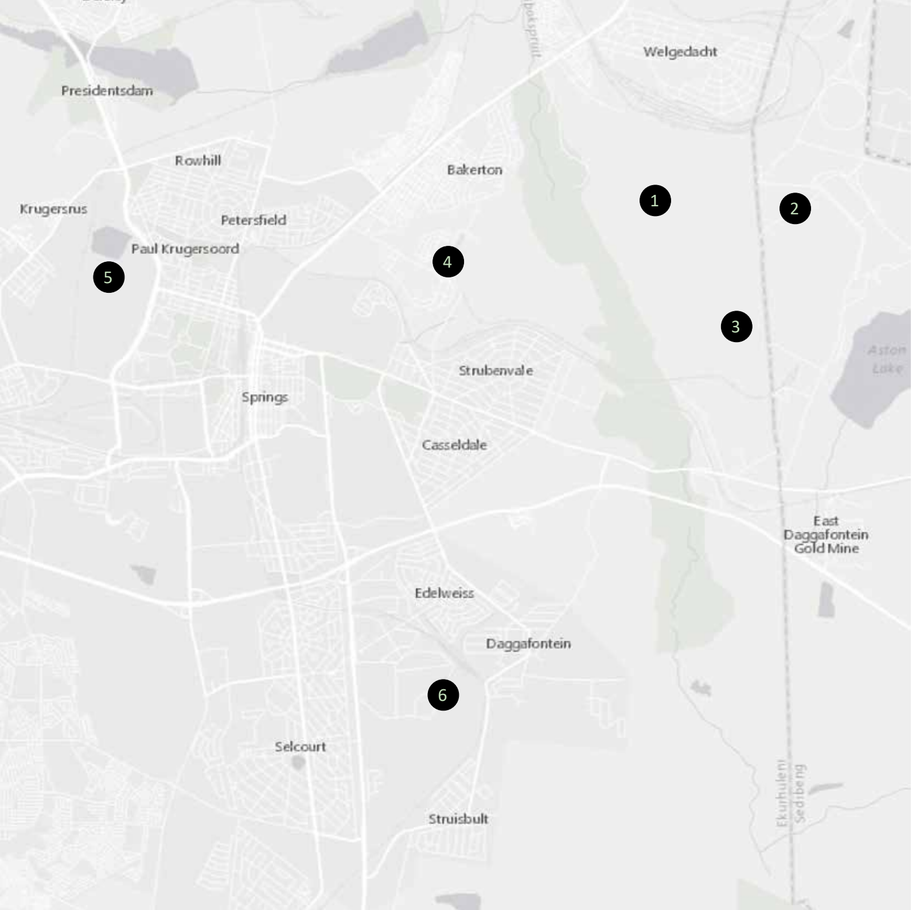
Above: Historic Springs Street
Fig 3.37: Author's own, 2018



Right: Historic Springs Aerial
Fig 3.37a: sourced from Tamaryn-Jade Collins 2017



Left: Site Mapping
Fig 3.32: Ekurhuleni GIS Maps (2018)

Right: Site Photo Documentary
Fig 3.33: Author's own (2018)

The surrounding areas of Springs reflect the CBD. Facilities have been abandoned and ransacked once they are considered useless. Facilities which took great effort to set in place. In most cases, they are ruins from the mining age. It is a pity to think that many of these sites were stripped for resources rather than being used functionally.

The Eastern part of the region, bordering the municipal boundary will soon be stripped open in a search for coal not far below the surface in open cast mines. It is speculative whether or not this will improve the economy of the town, but it is suer to erase the only traces of memory which remind us of what came before.



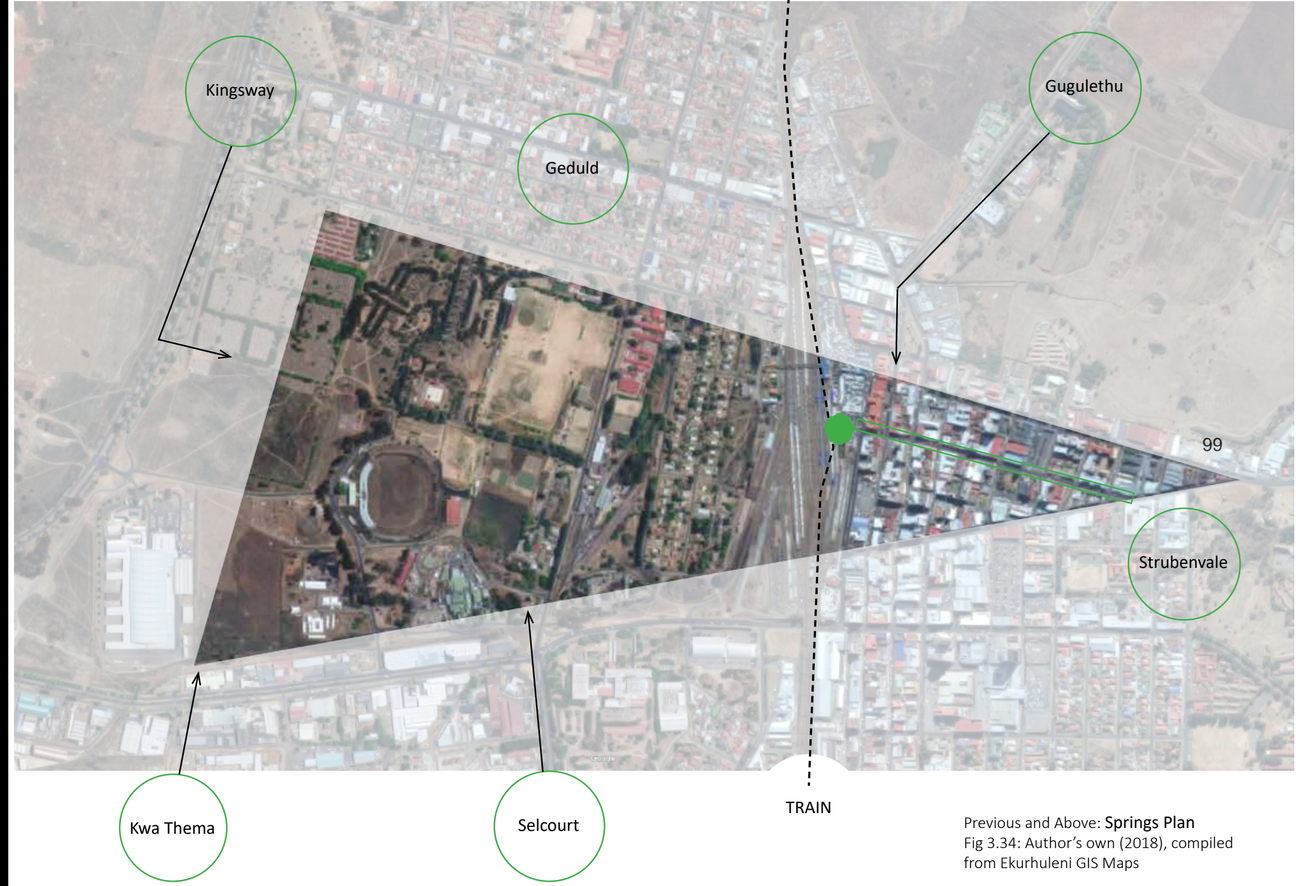







“It is easier to imagine blowing things sky high than to give up homogenized order as measure of urban success.”

Herbert Muschamp



Previous and Above: **Springs Plan**
Fig 3.34: Author’s own (2018), compiled from Ekurhuleni GIS Maps

Left: **Springs Plan**
Fig 3.9: Author's own, 2018

Left: Historical 3rd Street
Fig 3.40: author unknown (n.d) 'Springs- History of a Gold Town'

Below: Springs Site Plan
Fig 3.38: author's own, 2018, compiled from unknown author, 1904, 'Municipal Map', Springs- History of a Gold Town and Google Satellite Image, 2018

Historic vs Present Map

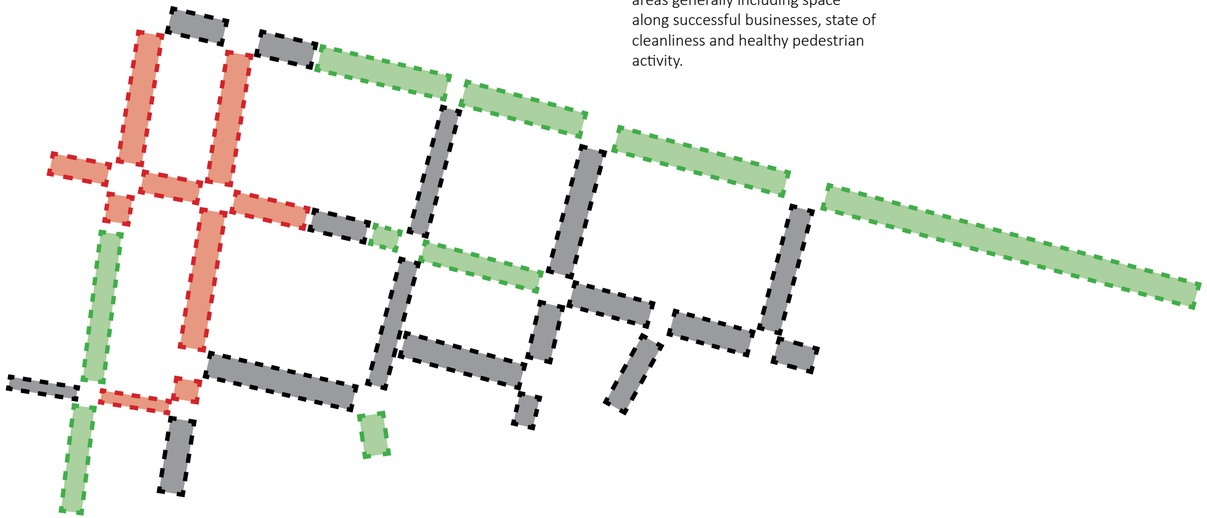


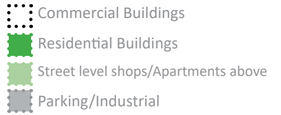
Safety Map

The experiential 'feel' of the site was the first mapping completed to try and understand the site. Categories of intimidating space, dead space and comfortable space are analysed.

Intimidating spaces, particularly those towards the west of the site, closer to the train station have a direct link to empty and damaged buildings, lack of side walk maintenance and management and stigmas and warnings received. Side walks are damaged and crowded.

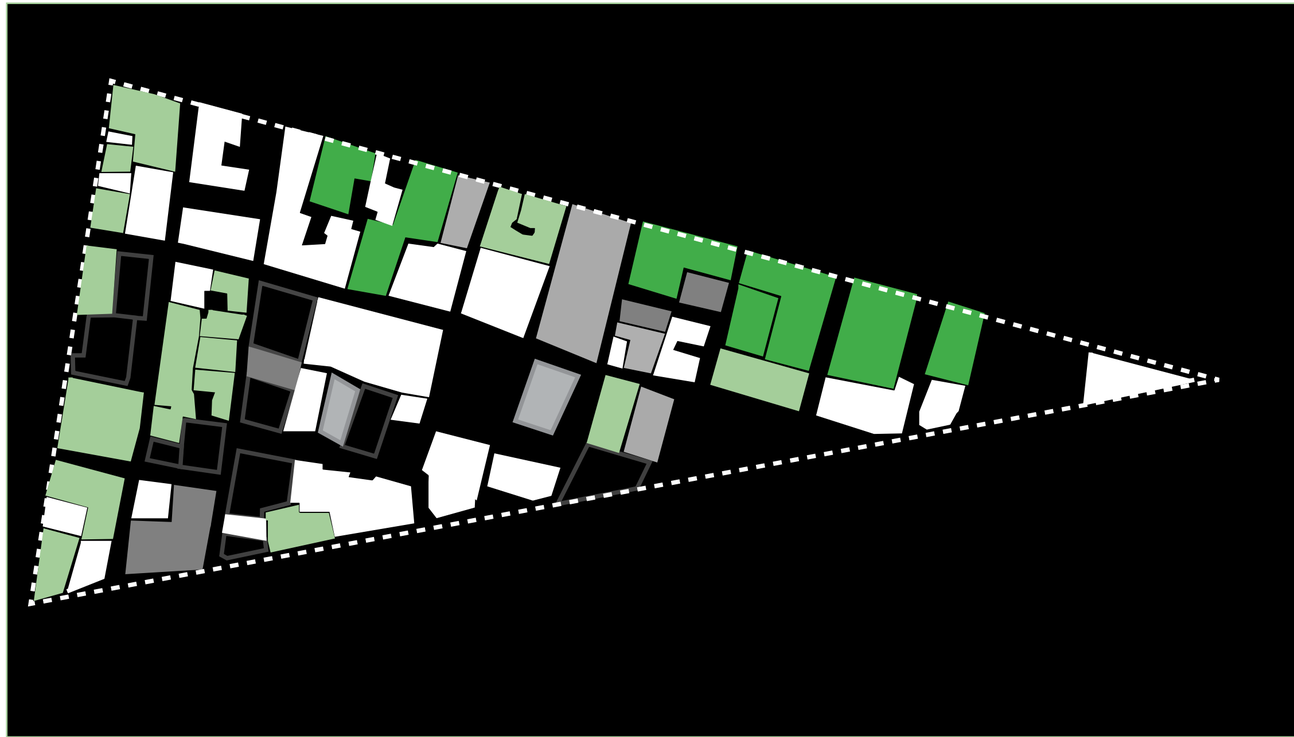
Dead spaces relate to streets that are empty of business and activity, generally there for vehicles. Comfortable are those with an aspect of landscaping and trees, especially 1st Avenue which is a boulevard along residential apartments. Other comfortable areas generally including space along successful businesses, state of cleanliness and healthy pedestrian activity.





Safety Map

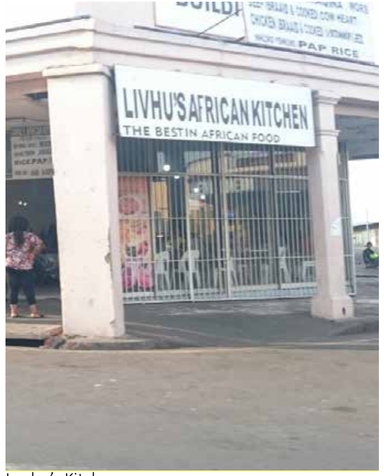
As seen in the diagram below, the region is primarily mixed use residential and commercial properties. 1st Avenue has a larger amount of multi-storey residential apartments. The further south, the more commercial the uses become. Recently the motor industry spare stores and mechanics has moved into the vacancy left by retail stores. The previous Springs town planning scheme placed this use towards the west of the town, along the rail lines. This has effected the street and pedestrian areas.











Luvhu's Kitchen



Sandra Hair Salon

PREDOMINANT USES

Food & Drink
1. KFC
5. Luvhu's African Kitchen
6. Corner tavern Takeaways
7. New Haven Pub
8. Ezeudu's Supermarket
13. Manhattan Hotel and Action Bar
15. Meat World Butchery
16. Unnamed restaurant & Shebeen

Motor Industry
11. Magic Motor Spares
12. Kotwall Motor Spares
14. SBR Pro Sound
18. Techno Gearbox & Diff Centre
19. Lifestyle Motors
24. Bamba Motors Car Dealer

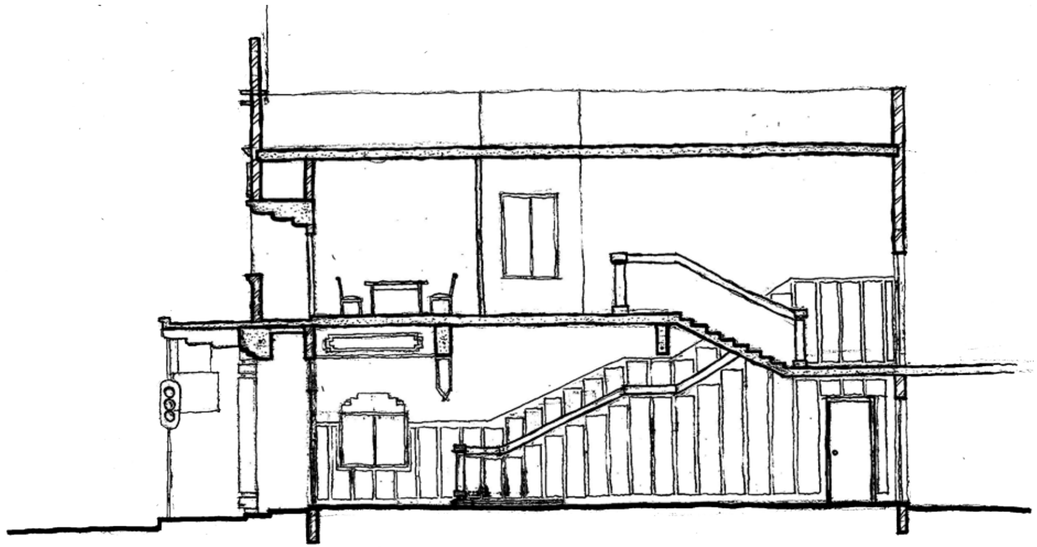
Retail
2. Springs Cell & Sound
9. Dallas Furniture
10. Dallas Furniture
20. Viva SuperSave
20. Ahmed Furniture & Appliances
21. Ebenezer Supermarket
23. Cellphone & Blanket World
25. N & D Cellphone & Accessories

Clothing
3. Skyes
4. Y P's Fashion

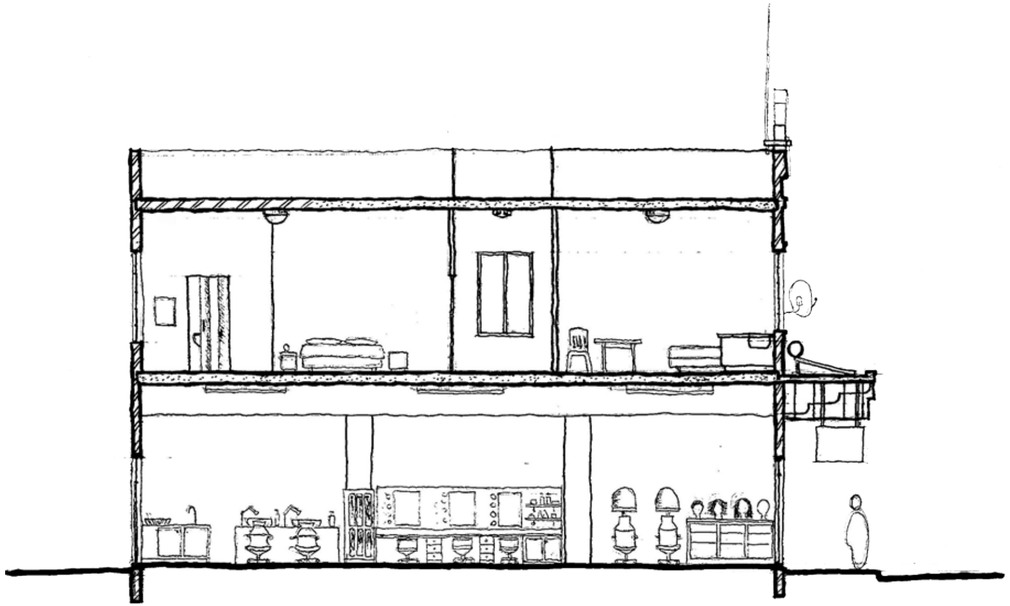
Other
17. New Creation Bible Church
22. Nkagla Dokotela

Left: Site Photo Documentary
Fig 3.41: Author's own, 2018

A rendering of how buildings reacted to street and how the building was used. The drawings depict a typical Art Deco building in the progression from a mid-century residential block to a mixed use building masked by additions in signage and satellite dishes which often hides the decorative effects of the Art Deco style. This reinstates the trends of the area in re-appropriating old buildings for new uses. There are many examples within the historic triangle of Springs where buildings, even if they are existing apartments, are being subdivided within to house more residents at cheaper costs to the resident and higher income for the owner.



Below Left and Right: **How Buildings Have Changed**
Fig 3.41: Chang, C (2017) Selmont Mansions



Vacancy and the general neglect of buildings has become a major problem throughout the East Rand. Due to the shifting of retail nodes in the town and general decline in the economy, old shops and old buildings loose their profitability. Also to blame is the state of the area. Locals claim that the recent influx of foreign nationals and the increase in crime and drug trafficking in the area is the main problem, making the neighborhood unsafe and intimidating. These buildings bring into question the town planning scheme of the region and the heritage factor of many of the buildings makes their future undefined. The vacancy is adding to the decline of the region, resulting in public ruins and hijacked carcases.

Springs Street

Fig 3.42: Google Street View, 2017



Abandoned Buildings

Abandoned Above Ground Floor

In use Seasonally

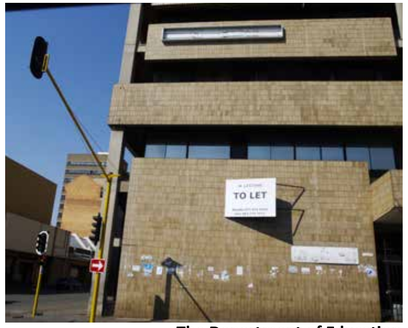
Vacancy Map







Springs Little Theatre



The Department of Education



The Palladium

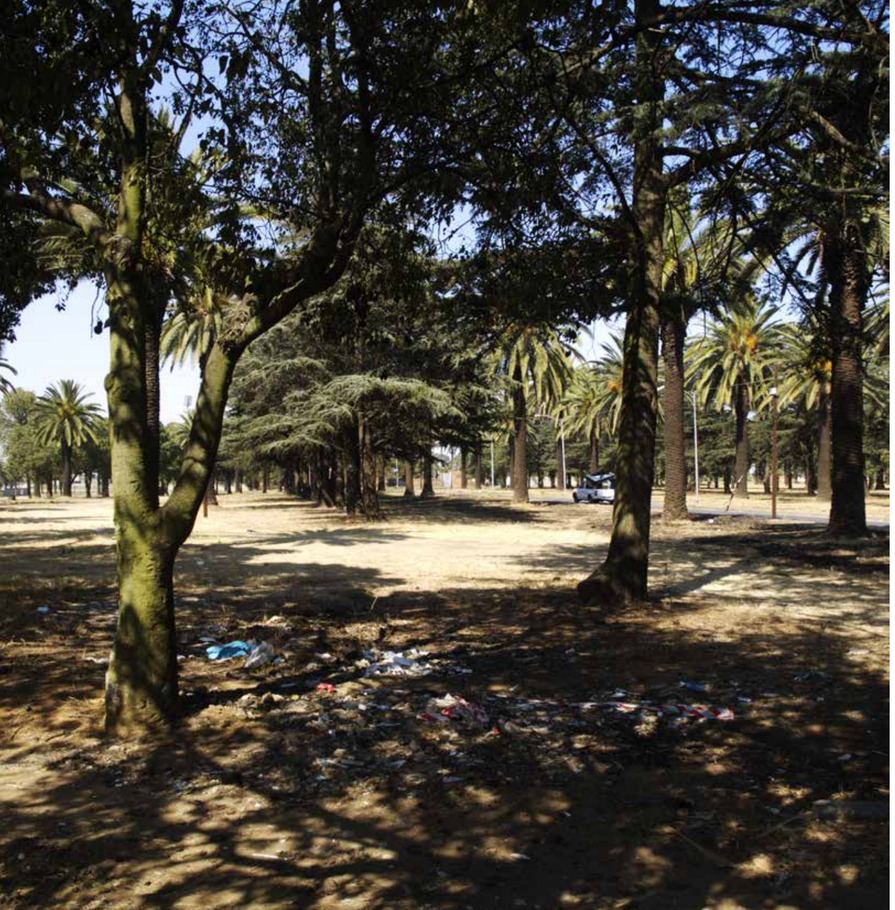


Old Fruit & Veg Store



Standard Bank Tower

Left: Site Photo Documentary
Fig 3.43: Author's own, 2018



Left: ‘Green Space’
Fig 3.44: Author’s own, 2018

The limited green spaces in Springs are generally restricted to public by businesses or state facilities. Trees are virtually non existing, leaving side walks a hot experience and forcing pedestrians to crown under overhangs, restricting pedestrian flow and stifling the pavement. Most open pieces of ground in the area serve as parking, but are usually empty apart from a few cars. The only ‘green space’ in the triangle is walled off. The piece of ground sits next to the Little Theatre and contains three sculptural art pieces and a small amphitheater which is washing away. This would be ideal for the public, but the assumption must be made that the maintenance of the ‘park’ would come into question.



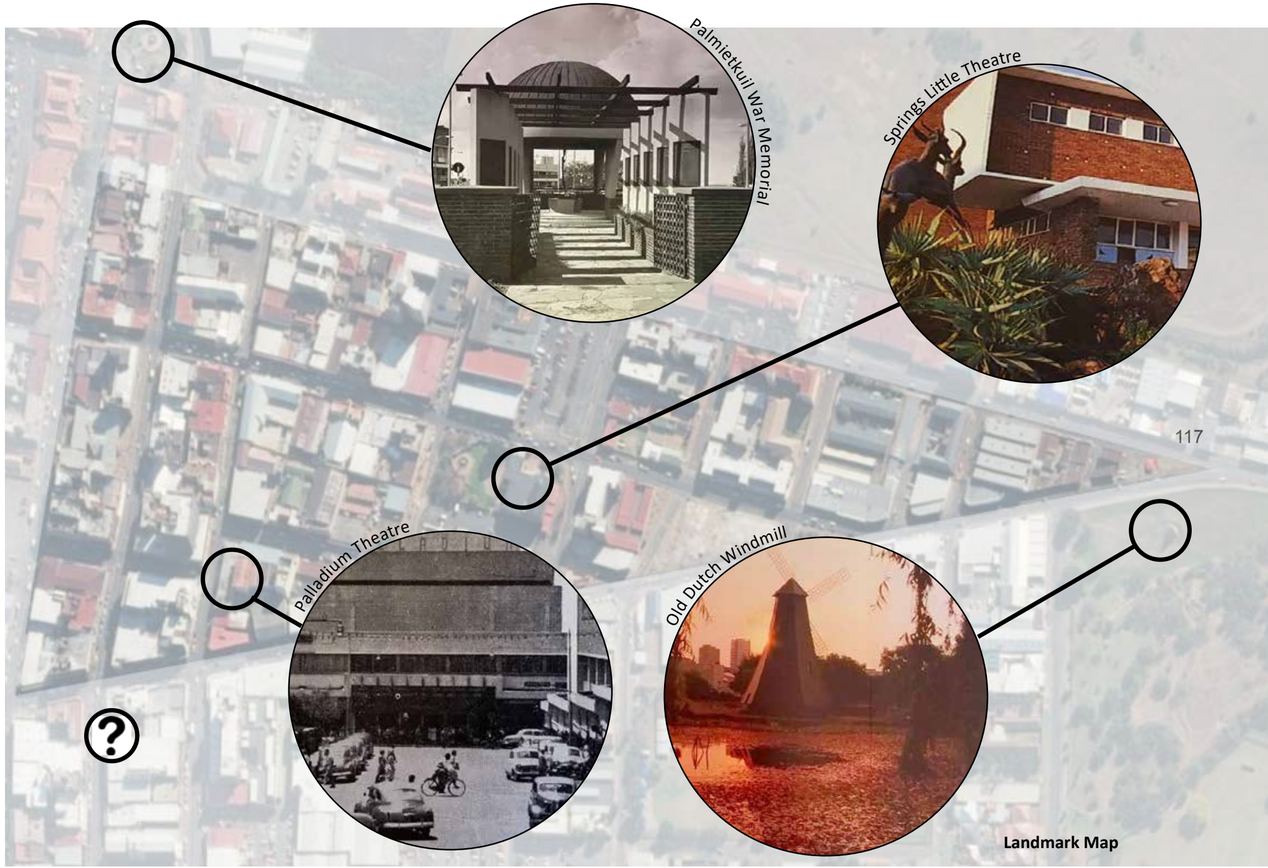
Below: Historic Windmill Park
Fig 3.45: Author unknown, (n.d) 'Springs - History of a Gold Town'

Below: Present Windmill Park
Fig 3.45a: Google Street View, 2017

The important sites located around Springs usually come from at least three decades ago. Each of those located on the map have been a victim of disrepair and vandalism. The war memorial has had its copper roof and all its plaques stolen. The Palladium is an empty shell. The old Dutch windmill has lost its original vanes, replaced by mismatching copies, with no water feature or landscaping present anymore. The Little Theatre is only rarely used.

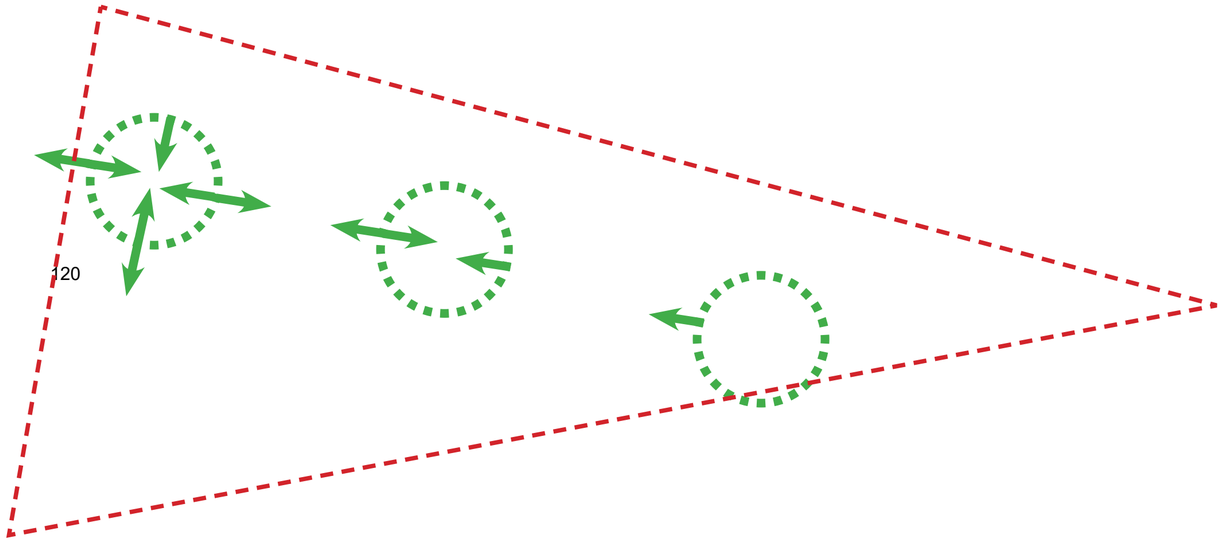




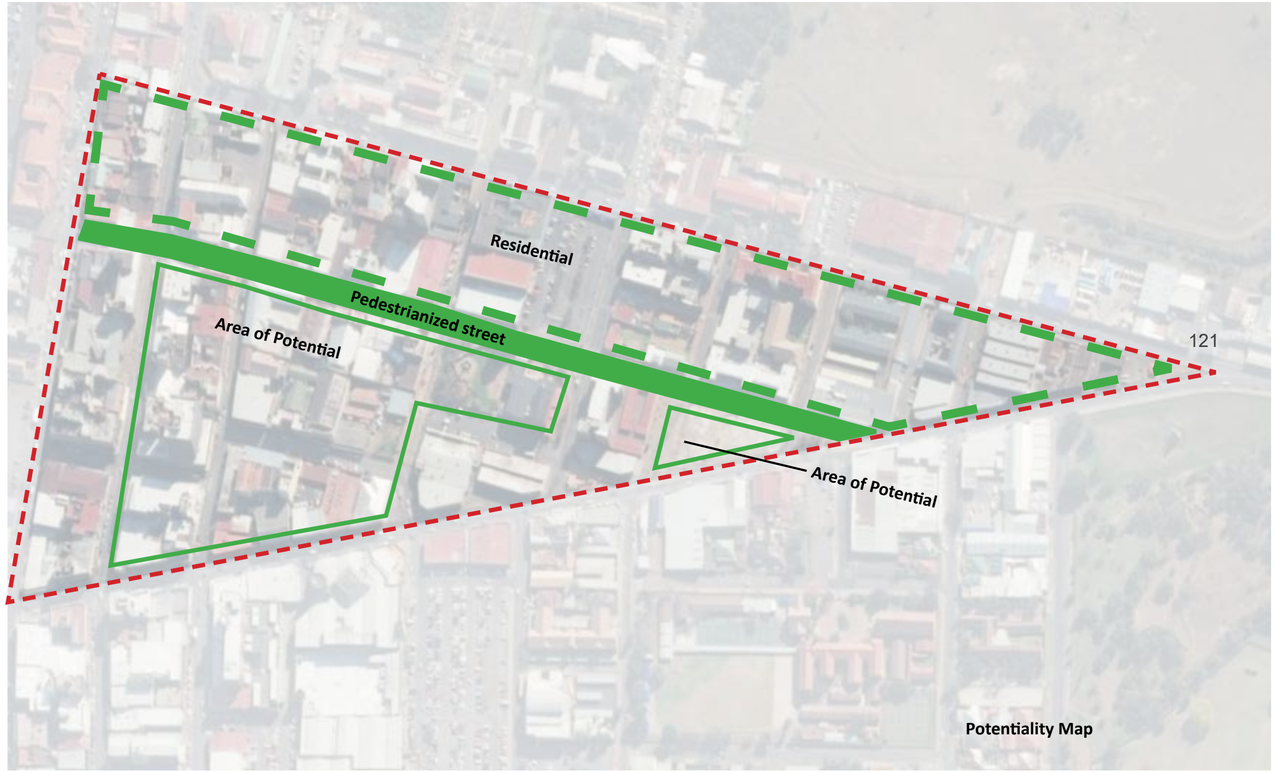




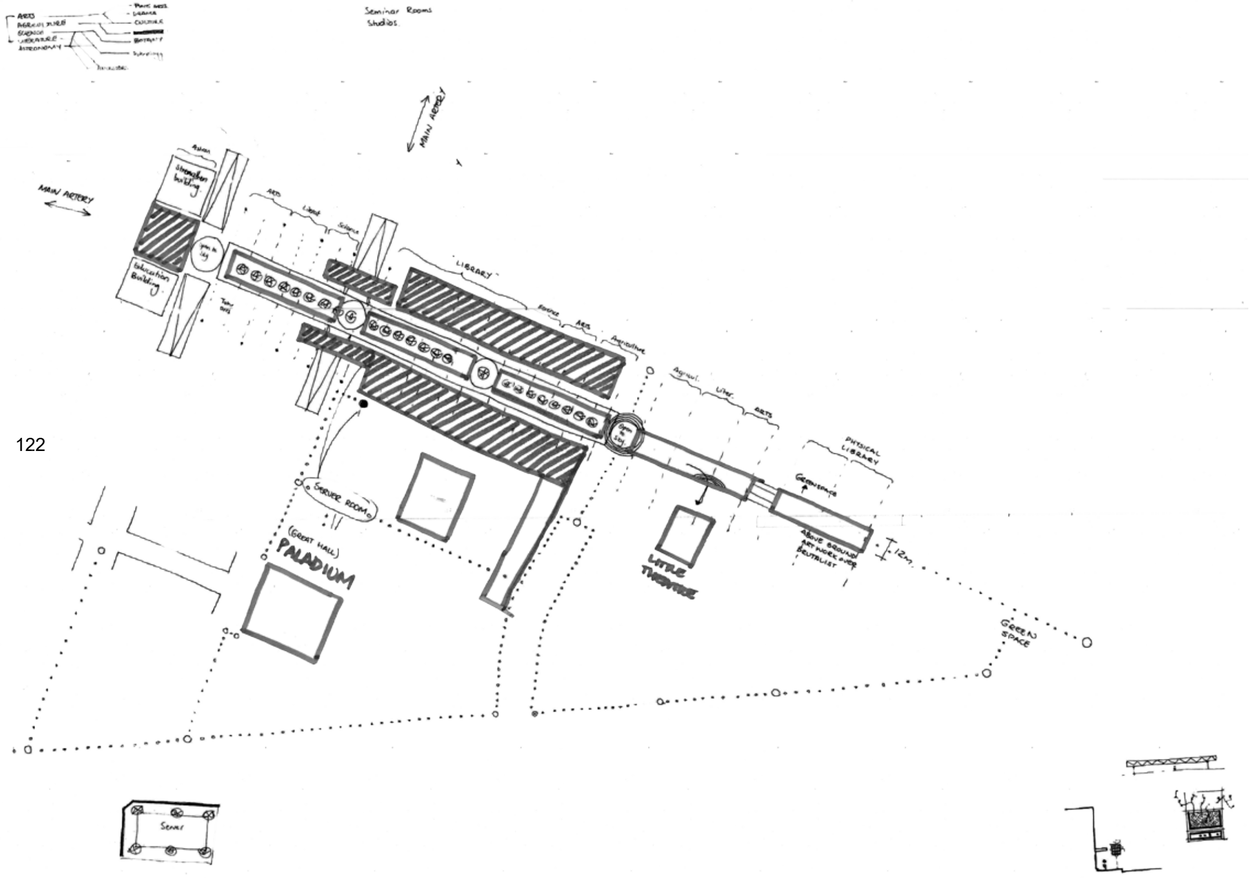
Below: Abandoned Farm
Fig 3.46: Author's own, (2018)



Nodes and Boundaries



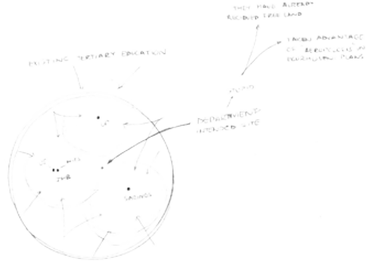
Potentiality Map



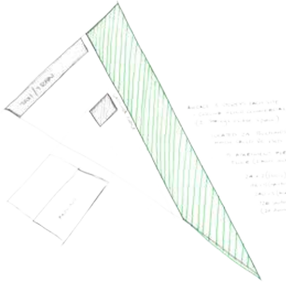


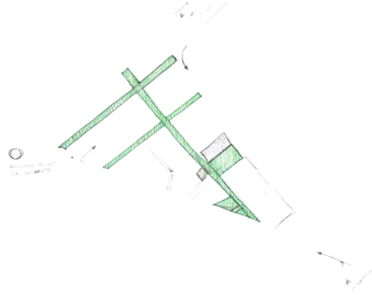
Above: Streets
Fig 3.47: Author's own (2018) compiled from Google Satellite View, 2018

The sketches on the left indicate the authors initial thoughts at an intervention in Springs. They highlight the streets which seem to be most in need of change and how a scheme can be integrate almost seamlessly into the existing framework





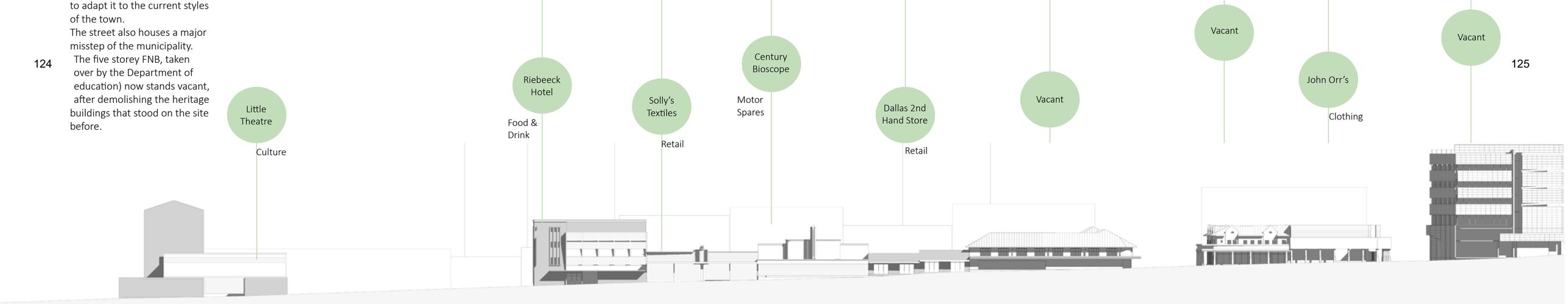


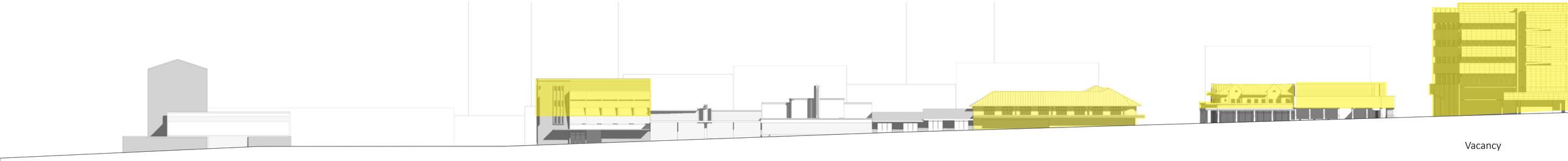


The southern ‘facade’ of Second Avenue reveals a lot of abandoned buildings and many examples of heritage. The Art Deco parapets of Solly’s Textiles and the Century bioscope are great examples of Art Deco.
The John Orrs building, still a clothing store but without the name, holds a distinct architectural progression, being the subject of three major remodellings, two of which were to adapt it to the current styles of the town.
The street also houses a major misstep of the municipality. The five storey FNB, taken over by the Department of education) now stands vacant, after demolishing the heritage buildings that stood on the site before.

Street Facade
Fig 3.48: Google Street View, 2017

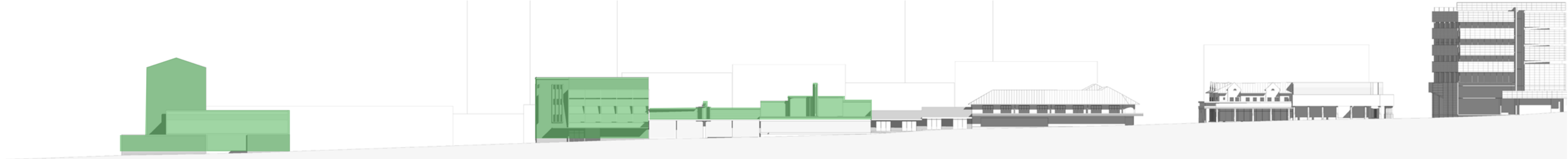


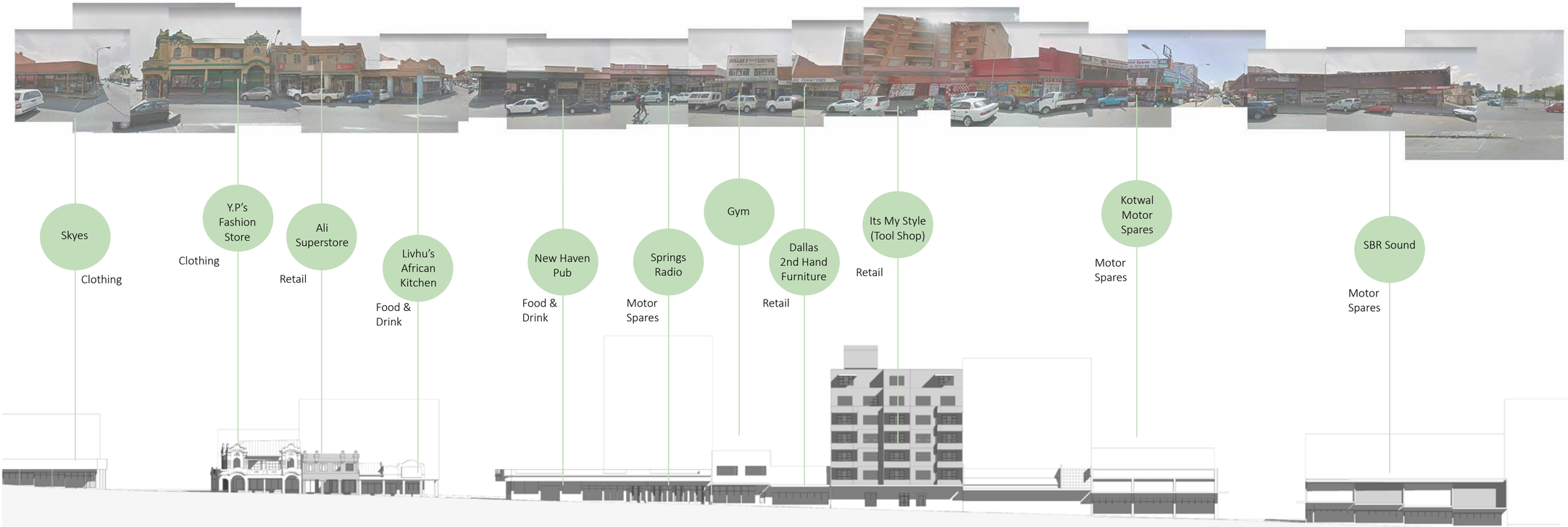




Heritage

Heritage





The Northern 'facade' of Second Avenue reveals a street frozen in change. The Towers, which stands out of place in the centre of the street is evidence of the stylistic boom of the time, while the buildings around remain single or double storey as they were before. The prevalence of motor spares and hardware is apparent as it begins to move into this part of town, taking up streets and parkings filled with faulty cars.

Street Facade
Fig 3.48a: Google Street View, 2017


Vacancy
Heritage
Vacancy
Heritage

Intervention Street
Fig 3.49: Author's own (2018)





Mariaane
28
Bookkeeper
Selcourt

How long have you stayed in the area?
All my life. I was born here.
Do you stay here because you want to?
Ja. My families here. I grew up here. It's not always great but it is my home.
Do you ever visit Springs CBD? Why?
No. As a woman it does not feel safe to go alone. If i have to go alone into town I go with someone. I always hear lots of bad stories of crime that happens there. Some people take cars and they rob the shops.
Describe Springs in one word?
Cold
Are there any significant locations in Springs CBD which you relate to?
Some of the shopping malls in Springs were quite nice when I was young. I used to go to the movies at Palm Springs and my family went to the Avenues a lot when i was young. But they're mostly closed now. And i went to school down the road from CBD. There was a nice Spur as well.

Have there been any significant events in Springs which you can think of? Or do you know anything about Springs history?
Not Really, only a little bit of history. I know it was a mining town.
Do you see a positive future for Ekurhuleni? What would make sure it is positive?
No I don't think so. It seems unlikely.
Maybe the government can start putting more money into our area to help with the crime in the city.
How important are universities in your opinion? How important is it to receive a university education?
I think universities are good for people who want to learn more and become better qualified. But from a small town I think it is a lot harder to go to one. But I think people could get by without a university.
What do you think decolonized education is?
I think free education?



Arthur
64
Retired
Springs New

Do you stay here because you want to?
I would like to stay somewhere else. I have seen this place get bad the last few years. It is not nice to live being scared of things. It is not how it used to be. The east Rand used to be a nice place when I was young. It got tough for me and my family with the NP were in charge, but it has not been this bad in a long while. But my wife is unwell and I am retired so I can handle it
Do you ever visit Springs CBD? Why?
Only if I have to. It is not very safe anymore in some parts. Sometimes I go shop there because it is cheaper. But not often anymore.
Describe Springs in one word? And Why?
Home
Have there been any significant events in Springs which you can think of? Or do you know anything about Springs history?
I know a lot of people here were working in the mines.
Do you see a positive future for Ekurhuleni? What would make sure it is positive?
No. The government doesn't care. The people don't care either. There are many foreigners coming in.
How important are universities in your opinion? How important is it to receive a university education?
Very important. It gives the young ones a chance at success and to make some money. I was just insurance broker, but its important It is very important, but the new generation don't try.
What do you think decolonized education is?
A reason to throw rocks.



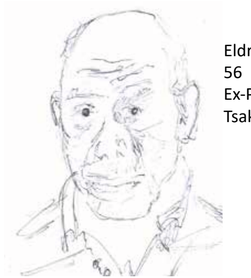
John
31
Gardener
Everest

How long have you stayed in the area?
My whole life.
Do you stay here because you want to?
Yes. I make money here. I have my job. But my family have all left
Do you ever visit Springs CBD? Why?
I go to town sometimes to go shopping. And to the station
Describe Springs in one word?
Busy.
Do you see a positive future for Ekurhuleni? What would make sure it is positive?
Yes I do. It is a nice place to live. But there are too many bad men that just want to steal and cause trouble. There are lots of people from Nigeria coming here.
How important are Universities?
Not so much.
If you had the choice to go to university, would you?
Yes. I would get a better job
What is Decolonized Education?
I don't know.

Ronnie
59
Electrician
Grotvally S.H

that stand out. There was even the zoo that I remember. It has changed a lot.
Do you see a positive future for Ekurhuleni? What would make sure it is positive?
When looking at the state of the East Rand at the moment it is hard to think there is a positive future. I don't see a way where it can improve without something big happening.
If you had the choice to go to university, would you?
I think I would have, but at the time varsity wasn't a big thing. I wanted to study at the time, not at a varsity. But my father didn't really approve.
What do you think decolonized education is?
The whole idea of it doesn't make sense. But its best to allow the people who are effected to work it out.

How long have you stayed in the area?
All my life. I was born here.
Do you stay here because you want to?
I have come to appreciate it. I don't really have anywhere to go now at my age. And majority of my family are still here.
Do you ever visit Springs CBD? Why?
I do sometimes. Usually to buy stock or visit a few of the stores. But I go a lot less than before. My father used to own a few a few properties which I often used to look after, but most have been sold because the area is getting worse. It is always a bit of a risk lately.
Describe Springs in one word?
Dirty
Are there any significant locations in Springs CBD which you relate to?
When I was young there were many areas that I remember. I worked at a the Palladium during High school. There was the Ice Rink on 5th Avenue. I also worked at the Golden Nugget, a restaurant in town, I think it is still there. There were many places in the town



Eldridge
56
Ex-Principal
Tsakane

What attracted you to become a teacher?
I wanted to try help the young people in the community
Is a university still relevant today?
Yes I think it always will be.
Why do we need universities?
We need professionals in our country. There are very few who can find jobs because they have no qualifications. Especially the black people from the location.
How do you believe future technology will impact the way you teach?
Today a student Whatsapped me a photo of a problem they were having in a maths textbook. I was able to solve it and send it back to her to see how it is done. Even though I am not working at the school anymore. Technology is wonderful.
Describe Springs with one word.
Dangerous
What is lacking in the current education system?
Everything is available. Students just don't want to do the work.
What do you think decolonized education is?
A new curriculum probably.
Do students want to attend a university?
If they do, what stands in their way?
Many do, but their marks just aren't good enough. And they struggle with money. Sometimes they need to start making money soon. That is usually all they want



Hetta
56
Teacher
/ School
Coordinator
Casseldale

What do you see for the future of Ekurhuleni?
Recently I tried to get some plans approved at our council. It has taken 8 months and is still not approved. There have been so much back and forth, he said she said. And I wasn't even building anything new. I don't know if they expected a bribe or not. Everything has become who you know or how much are you willing to give. We cant move forward when things are operated like that. People need to care. Without that it is going to get worse. But we must try where we can to make things better.
What do you think decolonized education is?
Its a compromise. A way for us to find common ground with those that live around us. Our education needs to be focused on our situation in South Africa. But standards cant drop any further than they already have. There is a limit. We already teach the Cambridge system because of the standard. We teach French, but is that Western? A large part of Africa speaks French.
Do students want to attend a university?
I think they do. But they don't really know why. I feel like they want to attend a university just to attend university. They don't realize that not everybody needs to attend university to be successful.
If they do, what stands in their way?
Usually its the funds. Sometimes getting in and accepted is a problem depending on who you are. But I believe there is always a way to get in. It just takes hard work.
Describe Springs with one word
Frightening



Anonymous
42
Female
Academic
Brixton

Is a university still relevant today?
Why do we need universities?
There are becoming more and more alternatives to a university. But I believe a university broadens your understanding of the world, socially sometimes more than anything else. That alone in my mind makes it valid still today.
In what way could the pedagogy of universities be improved?
Less lecturing is definitely needed. We need to interact more with the students and the public. We cant hide in our campuses while the world continues outside.
Would you travel far distances to teach for limited periods of time?
If it is paid for. But not too long. I wouldn't want to leave my family for long durations at a time. But I feel like it could be extremely stimulating to work outside my norms.
Would you like to collaborate more with academics from unrelated departments?
I would like to. I am not sure about what or if it would be a smooth undertaking but if there is a point I would be open to try.
What do you think decolonized education is?
An undefined political agenda.



Paul
34
Lecturer
London

Is a university still relevant today?
Why do we need universities?
Majority of what gets taught is generally a waste of time. Universities need to make money. But for the new generation it is definitely necessary. Mainly to jump the red tape in the real world. A piece of paper is what a young person needs to get anywhere these days. The older generation cling on to their jobs. Without that paper the new generation gets nowhere. It is a win-loose situation.
In what way could the pedagogy of universities be improved?
The way we teach is not in fault. The people we teach need to be there on merit. That is the only way it can improve. Students need to deserve to be in a class.
Would you travel far distances to teach for limited periods of time?
It definitely sounds great, but in reality I think it would be difficult to. So I would say no.
Would you like to collaborate more with academics from unrelated departments?
I already do, but in a limited fashion. If it enriches something; definitely.
How do you believe future technology will impact the way you teach?
I cant wait for virtual reality to improve. I want to experience things. I want to experience what I can only teach. Include students in that situation and I doubt they will find something boring. It will be memorable. But maybe that is just me.
What do you think decolonized education is?
Allowing a different narrative to be brought to the table which is neither subjective or favouritist.
How does the above question impact the physical university?
I do not think it will. It shouldn't. Universities will still be there to educate and advance ideas.
What attracted you to the field of academia?
My father always taught me to question the world around me and I grew up wanting to do just that. The information and the capability to do this lies in where I teach and where I can research.
Describe Springs with one word.
Very-far-away

Officials



Anon.
Male
66
Town Planner
Nuffield

What attracted you to your field?
It was quite by accident. But it was a long story. I came to enjoy it a lot.
Do you believe Ekurhuleni has a positive future? Why?
I do not. People care very little about the work they do anymore. Its about what I can get out of it. Not what can I do to make things better. I sometimes think that our towns need to be controlled more. But the control is where the problem is. The people in control don't make anything happen. They stay up there saying this and that but never coming to any conclusions. It is a problem. But people just do what they want. I think its possible to get things better again. But I am not sure if thats what some people want. Who do we blame for things if it does.
Describe Springs with one word.
Forgotten
Is a university still relevant today?
Yes they are. Its not the only way to go though. I never went. But the new generation needs them. They need to broaden the way they think.
Are you hesitant to think of the future in store for us with new technologies?
I am already scared of this computer sometimes. I don't know of most of the things coming out. I saw a documentary on TV of robots in Japan. That would scare me.
What do you believe is the most impactful event to happen in Springs?
In '94 the transition of power changed a lot. Including the way things were done in Springs. Ideas changed. Our town planning scheme was controlled in the past. But we made do. Some changes were for the good. Others let things go out of hand.
Describe Springs with one word.
Chaotic.
What is decolonized education?
Thats a broad question. I would say its to give back our African identity. When the British came over here they taught us how to be a good Western country. It could gear students to think more traditionally and more suited to our area. Maybe that way we can interact more and Africa could become a first world continent.

Students (18-24)



Geoffrey
Male
24
TVET Student
Springs Central

Do you intend to stay in Springs?
Yes
Are you happy with the state of tertiary education? Why?
Not really. A while ago I had an exam which I studied hard for. After the exam started the examiner just left and all the students started opening their books; making it an open book test. Their are no standards.
Describe Springs with one word.
Historic
Do you know anything of the history of Springs?
I have been trying to follow some groups on Springs's history. My grandparents like to tell me a bit. But I don't know much.
What is decolonized education?
"Doff" education.



Joshua
Male
18
Matriculant
Welgedacht

Do you intend to stay in Springs?
No. There is not much of a future here.
Do you intend to go to university? Why?
I hope to if I am able to get a bursary. I would like to study engineering. It is the best way to get a job well paying job. And my parents are encouraging me to try.
Describe Springs with one word.
Old
Do you know anything of the history of Springs?
No, not really.
What is decolonized education?
A way to question what we are taught.



Christopher
Male
22
Graduate
Largo

Do you intend to stay in Springs?
For now.
Would you still have gone to university today? Why?
I don't think I would have. The whole experience is really stressful. A lot of the time it just pushes you over the edge. And it feels like I have missed out on so much. I would have used the money on something else.
Describe Springs with one word.
Finished
Do you know anything of the history of Springs?
I find the history of Springs fascinating. I don't know a whole lot, but to see some of the old photos and things makes me respect the town more. It makes me interested.
What is decolonized education?
There is no such thing. There is no way to unlearn what has been learned. Besides, society progresses with the sharing of knowledge.



Bongiwe
Female
18
Pollak Park

Do you intend to stay in Springs?
No
Do you intend to go to university? Why?
I wish I could but I don't think I can. Its expensive. I am sure its better than where I am now. I think I would get taught better. When I study at college its just me and the textbook.
Describe Springs with one word.
Broken
Do you know anything of the history of Springs?
No. I am not really into history.
What is decolonized education?
Learning from a different perspective. Probably learning what relates to me instead of an American.

Sketches of Interviewed People
Fig 3.50: Author's own (2018)

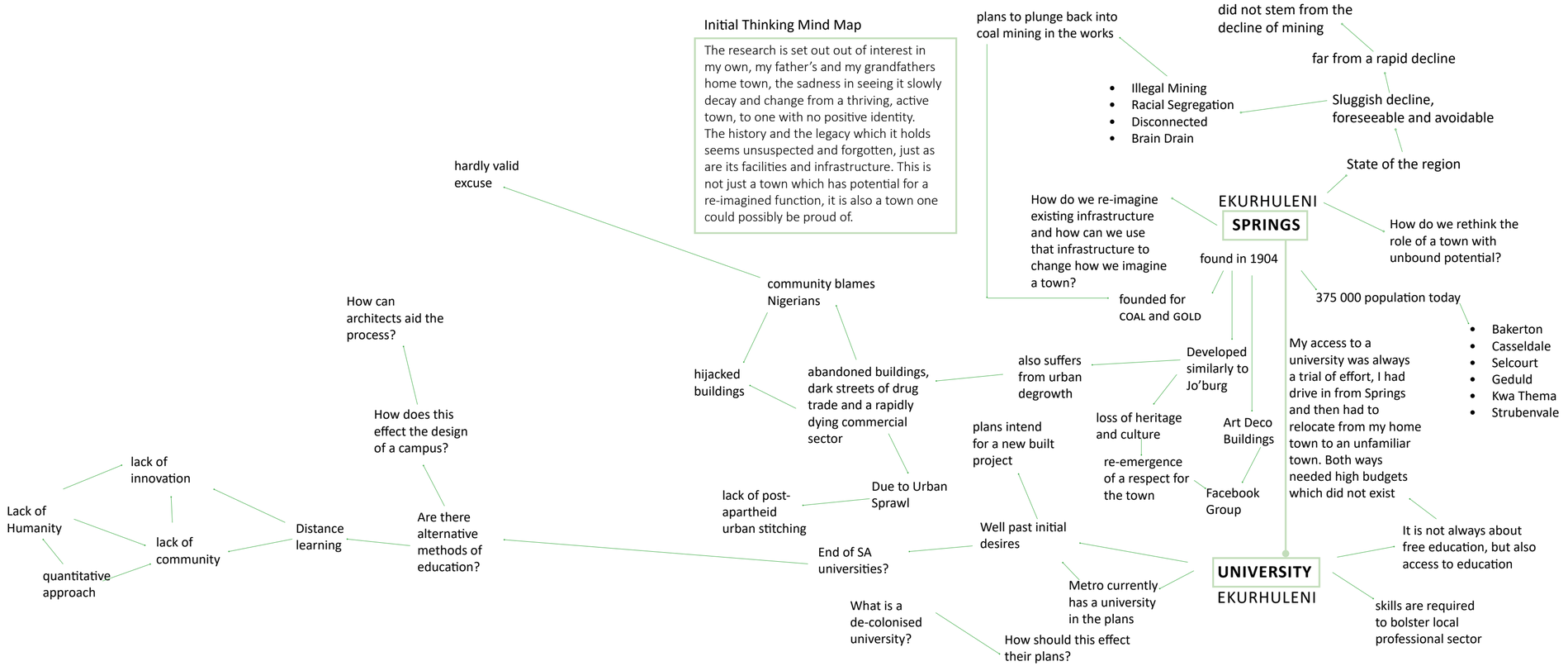
An Idea

A look at education, the role of imagination and perspective and how an architect could interpret their world

04

Initial Thinking Mind Map

The research is set out out of interest in my own, my father's and my grandfathers home town, the sadness in seeing it slowly decay and change from a thriving, active town, to one with no positive identity. The history and the legacy which it holds seems unsuspected and forgotten, just as are its facilities and infrastructure. This is not just a town which has potential for a re-imagined function, it is also a town one could possibly be proud of.



“Men are mightily govern’d by the imagination.”

David Hume

Storytelling and Literature is perhaps the best representation of worlds, whether we are relating to our own world, or another completely. It describes realms of reality and fantasy, creating a new world for the listener or reader. Not only does it transport one to another time, place or vein of existence, it also forces the reader to react and interact to the world presented; it forces the reader to imagine.

Authors such as Tolkien and Dodgson interacted directly with children to create there worlds which seem so far distant from our own. Their stories were on what a child wanted and yet they grew to be loved by every age group in almost every country.

J.R.R Tolkien, perhaps one of the most notorious ‘world builders’, began his first published book as a story to his children. His stories were in-fact meant to be a replacement for the lack of folk-tales of his homeland, folk-tales which would usually be used to excite or scare children. The author, poet, philologist and university Professor created his myths from his own mind, displaying his impressive imagination for all to see. The Professor was born in Bloemfontein. In his childhood he was seriously bitten by a baboon spider, innocently ‘abducted’ to a strange neighbourhood and lost his father at the age of three while on holiday in England with the rest of his family. He endured the terrors of the Great War, experiencing the loss of many of his comrades and friends. Yet still, by the power of his imagination, was able to create a world and a story with a positive ending.

Charles Dodgson (AKA Lewis Carrol) was the famous author of many noteworthy children’s books, such as Alice’s Adventures in Wonderland. Behind his pseudonym however he was a mathematician from Oxford College. Queen Victoria, queen of England at the time enjoyed his adventures of Alice and rumour says she wrote to him requesting his next publication. He sent her *An Elementary Treatise on Determinants.* He reportedly told his stories and the unforgettable characters within them to lure and entice children, all to discover what they adored and found the most delight within.

These worlds were created with a singular goal in mind. One would think that this goal is inevitably the allure of having their tales published and the glory of the stories, but that thought would be somewhat false. Tolkien was sorely ridiculed the first time he shared a

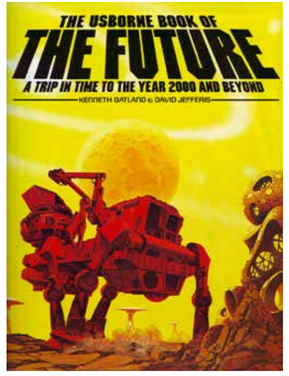


Left: A Different World
Fig 4.1: Authors Own. (2012)

portion of his book *The Hobbit* outside of the confines of his home. Yet today the phrase; ''In a ground there lived a hobbit.'' Is the line that began the story which accounted for the second highest selling book of all time. Dodgson was likewise, creating their stories against the trend of the time; which was directly based on stories for adults. Their stories were in turn adored by adults.

These 'stories' give the reader the opportunity to escape the world they are in right now. It allows us to perhaps numb ourselves to a world that we do not want to accept. At times it allows us to escape the confines of regret. Children understand that those worlds are not real, but to escape within them, to be completely submerge themselves in those worlds, allows them respite from what might be an extremely dull environment. What this does do however is create a thriving to learn more and to open up new pathways of knowledge. In truth, that is what a university should function with, the need to learn more, and this can only be achieved by trying to learn more. '...If you want to read about Gandalf's origins – you have to go to your bookshelf, you can't fast forward to that on a DVD. If you want to find out just who Morgoth was, and why all of Middle-earth was considered his ring,' (JPB, 2013;1)

Thee two of these authors may have written for young children, but young adults also respond in similar circumstances. It is important not to classify those at university-going age as adults. Students are all advancing in similar means, no matter the age. But these two authors emphasise the importance imagination has in improving the world around us. For them it was only fiction and fantasy, for us it could be reality.



Left: Tomorrows Thoughts Today
Fig 4.2: Young, L. (2008)

If we were able to harness our own imagination we could create a 'better' world. Even though that may be based on personal perspective, we would still be able to understand our context and adapt it towards success. If this was done collectively, the imagination a few would lead to the innovation and advancement we so desire. What we perceive is true, to us is true. What we imagine we need to do is what we shall do. 'Men are mightily govern'd by the imagination.' (Hume, n.d;) David Hume developed the philosophy of imagination. He examined "fictions of the imagination, which have an important place in his science of man, and his view that whatever we can clearly imagine is possible." (Cottrell, n.d;)

Imagination is extremely vital in our day to day encounters. If a lady were about to step onto to a bus, hesitated and stepped back, an onlooker would puzzle on why she did this. Did she realise it was the wrong bus? Did she forget her hat? Did she receive an angelic warning that this bus is about to crash down the road? We do not know and yet we continue to create stories either to amuse ourselves or to try an attempt to explain a situation we do not understand. However, there is such a thing as misimagination.

With imagination playing such a key role in our lives it is easy to take its vividness as truth. It is important to recognise that what we imagine could be true. Though our imagination expands our abilities and capacities to understand circumstances, it also bears the threat gullibility when fiction is professed to be truth, a spreading of someone else's imagination. Technology attempts to immediately immerse us into information, providing the answers to every question before our minds have the opportunity to process it. The use of imagination has become worthless and set aside. Yet in doing so, we loose the effects of simple submersion, overflowing our minds with floods of rapidly flowing information.

The future of our own worlds relies upon us attempting to bring them into reality. It requires an effort of existential awareness on our own part. Though our imaginations may fashion our own bubbles, we need to remember that we are part of the real world, and our efforts need to be directed in that direction.



Left: Banksy's "Parking"
Fig 4.3: R.G.T. (2012)

Who do we empower?

"The (youth) of any nation are its future. A country, a movement, a people that does not value its youth and children does not deserve a future."
Oliver Tambo (Ngeze-Mfundo 2001:25)

When the demographic of the target market is analysed when considering the redevelopment in Gauteng's districts, we find a vain similarity that is copied in most. Most are catering for the middle to upper class, or the super wealthy. Is this really the demographic we are looking to influence if we are looking to create change in a nation? Is it at those ages that one could influence somebody in more ways than just supplying them with café society street life?

South Africa has a resource with the potential to transform our economic and social reality. Unfortunately, we are missing this opportunity: It should go without saying that investment in children and young people is the source of future human capital. They should be at the forefront of strategies for economic growth and development in SA. But they're not. It is the youth, not to the middle aged to whom we should direct our focus. One could say a child is the easiest to manipulate, the easiest to convince that they can make an impact on the world. Architects thought they could make an impact at a large scale and failed, since then have been completely afraid of the prospect, thinking they might be termed 'radical'. It is however through the upbringing of children and the way our architecture and city affects them and aids in their growth that we find our easiest opportunity to make a better world.

Architecture should inspire. Architecture should humble us. Architecture should instil a sense of imagination. Architecture is the backdrop, the setting. The lives of our youth are the scene. Just as a scene is effected by the setting, so a child's life is infected or enriched by their environment.

The first six years of a child's life are said to be the most formative years for their development. The stimulation a child receives within these early years influences a child's social skills and their ability to learn. It can be said that the stimulation child receives during these years is the foundation upon which their future is built.

One needs to acknowledge that children have a different way of seeing things and interpreting things from adults. "A child is a being fundamentally different kind of human being with distinctive way of experiencing" Aldo van Eyk (Lefaivre 1999:57). Because ultimately empowerment is about education, it is important to understand how the youth learn in order to create an architecture that can play an effective role in the growth and upliftment. All students are children, progressing much the same as a child at age six, being influenced and inspired by those around them.

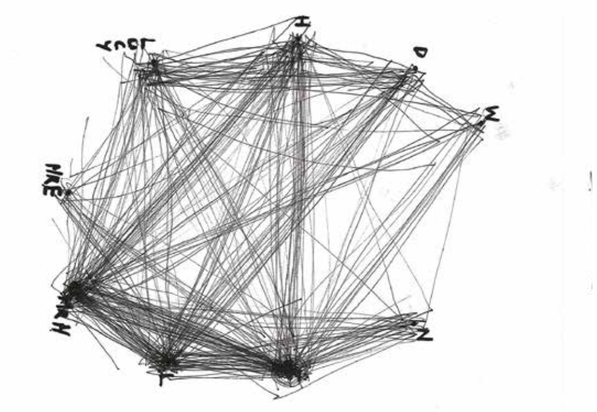
It is said that children learn through activities that involve exploration, manipulation, order, repetition, abstraction and communication. Children up to the age of six develop mentally through their senses; touch, sight, hearing, smell and taste. A child's perception of the world is refined by didactic sensorial material. "The nature of the outside world to the child is in such an orderly way that it assists their intellect (principle of order in mind) to recognize, in flashes of intuition, the order in the world outside, thereby making them a part of itself." (Standing 1971:21)

A child learns by creating their own experiments with water, sand, etc. They further develop by observing spatial relationships of objects, identifying what is in the past and future, between self and not self, as well as between experience in reality and experience in dreams.

An environment that helps children to promote the empowerment of children should stimulate the senses of children by encouraging exploration and discovery, therefore promoting learning. The main aim of every student. Ultimately, empowerment is about education. Educating the student so that they are given the skills required to empower themselves. It is also about educating the community about our youth so that they can assist, in empowering their children.

Education is social capital. 'Education is the most powerful weapon which you can use to change the world' (Mandela, 2003;1)

This fact needs to be consciously kept in mind when considering the goals of a university. They need to form part of our cities even though most commonly they form archipelagos within our cities. If not, they do not form part of our 21st century culture and become elitist institutions.



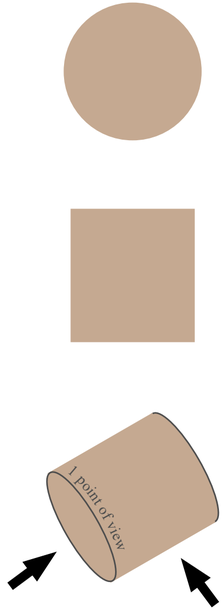
Right: Harkness Method
Fig 4.5: Mason, G (2014)

A university that removes us from society allows us the chance to analyse society. The architecture itself might actually need to function as that mechanism that ‘pulls us out’. If a symbiosis could be achieved between these two ideals, being completely inclusive and open to society as well as removing one from society then perhaps, this could be the ideal. Or would this create an escapist tendency and recreate that void between ‘town and gown’. To understand this one must first consider whether escapism if positive or negative, or both. Escapism is defined as The tendency a person has to escape from the real world to one of delight or security. (Psychology Dictionary). Does this merely adjust our perspective on society or does it reinforce our ideas garnered by the chance for self reflection?

Immanuel Kant was a German philosopher, often regarded as a prominent, if not central philosopher within the generation of modern philosophy. His most definitive work is based on the theory of perception which he defined in late 1781 in the Critique of Pure Reason. The theory itself was centred on the idea that our understanding of the world is not only effected by our experiences, but also priori concepts. It is perhaps unwise to simplify this theory to this extent, but under interpretation, this leads one to understand that, the effect one’s surrounds may have upon them leads to the manner in which they view those surroundings. From one angle an opportunity might potentially have positive consequences, while the reverse would lead to the opposite.

In this regard, we all tend to view our future, or indeed the future of our surroundings in a positive light, with a potential future, depending on the nature of our environment. If all we are confronted with is a stagnating ideal of a city and its perceived political past, very little hope and passion will be injected into our future. If we desired that the youth of our country would begin to see things positively, we need to provide them a new, unadulterated perspective of what ‘could be’.

One needs to acknowledge that young people have a different way of seeing things and interpreting things from adults. “A child is a being fundamentally different kind of human being with distinctive way of experiencing” Aldo van Eyrk (Lefaivre 1999:57). To acknowledge this, alternative methods of teaching and presenting knowledge need to be considered.



Above: **Perspective**
Fig 4.6: Authors Own (2017)

Right: **Lecturing**
Fig 4.7: Authors Own (2018)

“Tell me and I will forget; show me and I may remember; involve me and I’ll understand.”

Confuscious (n.d)

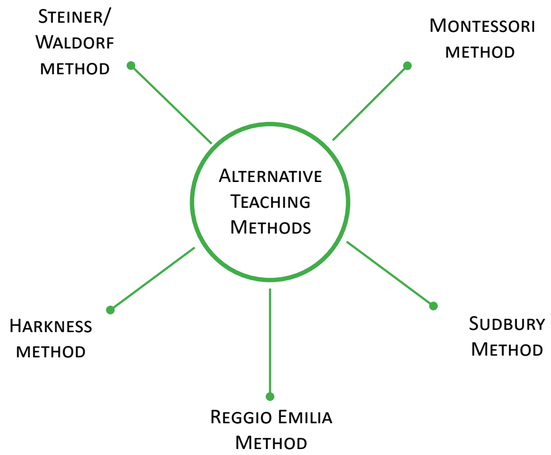


Escapism is possibly the most nonsensical view on education. No matter how appropriate it may be at comprehending communities. There is no education if one is secluded from their own world. Perhaps once education is complete it could be an option, but when odes anyone ever stop learning. Albert Einstein, the German-born theoretical physicist who shaped how we understand the world, stated, ‘The value of an education is not the learning of many facts but the training of the mind to think something that cannot be learned from textbooks’ (Frank,1947;185). We cannot treat education as a method to memorize facts which have often been dictated by others. The ability yo think and draw ones own conclusions is the most consequential quality.

Our current education teaches us to absorb facts and histories angled towards a Western ideal, preached to us from the front of a class in excess of forty students. The environment in which we learn is filled by an encouraged competitive state. With the Internet, these methods become virtually worthless. Information can be accessed in seconds depending on your networks connection.

This is clearly apparent in the rise of distance learning, a symptom rather than a cure to the lack of access to education. Education however can only come from two places; the classroom or the work place. If preparation before arriving in the workplace, that leaves the classroom/seminar room/studio/laboratory,library as spaces of education. Spaces where you are forced to create opinions and theories collectively through debate and gradual understanding. However, where access to these spaces is limited or improbable, or a persons circumstances limit their access distance learning is an option. But these circumstances of access need to be resolved.

The educators role becomes extremely vital in creating new and innovative spaces of learning. In history and fantasy, educators were given the title of ‘magicians’. The archetype of the magician ‘ teaches us about creation, about our capacity to bring into being what never was there before, about claiming our roles as co-creators of the universe.’ (Pearson, 1986). The most effective educator is a representation of their students, their students are not a representation of them. Their role is to guide and inspire innovation, employing new methods to mentor rather than harvest.



Sudbury Method

Unlike compulsory education curriculum, the this method gives students complete control of what they want to learn. In this scenario the student and the teacher are on almost equal ground when it comes to curriculum. Though primary applied to younger students, this method can be interpreted for tertiary education smoothly considering most tertiary students already select their field.

Montessori Method

This form was developed to encourage learning at each students natural progression. Students use the time, usually associated to lectures or classroom tutorials, to advance at their own pace under the observations of a teacher to assist when needed. The method has emphasis on the development of social and academic skills. Grading and examinations are also removed from the process, eliminating competition in a learning environment.

Steiner/Waldorf Method

Body, soul, and spirit are placed in importance, as equally as intellect and the acquisition of knowledge. This method aims to develop all aspects of a student. Training a student to live and practice what they learn is just as important as a curriculum which is set according to a 7 year period of human enhancement and progression. Though there are elements of this method which are noteworthy, it is aimed primarily at younger students as they develop.

Reggio Emilia Method

Another method primarily for children. The method focuses on creating an environment which students are completely comfortable within. Classrooms are designed to look and feel like home and the curriculum is flexible, as there are no set lesson plans. Art is also vital as a supplement to learning. The potential of students is key; teachers are there to facilitate and grow that potential rather than feeding knowledge.

Harkness Method

Perhaps one of the oldest teaching methods (similar to the Socratic Method) allows teaching to occur through discussion and healthy debate. Teaching often happens around a circular or oval table, allowing the students to have equal ground to the teacher who facilitates the discussion according to a specific topic. It allows for the cross-examination of thoughts and ideas to create a fully brain stormed idea and innovate collectively.



The school, situated in Tsakane; just fifteen minutes from Springs, was designed as a shelter for a school that introduces a new teaching environment for the region. The method pulls strains from the Harkness, Reggio Emilia and Sudbury teaching methods. The students education revolves around problem solving; a series of questions proposed by teachers, allowing students to work collectively and individually at finding a solution. Majority of the spaces are designed for adaption, but majority of the classrooms are designed to house a single, or multiple, circular tables, eliminating a hierarchy of knowledge and preference. According to the school:

- 'Every scholar has legitimate and valuable thoughts, ideas and emotions.
- With the right environment, guidance and tools, every person has within themselves the inherent potential for success.
- Teachers are researchers of learning; they are not dispensers of knowledge – they are researchers at heart, continually learning with and about their scholars.
- Learning occurs when people are challenged and are equipped with the instruments to come to the solution themselves.
- Learning occurs when people are challenged and are equipped with the instruments to come to the solution themselves.
- We learn best when we feel safe, confident and able to share our learning journey with others.' (Author Unknown, n.d.;1)






African School for Excellence

By Local Studio
High School
Founded in 2015



Above: Teaching Model
Fig 4.8: Authors Unknown (2017)

Left: Architects Photos
Fig 4.9-4.13: Chapman, T (2015)
Left: Seminar Teaching
Fig 4.14: Jones, S (2018)

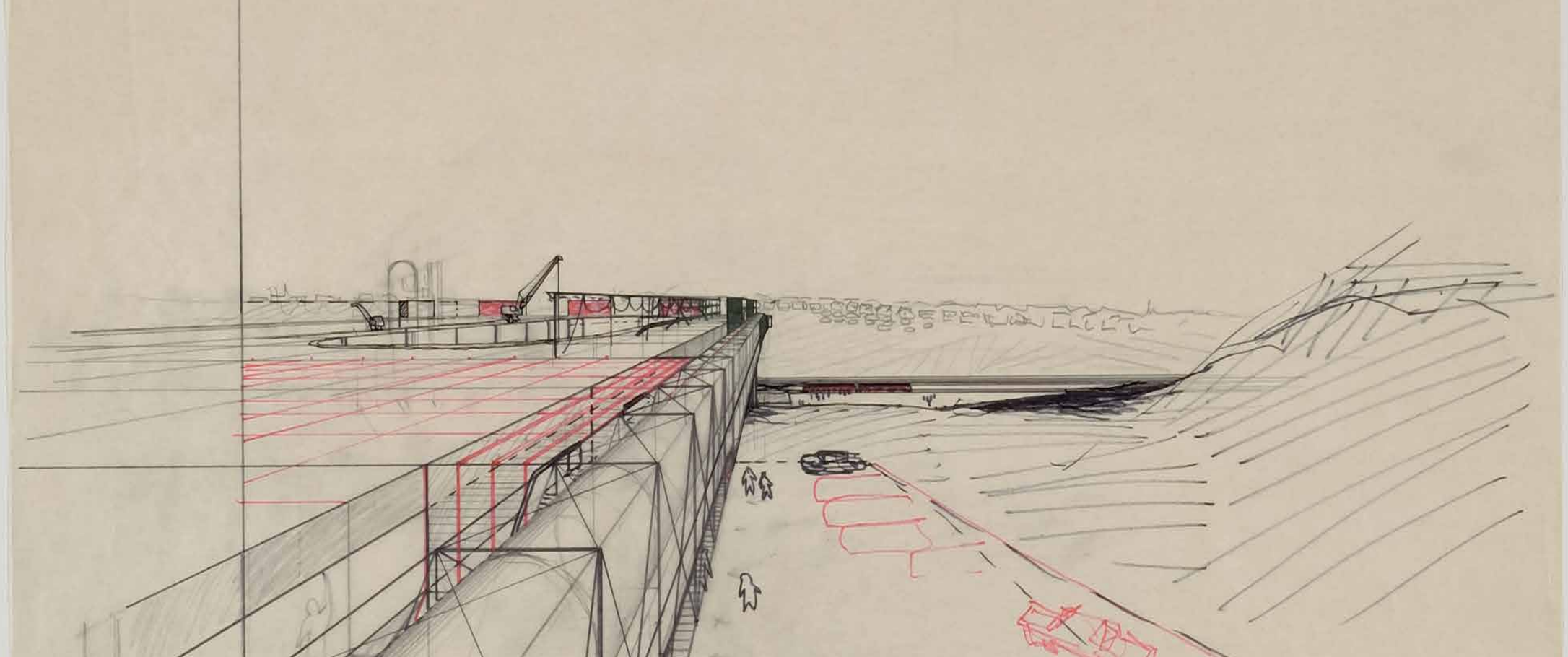


Quest University Canada

British Columbia
Founded in 2002
The university attempts to redefine what tertiary education is. The universities focus is purely on undergraduate students and only offers a single degree; a Bachelors of Arts & Science. What is unique however is the method in which a students selected focus within that degree is carried out.
A block plan was introduced for university. A block is made up of three and a half weeks and within that time students are completely immersed in one course. These blocks are also experienced in completely unique circumstances as the time in that block is purely devoted to one idea and one subject of learning. This gives students time to focus and learn without the distractions of other courses and other deadlines. These blocks are also tailored to a new way of teaching. Each block includes close interaction between the educator and the students collectively, employing the Harkness method by teaching in seminar style methods. These blocks also move out of the classroom; there are blocks of language immersion, experiential training and field studies, allowing the student to learn in the environment they are learning about. This frees up the creativity of educators and increases the amount of ***real*** educative opportunities for students.

Potteries think-belt

'Potteries Think-belt was Cedric Price's critique of the traditional university system. Situated in a decaying industrial landscape, rather than in the usual urban or rural site, the Think-belt occupied one hundred square meters of the once-vital Staffordshire Potteries. It was designed to be an infinitely expendable network, as opposed to a centralized campus, and to create a widespread community of learning while also promoting economic growth. The framework for the network was a hundred-year-old railway system no longer in use. Not only would it transport people between housing and learning areas, but the cars themselves would become mobile teaching units. Complete with inflatable lecture theaters, foldout desks, and information carrels, the units could be combined and transferred to various sites as needed.' (Cline & di Carlo, 2002; 58)



An architect can perceive and criticise how our city was built. We can notice the lack of cultural cohesion, social interaction and are mindful of the limited and uninspiring public spaces in our city. It is not always the citizen that notices this disparity. Marshall McLuhan spoke the words; “Whoever discovered water, it was not the fish.” (Buchanan, P ; 2012) It easy to liken the invisible effect architecture has on its fish-like users. It is our responsibility as architects to facilitate what Pallasmaa describes as an experience of reality, rather than allowing the schools of fish to swim by as the day before. “First, man looks to meet the main needs. In this case, we call it shelter. The second phase, when man has a possibility to provide his desires, in this case, the shelter turns to architecture, with a true reflection of the personality and desires and behaviour.” We have seen the evolution of shelter to structure in Johannesburg. We have seen how a unified architecture, citizen and city can create can be achieved.

“The quality of a built environment plays a major part in the quality of the lives of people who use them. And more so for those who use them on a regular basis. Obviously, the concept of well-being is largely dependent on the sensual perception of the individual.” (Trelcat,2001;78)

As architectural practitioners, we hate the theme parks which seem to predominantly be built in Johannesburg. ‘Fake’ architecture like Monte Casino, Gold Reef City and Melrose Arch, but they are here to fill the gap that was created when the authentic framework of Johannesburg was torn down. The demolition of the actual architectural heritage that evokes awe and nostalgia left a gap that needed to be filled. The more we ignore history, the more we will be confronted with a city we do not recognize as our own. Pallasmaa stated that its through transparency, overlayed juxtaposition that we can create a subtle yet changing sensation in spaces. This is a city. I in no way support the conservation of every building in our city. I recognise the need for change, but there is always a need for the layering of our histories and a layering and juxtaposition of space and identity.



“We are indebted to society and even though architects pretend the contrary we are products of and not a reason for society. At no time should we stop thinking of it, we should never fail to realize that the first responsibility of an architect is not to himself, nor to his profession: it is to his society”

Ricardo Legorreta (Attoe 127:1990)

Previous Page: Potteries Thinkbelt
Fig 4.15: Price, C (1966)
Left: Contemporary City for 3 million Inhabitants
Fig 4.16: Fahmy, M (2009)

Architects and critical thinkers, particularly within modernism, once thought that architecture could change the world. Some of the most famous architects in history have believed this to a fault in some cases. “Apparently Frank Lloyd Wright, believed that if we built in a certain way he ‘would save the US from corruption and turn people back to wholesome endeavours.’ Ebenezer Howard believed that corporations and companies would function more effectively if the workers lived in ‘village like garden communities.’ Le Corbusier even made claims that the Villa Savoye building in France would heal the sick, it almost did the opposite and apparently, he avoided court cases only thanks to the outbreak of WWII.” (Golembiewski, J ; 2014)

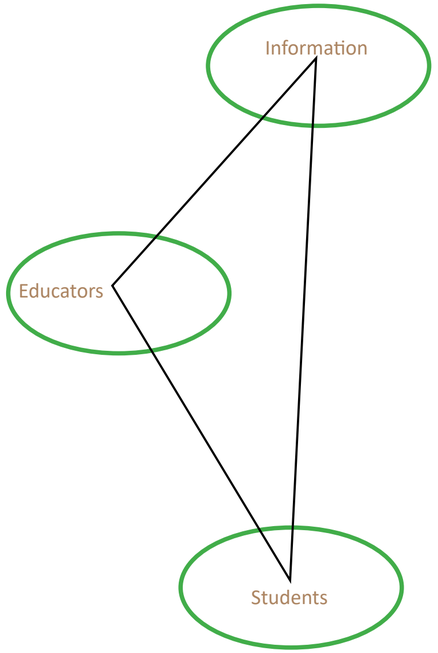
Something that every architect and perhaps designer needs to read is an article from the Architectural Review, “The Big Rethink: The Purposes of Architecture” by Peter Buchanan. It identifies what architecture has seemed to become rather than what it was established to be. A soulless re-imagining of a client’s dream rather than an intervention and addition to an urban or built environment of any kind set there to make an impact on people, a positive impact, to help heal a city, its people and its atmosphere even if it was not damaged. The article reminds us of the effect architecture could have. In particular, the article specifies that architecture and/or the lack thereof could actively re-engage a public through interaction between all. Likened to a religious missionary spreading his word to all, architecture has a fundamental goal in encouraging the interaction for all. Architecture is certainly not there as a solution, rather as a puzzle piece to that answer.

While reading “Building a better world: can architecture Shape behaviour?” By Jon Golembiewski I was introduced to the concept of what Maurice Broady coined Architectural Determinism. The theory that architecture can not only reshape the built environment, but also dramatically effect and change the lives of those who experience it. Not just by making them feel comfortable but even to change political, health related and psychological problems the concept was utterly destroyed through criticism of the work it seemed to produce. The fact that this theory has been abandoned is saddening. Prematurely, the theory that architects could save the world, was wiped from minds. Too soon perhaps. We know that architecture is there to adjust perceptions and we know that architecture can improve society.

“Most buildings are drawings which are filled in by engineers trying to achieve the drawing”

Piet Hein Eek
https://www.dezeen.com/2015/10/29/piet-hein-eek-designers-as-architects-buildings-drawings-interview-dutch-design-week-2015/

Can an architect work in a strange realm they do not understand? The future is in most cases is fiction, a strange world of unpredictability. Without a confined and practical approach, one cannot define how technology or culture, or the culture of technology, will alter how society functions and how we learn. It is not a confined practical project. In many cases it is based on speculation. There is however no way to avoid the fact that the effect of future innovations changing how we interact with architecture is imminent and needs consideration. Even the invention of the smart phone, something almost trivial to our generation has impacted the way we gain knowledge. Out of this new era has come the idea of distance learning. Even though the benefits of distance learning are clearly evident, it is more a symptom of the problem than a solution. It thrives in spaces by which there is the lack of access to education itself, whether hindered by distance, finances or the general lack of facilities. Distance learning does however ask the important question around the need of a University campus to learn. What is the value of a university campus when the majority of courses can now be delivered online? The answer is community. Students want and need to feel connected to their peers, to their academics and teachers, and to the place where they learn.



Education design of the future must have the needs of the student at its heart. In the campus of the future, the environment adapts to how students want to learn, libraries are the most popular social learning hubs on campus, and grassy lawns host impromptu study sessions. Students have everything they need to learn, study, relax and play, but most importantly, they feel they belong there. Designing spaces that are flexible and community-focused requires a multidisciplinary approach that considers teaching and learning models, the physical campus, future technology, and the students’ entire experience.

In an article by the Times Higher Education titles ‘Future perfect: what will universities look like in 2030?’, academics gave their views of what universities will look like within the next two decades after the effects of up and coming technologies:

1. “The pedagogic pendulum will swing back towards the lecture as the importance of an analytical mind becomes appreciated once more
2. Exams that emphasise mastery of taught knowledge will no longer be the primary tool for judging student performance.
3. Devices will replace academic faculty by 2030. The concept of individual campuses will slowly disappear. The two-semester pattern will be replaced by year-round learning
4. The real game changer will be viable measures of comparative student learning outcomes. These will lift teaching to a status closer to that enjoyed by research
5. Technology has found a place in universities, but nothing significant has changed.
6. In 15 years, we will have no one to teach. The professional jobs for which we prepare students will be done by intelligent machines” (Various Authors, 2017)



Left: Lost in the Dark
Fig 4.17: Author Unkown (n.d.)

What is Decolonised education?
This is not a concept restricted to South Africa. Decolonization has already been extensively narrated in a previous chapter, and forms of education touched upon above. But decolonized education requires a separate definition if the future of tertiary institutions in our country is under consideration.

A student of UCT explained; 'For decolonised education to be introduced, the existing system must be overthrown and the people it's supposed to serve must define it for themselves.' (Wingfield, 2017;1). According to Prof. Wingfield of UP; this is not an isolated opinion and results in a dangerous direction.

'Academics are trying to rid South Africa's universities of the procedures, values, norms, practices, thinking, beliefs and choices that mark anything non-European and not white as inferior.' (Mgqwashu, 2016;1). Prof. Mgqwashu of Rhodes University defines decolonized education as; it ' foregrounds African identities and world views. But this doesn't exempt it from critique. Universities need to keep encouraging critique and problematisation of what is considered to be knowledge and the processes involved in generating it. And a decolonised curriculum needs to exist in dialogue and contestation with the Greek, Arab and European worlds.' (Mgqwashu, 2016;1)

The system begins by acknowledging that not all knowledge from the West is superior to that of our country. Our country; not a race, a culture or a gender. We are a part of a global society, isolating our education isolate our achievements.

Ultimately, a decolonized university becomes such by what it teaches, not how it functions. Changes in curriculum will result in bringing the African identity to the classroom while allowing the foreknowledge of global education to form a base. A university is a space were the Socratic method of teaching through critique, discussion and debate are most applicable. It is at a university that questions can be brought forth to analyse Western knowledge. This will alter our mind sets, but may have very little change to the physical university.

The Process

Understanding the brief needed for a portion of a university that can facilitate change within a larger campus plan.

05



Brief

The University

- A state funded, liberal arts institution.
- A mixed multi-disciplinary university with no defined separation between departments.
- A University that combines distance and full time learning.
- A controlled access barrier for security which does not restrict a public audience.
- The design should constitute a portion of the university while considering the macro planning of the campus
- The core of the university needs to deal with a speculative corridor of African thinking, where it compulsory for all students to contribute from other faculties to create a diverse pedagogy.

The Continent

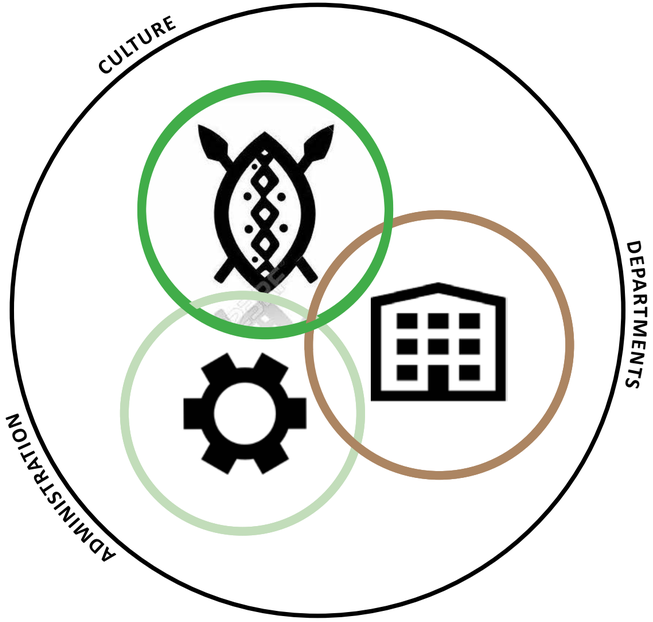
- Allow spaces to constitute a revised curriculum.
- Recognises where it is located and the history of the site.
- The university needs to remind us of all cultures and all histories.
- Do not completely disregard un-African teachings, rather finding a compromise.
- These functions need to form the speculative corridor.

The Town

- Insert finer lever of intervention creating an integrated program on an urban level.
- Reuses the infrastructure and vacant buildings already on the site.
- The scheme will compromise a broader scheme around the historic centre of Springs, but focus is given to Second Avenue as a supporting spine of the campus

The Idea

- Apply the Harkness teaching method to create inclusive curriculum with the facilities to service this method.
- Future technology needs to receive a place in the deign to allow for change.
- A semi-brutalist architectural style is to be used to highlight a blank slate and starting point.



Right: Collaborative Brief
Fig 5.1: Author Own (2018)

Schools

Astronomy
Astronomy is included to mirror the past and represent the African obsession with the stars before colonization, reconnecting us with our past. The future is by many accounts among the stars as well. Astronomy provides a perfect extraction from the norms of life, reminding all of their minute effect on the world, re-affirming a respect to nature and our surrounds.

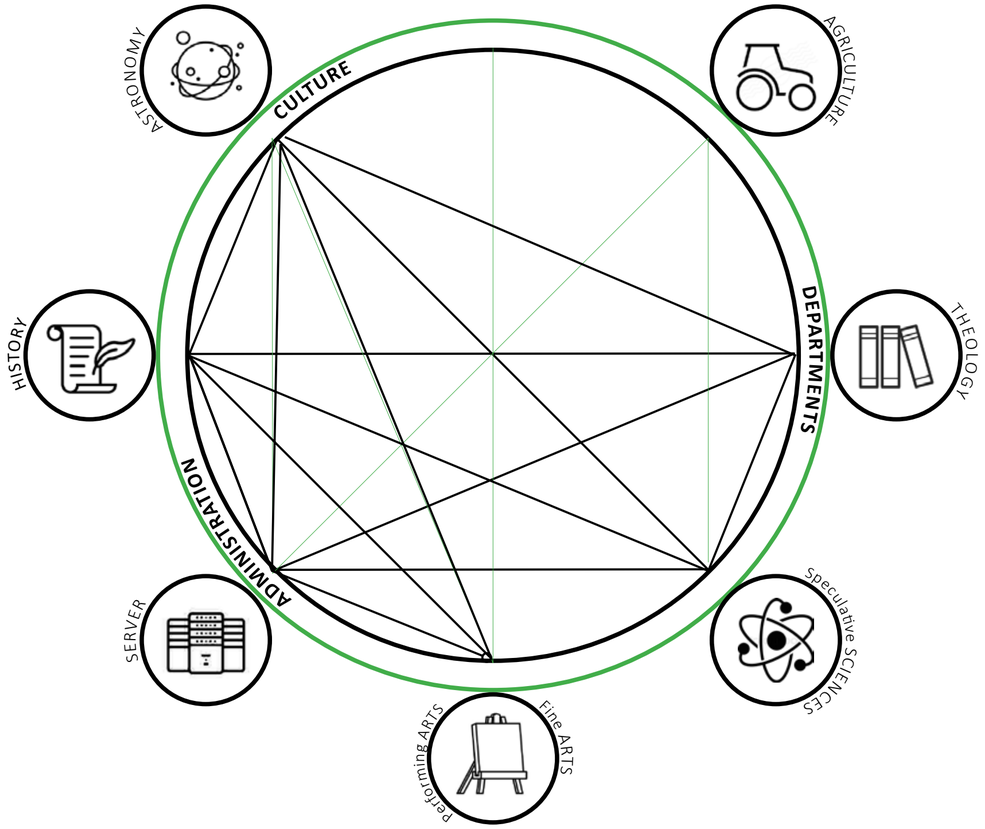
History
A key ideal to Afrocentrism is history. A key to acknowledging our identities are retaining our cultures is history. You cannot move forward without recognizing the past. It has the ability to change or perspectives and opinions and the need to avoid previous failures. It aids in the correct and true account of history, destroying speculation and the chance to be herded along in false political ideals.

Speculative Sciences
Science is reportedly a Western discipline. Speculative science questions the sciences by undertaking studies to approve or disprove its rules. This allows an African perspective to be included, allowing an easier understanding of the world around us. This stands the chance of re-affirming studies and proceeding beyond where they have stopped before.

Theology
A breaking point in many societies around the world, religion could stand to unite or further break down what we have. An understanding of the religions of the world is a study on the people of the world. It also allows a chance to clarify the religions of Southern Africa, commonly an unclear topic.

Administration
Already today universities are relying more on technology and the Internet to run their facilities of administration. Registrations, admissions, queries, correspondence and applications all occur Online, with many other departments make the transition as well. Even submitting assignments has been moved Online in some cases. Online courses and educational videos are also becoming the fore source of teaching.

Right: Interactive Schools
Fig 5.2: Authors Own (2018)



The Arts

Art is ingrained in African culture. It is the foundation of most cultures. The oral history of forebears, the art depicting our histories and the music defining our generations begins and ends in the realm of art. Without even considering the real life benefits of the study of art, which in turn is a study of history, the study of technology and the study of our existence, we are forced to acknowledge the importance of its role in life. There is no culture without the arts of music, fine arts, drama and dance. As a major form of study, or a supplementary study; the arts have many benefits.

'The following are findings reported in Champions of Change: The Impact of the Arts on Learning (Fiske, 1999) that should be noted by every parent, teacher, and administrator:

- The arts reach students not normally reached, in ways and methods not normally used. (This leads to better student attendance and lower dropout rates.)
- It changes the learning environment to one of discovery. (This often re-ignites the love of learning in students tired of just being fed facts.)
- Students connect with each other better. (This often results in fewer fights, greater understanding of diversity, and greater peer support.)
- The arts provide challenges to students of all levels. (Each student can find his/her own level from basic to gifted.
- Students learn to become sustained, self-directed learners. (The student does not just become an outlet for stored facts from direct instruction, but seeks to extend instruction to higher levels of proficiency.)
- The study of the fine arts positively impacts the learning of students of lower socioeconomic status as much or more than those of a higher socioeconomic status. (Twenty-one percent of students of low socioeconomic status who had studied music scored higher in math versus just eleven percent of those who had not. By the senior year, these figures grew to 33 percent and 16 percent, respectively, suggesting a cumulative value to music education.)' (Bryant,2016;68)



Dance

"The art of dance uses movement to communicate meaning about the human experience. It is far more than exercise or entertainment. It is a powerful medium to express one's values, thoughts, and aspirations about the lives we live and the world in which we live."
(Andeo, n.d:1)



Drama

"Dramatic Arts education is an important means of stimulating creativity in problem solving. It challenges our perceptions about the world. Dramatic exploration can provide students with an outlet for emotions, thoughts, and dreams that I might not otherwise have means to express. Drama also helps students develop tolerance and empathy."
(Jacobs,2018;1)



Fine Arts

"The arts not only enrich our lives, communities and culture, but they are vital to a child's education. A strong arts education promotes the skills needed to be successful. A growing body of studies presents compelling evidence connecting student learning in the arts to a wide array of academic and social benefits.
(Bush,n.d.;1)



Music

"Research has found that learning music facilitates learning other subjects and enhances skills that children inevitably use in other areas. "A music-rich experience for children of singing, listening and moving is really bringing a very serious benefit to children as they progress into more formal learning,"
(Brown,nd;1)

Springs

It is vital that this university becomes part of Springs. To achieve that it is important for the university to be the stage for the public, an example of learning and creativity. It is also important, however, to maintain security in the university. In this way the university and town need to open in terms of sight, but closed in terms of direct access. The ability needs to be mirrored on the town, allowing pedestrians who have just caught a glimpse of art being created, to turn and observe the town, giving a new perspective on their environment.

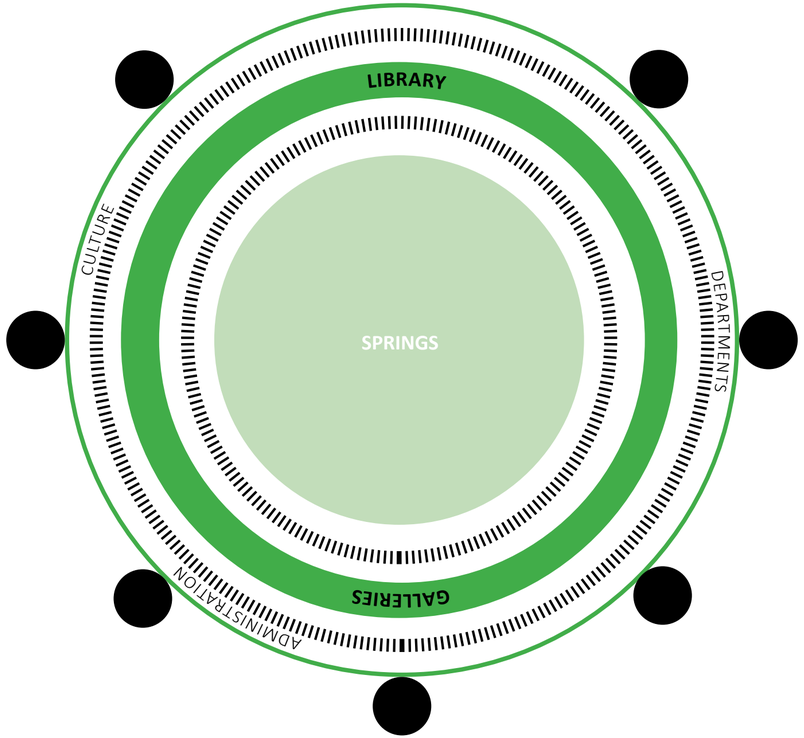
Libraries

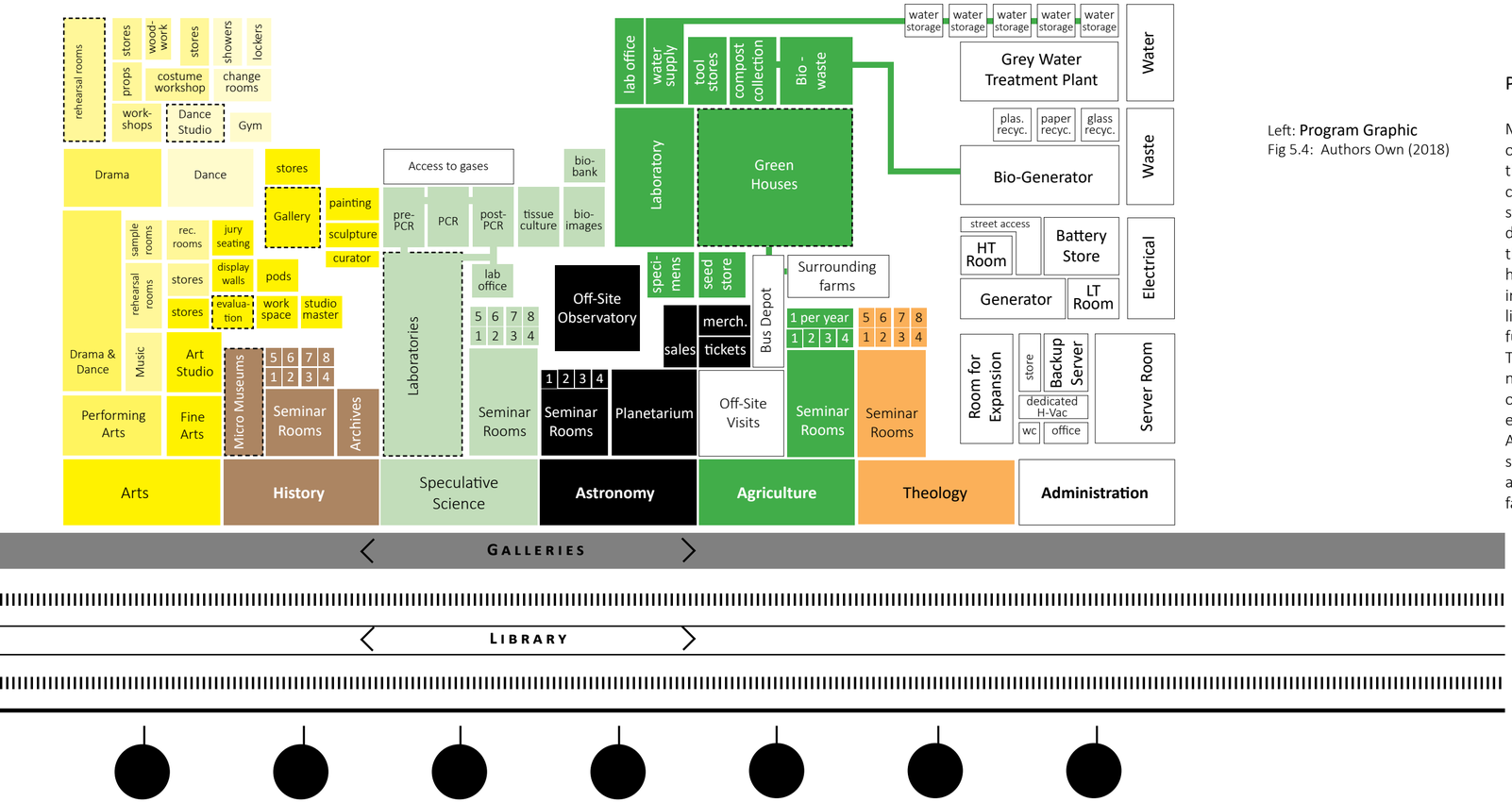
The libraries need to form bookends to the intervention as a library is the most pure sense of social capital as a means to advance themselves. Or they have the potential to be.
Libraries primary goal collect information and then to make it available to the community. The Internet can do the exact same thing. What makes a library any different?
Libraries have the capacity to create information. For example, academic libraries assist students in collating their research and making the output of their efforts available as a repository service to the public. Books are still a resource, no matter the capacity of the Internet, but provision needs to be made to allow libraries to embrace future technology. The University of Pretoria opened their own 'maker-space' in early 2015. These spaces assist users in creating their own information, recording their own histories and publicizing their research. These spaces aid users in uploading their own information on to the Internet. African libraries need to adopt this role of being partners in information creation. The colonized library gathered information, mostly from the Western world; and then made it available to locals. Our libraries today need to assist the locals to record their information and make it available to the world.

Galleries

Public galleries break the boundary of the university, creating space controlled by security personnel, but open to the public completely. They will act as a method to expose the public to art and history, mostly coming from the university itself. From these galleries one can view art studios, allowing the process and the fruits apparent. It is important to note that a gallery is not a Western ideal, it is a simple exposure of art and tradition within a defined space, an act performed throughout the world in different ways.

Right: Further Interaction
Fig 5.3: Authors Own (2018)

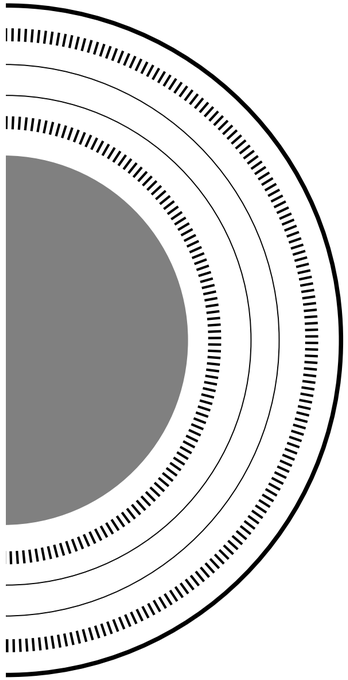


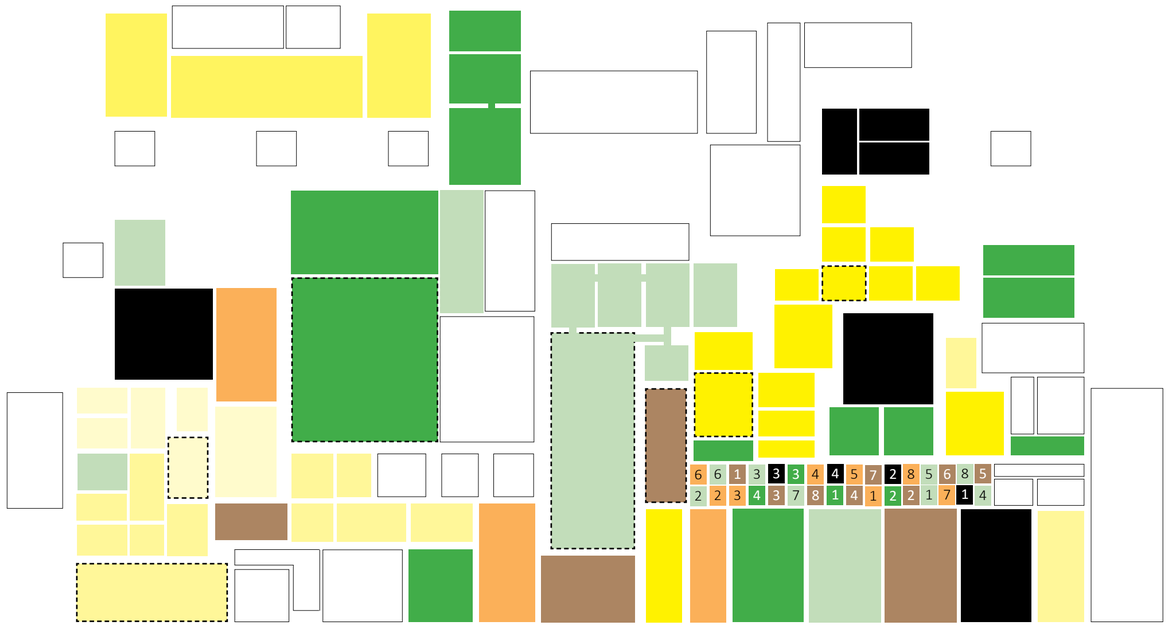


Left: **Program Graphic**
Fig 5.4: Authors Own (2018)

PROGRAM

Majority of the teaching or 'real' functions of the university will fall into a third layer of the planning. These functions need to be completely secure and only accessible to students, educators and staff. This will be done at central card access points. It is from these spaces that the university is operated, housing all the extra services required. It is important that these spaces be frugal, with little embellishment and clutter, fulfilling the function alone with no extra comforts.
The distinction between these departments needs to be further be further blurred to obtain a cohesive and integrated learning environment.
A number of the functions which require off-site program will most likely be housed across the rail line, or at neighboring farmlands for the agriculture school.



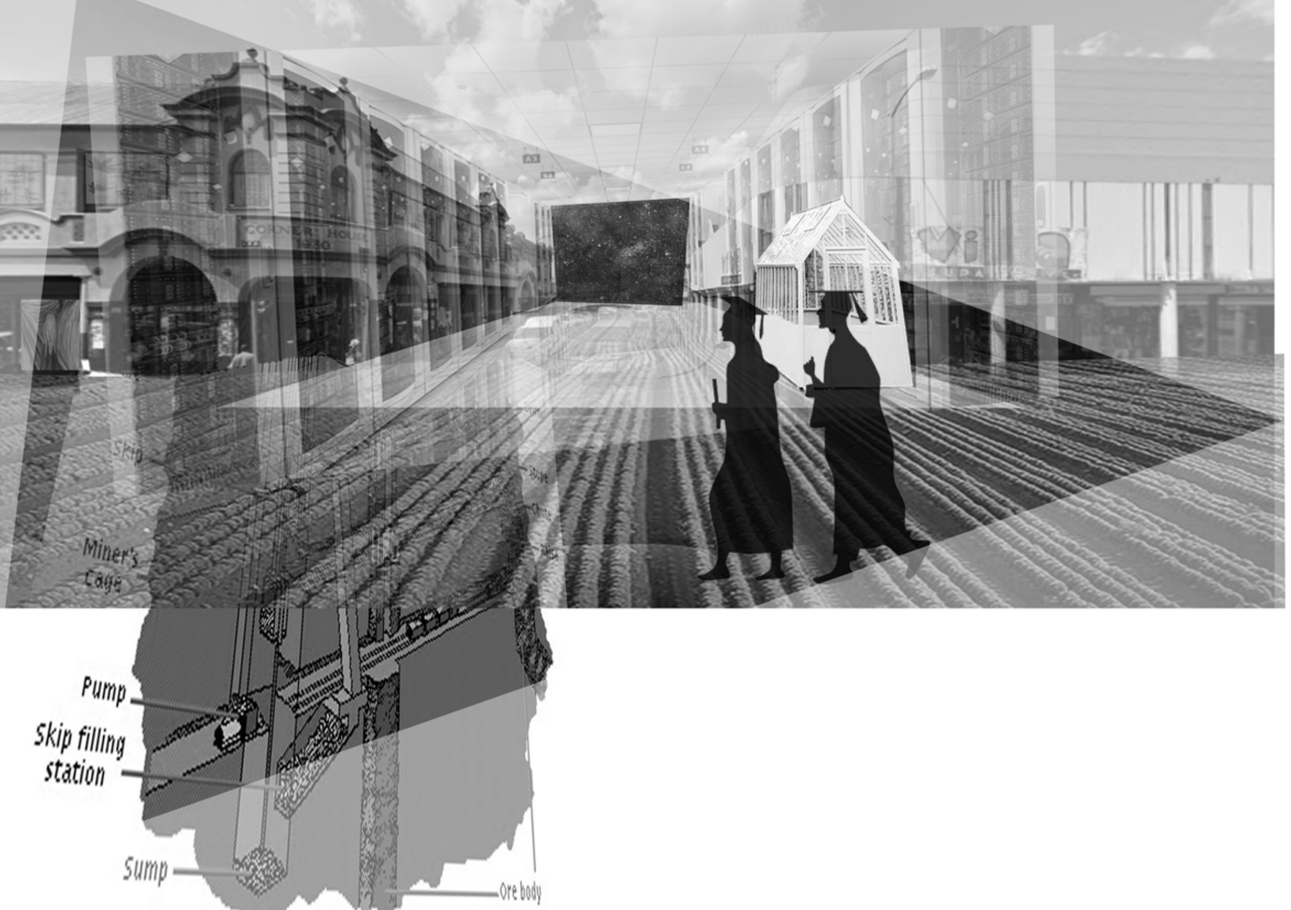


‘So what we need to do is make education into something that teaches people how to find, and then more importantly validate, information and then to combine that information in unique and creative ways that produce something of value to the individual and to society, and that requires moving beyond the 19th-century boundaries of disciplines.’

Dr David Helfand.

(Charbonneau, 2015;1)

I apply a similar design process to this university. The disciplines of separated techniques forces a student to study with figurative blinders, purely focused and a particular subject of study. With our ever increasing technological means, students can easily receive information at the speed of their internet connection.



Understanding Site through experimentation with it



Site Model | Silicon Cast over Site Model | Beginning to remove the cast | Further removing the cast | Subteranian-like spaces between cast and model | Messy Mould | Plaster mould

Understanding educative technology by dismantling it



Printing Press | Audio-Visual | Calculator | Computers | Smart Phones | Wifi

Helping Students Understand Existential Awareness



Infinity Mirrored Room | Mirror Loop | Obtaining a rectangular Loop | Prototype Star Viewer

Left: Program Collage
Fig 5.5: Authors Own (2018)

A variety of models were attempted out of a selection of materials. Paper, cardboard, putty, clay, plaster paris, polystyrene and timber were used. The models attempt to create a variety of geometric forms. The triangle was used considerably at the start as a representation of culture, learning and site. These were soon abandoned as they tended to dominate a space that would actually require a sense of subtlety and respect. Undulating shapes, as leviathans along the street began to form as abstractions of the triangles themselves, attempting to create an organic surface for the street space. These were abandoned for similar reasons, as well as the need for space when dealing with subtle landscapes.

Simpler models experimented with form bridging over one another, creating unique spaces below with a variety of materials combined. Little from the final project is adapted from these forms, however the process of ruling them out on a scaled site model made way for simpler, and better, solutions.

Below: Models
Fig 5.6: Authors Own (2018)





Further model explorations tended to involve the site and the macro planning involved in arranging the campus.

Program was also experimented on in the photo to the direct right. Polystyrene balls were each assigned a different discipline/department according to shape and colour. Each were then arranged at random in an attempt to mix disciplines and create cohesion amongst them.

To analyse the site, and how the site could be interpreted, a timber scaled model of the selected portion of town was completed. This would then be used to cast a silicone mold which would further be used to cast plaster of paris impressions of the town. Though the silicone mold did not work completely as desired in resulted in casts which poetically represent the 'ruined' aspect of vacancy in Springs.







Right & Next Page: More Models
Fig 5.7: Authors Own (2018)



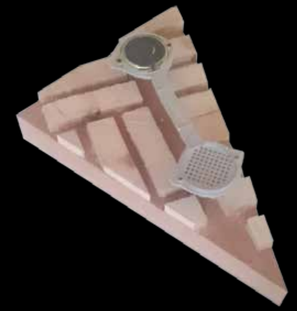
The original town and a cast of what that town has become.



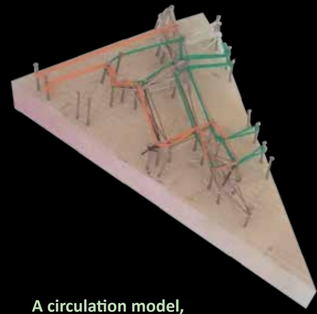
The silicone cast, representing the subterranean aspect of the town and how this can be displayed along 2nd Avenue.



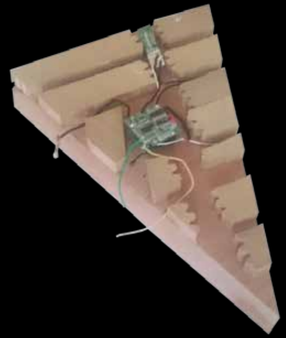




Speakers representing the 'loud spaces', the nodes in need of development.



A circulation model,
and how a technological frame-work can create a new circulation pattern.









Subterranean Building

As a way to retrace the function of the town's mining, building underground has always been a possibility for this building.
This also allowed for additional program to be inserted with little effect to the current urban environment, giving respect to the historic buildings around in the same way.
Building underground also limits the amount of energy being used as the ground naturally insulates the building. By building underground, especially in a street, services are ideally located to tap into and re-appropriate.

Additionally, building underground grants noise insulation for spaces that require a softer ambience and at the same time limits the noise the building emits.

All these combine to allow a building that creates a continuous urban and public landscape while creating additional program and services.

Top Left: **Smithsonian Campus Design**
Fig 5.8: BIG (2017)
Far Left: **Underground Forest**
Fig 5.10: CreatTAR (2017)
Far Left: **Excavated Chapel**
Fig 5.9: Vitalita Arquirectura (2015)

Right: **Inside a Model**
Fig 5.11: Authors Own (2018)

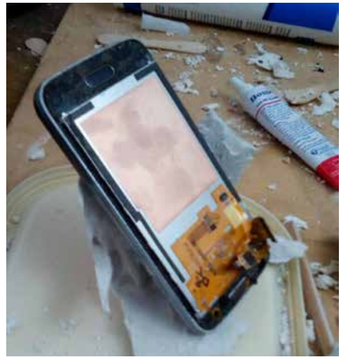












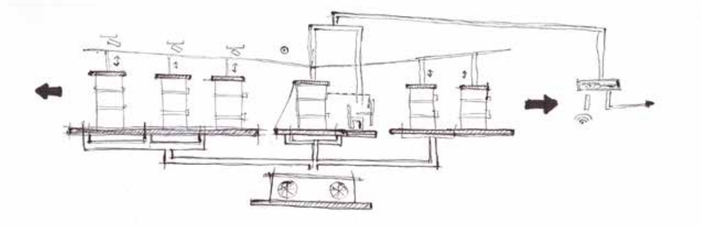
Technological Study

Over time, technology has adapted and progresses over time. Many of these technologies have attempted to revolutionise education. However, the way education is carried out is still relatively the same as it was a century ago, with the exception that teaching is carried out faster and smoother. On analysing each of these stages in the process it is also apparent here that not too much has changed, circuitry has just become finer and denser. The parallel between the way technology has changed and the way education has been changed is evidence to the close relation between the two. This also allowed the opportunity to understand how these work.

Right: Explorations
Fig 5.12: Authors Own (2018)

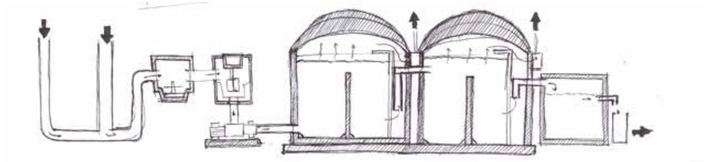
Adding Technology

To recognise this parallel, technology needs to play a role and the make up of the university. This is not only future technologies, but also innovations from the past which are beginning to be used more prominently in current times in terms of sustainability. It is one of the initial concepts of this intervention to have it as self-sufficient as possible. The intervention along a corridor, a spine, needs to serve as a central location to process/ to distribute services.



Server Room

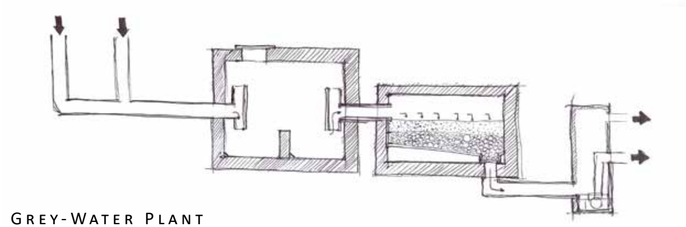
A central server is vital to adapt to the changing methods of acquiring information. The internet itself has become the new textbook. The central server would hold videos of lectures, university admin and a dedicated server for research. Server's such as ***Open University*** have been used as precedent as it is a predominantly online university. The server room requires space for the main server, a comms room, a redundant server for backups and space to expand. It requires its own independent air-con unit to assist with the amounts of heat generated. It is for this reason that the idea arose to place the server room underground, in a naturally insulated and regulated environment. The data would then travel beyond ground floor for general access along fibre optic cables.



Left: Bio-Digester
Fig 5.13: Authors Own (2018)

Bio-Gas Generator

This uses organic waste to generate a gas and fertiliser. The initial intervention will include a further version, but as the university grows, a larger one would be needed.
Organic waste enters the system, goes through a process of chopping and mixing and is then pumped to a fermentation tank. It is here that methane gas is generated from the fermentation process and is channelled to either a gas outlet or a gas generator. This is for the use of cooking or for power generation. Liquids are further channelled to tanks which can be used as completely natural fertiliser to be used by the agriculture school.



Left: Grey Water Plant
Fig 5.14: Authors Own (2018)

Grey-Water Plant

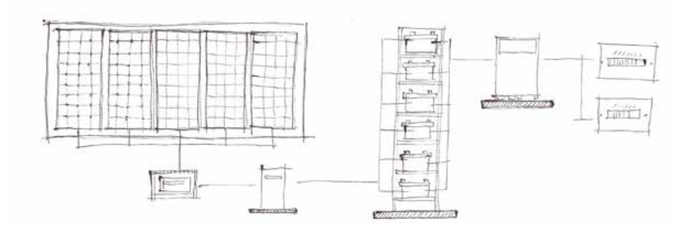
The plant needs to be centrally located to adopt the grey water from the intervention and the buildings surrounding the intervention. This water would then predominantly be used for landscaping placed around the intervention. Grey water is collected into the system, in this case firstly being filtered via a septic tank (due to the uncontrollable conditions of surrounding buildings) and then secondly through a sand filtration tank. Usually the water would then be directed to a tank and dispersed. However in this case I have included a small simulated wet land planter between the septic tank and sand filtration tank as a call out to the towns origins.



Right: Holograms
Fig 5.15: Sorokanich, B (2014)

Holographic

3D Holograms and virtual reality devices are perhaps the future of education, allowing students to become completely immersed in what they are studying from one location. The use of a hologram of a historic figure quoting their most famous quote as opposed to reading the quote on a projector screens has a lasting impression. Though considered as common science fiction elements, even smart-phones today have the ability to be used to generate amateur holograms. Soon it will be more than amateur. 'Richard Foggie, an expert at the Knowledge Transfer Network, says this could well be possible within the next five years thanks to the arrival of 5G mobile broadband networks. These will allow devices to handle much greater amounts of data at far higher speeds.' (Thomas, 2018;1)



Right: Solar Power Collection
Fig 5.16: Authors Own (2018)

Solar Power

The concept begins with the placement of a solar panel arrangement across the existing buildings surrounding the intervention. The collected energy is then processed through a charge controller. The energy then travels through an inverter and, in this case arrives at a level of battery storage. The extreme weight of the batteries, and their need for a cool environment prompts their inclusion on the lowest floor of the building with sufficient insulation, in this case underground. The power then travels through a converter to DB's.

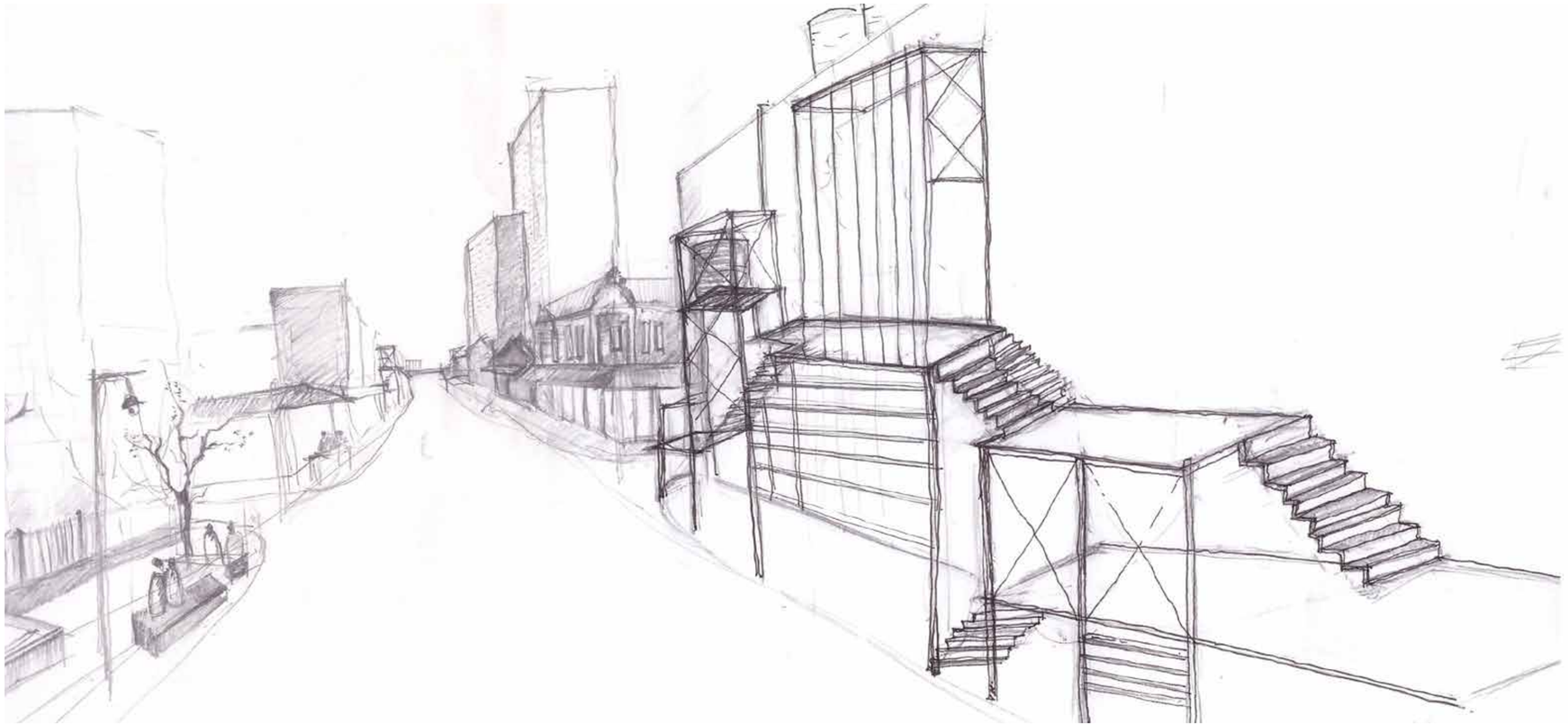
A Third Layer

A secondary layer, above the layer of intervention and landscaping is to be placed. This layer of structure is to juxtapose the natural aspects of the design completely. It will be constructed from framed steel walkways and service supports. This extra layer is to create another layer of privacy above the intervention which would mainly serve as a public to semi-public domain.

This structure is primarily a walk way, allowing students to have a connection to each building as the structure branches throughout. It is also intended to serve as a water storage system which would feed roof top gardens and the landscaping inserted into the design.

These structures will not obstruct the view of heritage building of significant value, choosing rather to bend the walkways and structure to internal ways. This further frames the façades of the heritage buildings.

Right: Another Layer
Fig 5.17: Authors Own (2016)





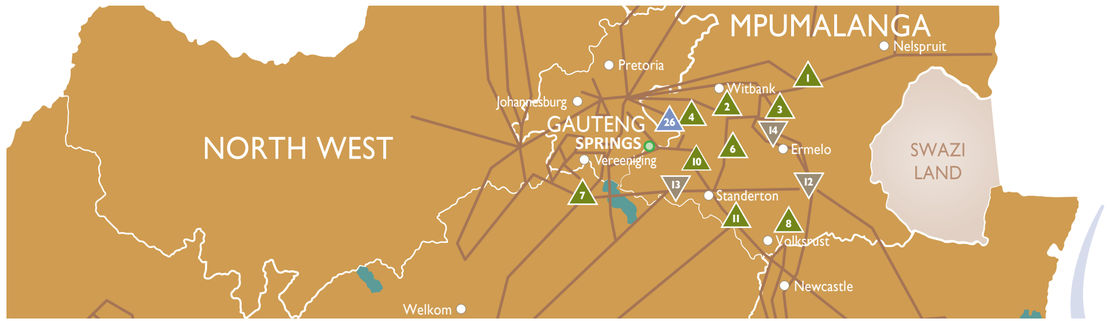
Above: **Fly Ash Brick**
Fig 5.18: Authors Own (2016)
Below: **Eskom Power Stations**
Fig 5.19: Author Unknown (n.d.)
Right: **Fly Ash Process**
Fig 5.20: Authors Own (2018)

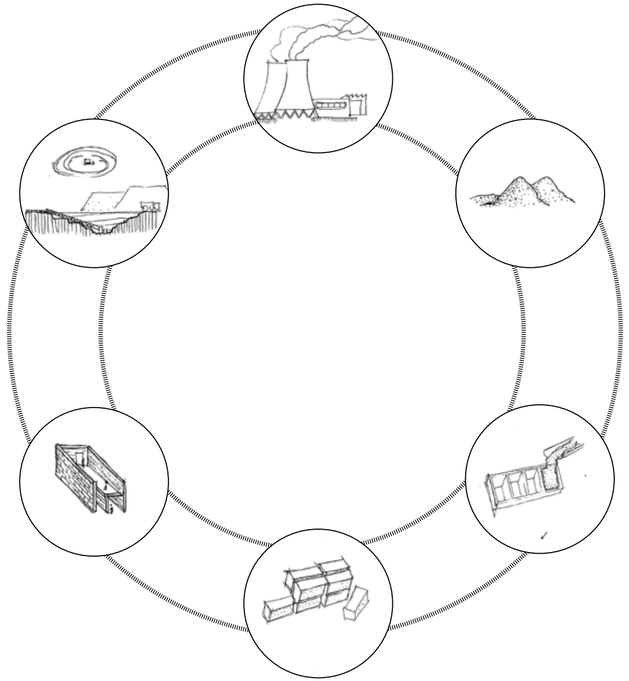
USING FLY ASH

Fly Ash is the output of coal fed power stations. The fine particles which remain after the coal has been burnt consist of mainly minerals, with particles of aluminium and silica. 'During the 2014/15 financial year, 119,2-million t of coal was consumed, producing 34,4-million t (28,9%) of ash. Only about 7% of the Eskom ash is sold from six of the 13 Eskom coal-fired power stations, compared to 50 to 60% in other countries.' (Rycroft,2017;1). Springs's proximity to majority of the countries coal-fed power stations makes the use of the ash viable. The history of Springs as a coal mining town, as well as it's apparent future, also give further incentive to use what remains of coal after its consumption. Fly Ash has a number of uses and benefits:

- Most well-known application of fly ash is as a brick-making and cement additive, sometimes comprising between 45% to 70% of the mixture.
- The improvement of poor quality agricultural land and the rehabilitation of mine land.
- Can be used to remove Acid Mine drainage contaminants from mine water.

In the intervention, concrete block infill will be used which use fly ash as a main component. Its a poetic gesture that a building which is meant to bring new life to a town which has been extracted and used, is built by something which is extracted and used, utilising what is left behind, rather than something new.

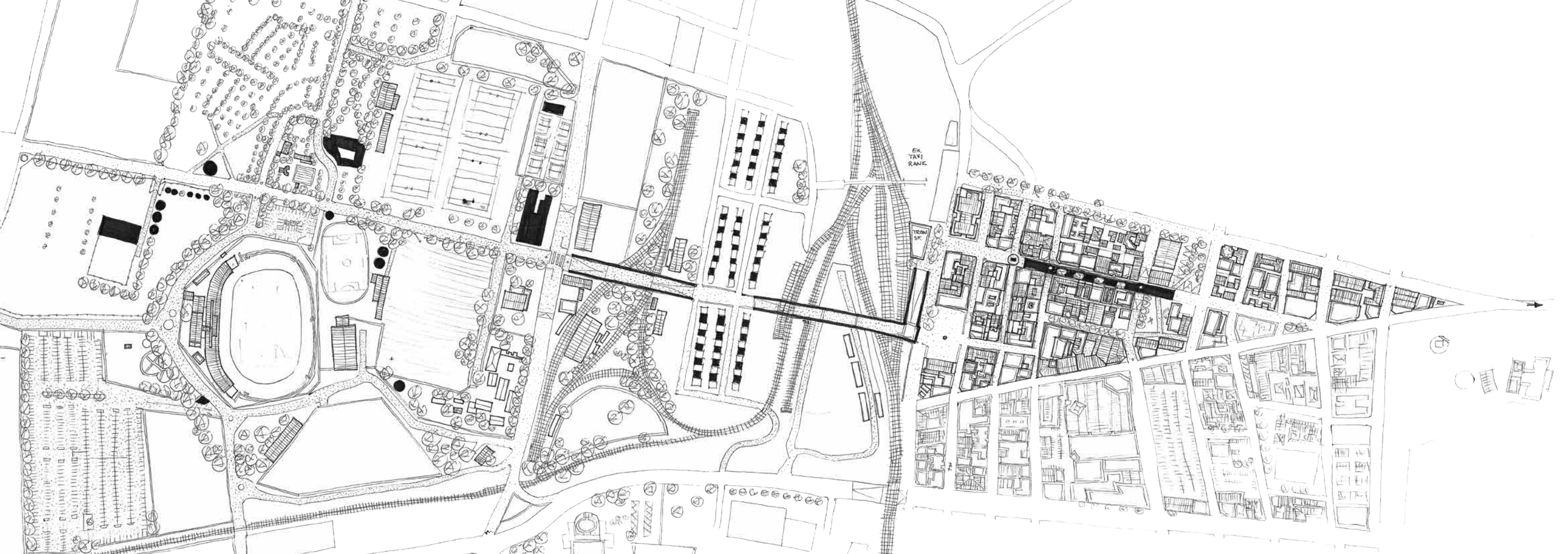




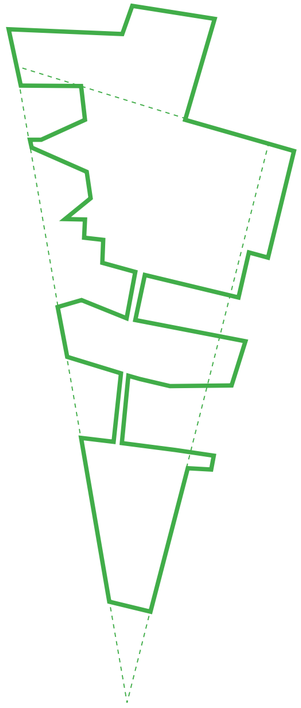
The Campus

The broad macro-planning of a university integrated into the existing fabric of Springs.

06


EX. TAXI RANK
TRAM STOP

Previous Page: **Campus Plan**
Fig 6.1: Authors Own (2018)
Right: **Analysis**
Fig 6.2: Authors Own (2018)



Edges

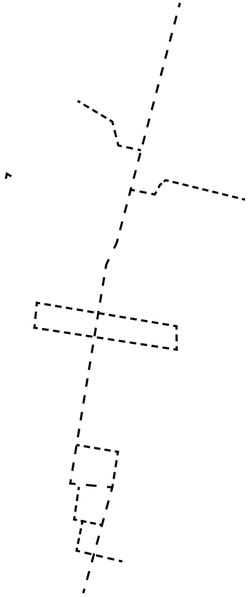
Public Spaces



Axes



Critical Building Facades



Pedestrian Movement

Entrances



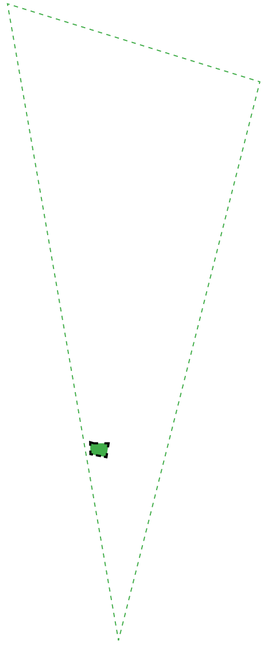




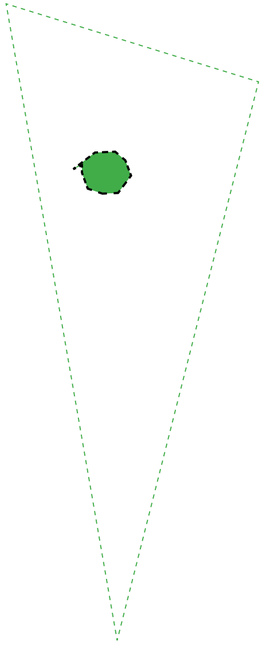
The Palladium

The Palladium was Springs's première venue. Today it literally stands as a carcass of structure, stripped of furniture and equipment. The theatre's primary use was as a grand cinema, but the stage was also used for music and cultural displays. The building is ideally located at the end of one of the proposed universities axis. If this building is restored to its former glory there would be no need for a new 'Great Hall'. This calls for an opportunity to restore a former icon of Springs while still fulfilling the functions of the university.

Left: The Palladium Montage
Fig 6.3: Author Unknown (n.d.)



Campus Plan



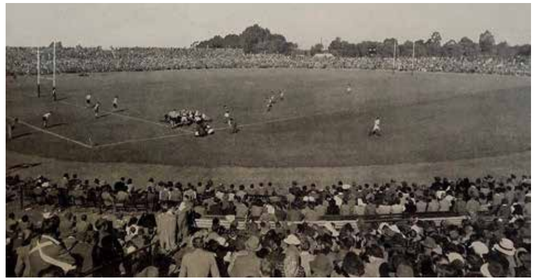
Campus Plan

Pam Brink Stadium

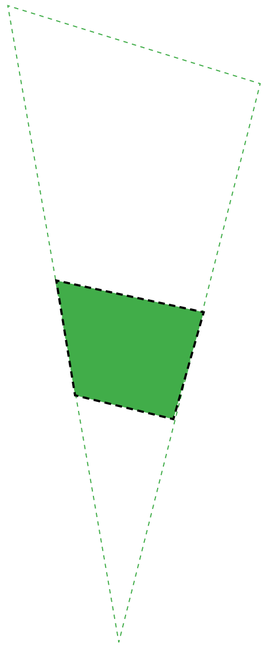
The stadium was named after a mayor of the town, witnessing international sports events, national wins and a fall into ruin. At the moment the stadium in possibly going to be demolished, as the costs to renovate the stadium have been estimated to be R30 million. The only change to the stadium in the last sixteen years is the change of its name to Jabulani Stadium.

The stadium and its surrounding facilities have the potential to fulfill the sporting needs of the university

Left: Pam Brink Then
Fig 6.4: Author Unkown (n.d.)
Bottom Left: Bam Prink Now
Fig 6.5: Author Unkown (2018)







Edges

Typical Rail Housing

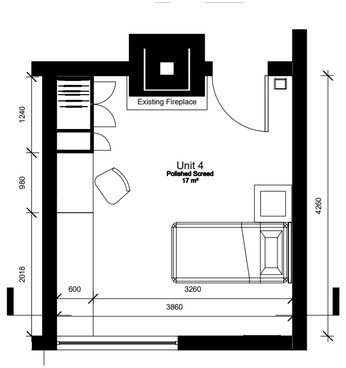
There is a common housing scheme throughout the Springs area which served as homes for rail and mine workers. I analysed three of these as prototypes of those found within the campus plan. These houses would be retrofitted to student and educator housing. However they sprawl across the site; meaning density will need to be increases by inserting in-fills between each to create pseudo-row housing.

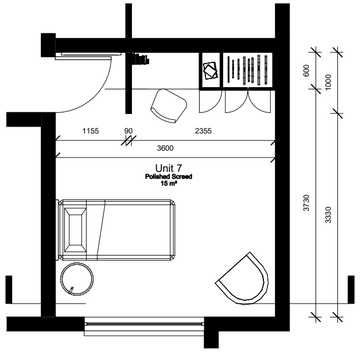


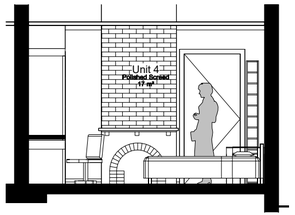
Right: Abandoned Interior
Fig 6.6: Authors own (2018)

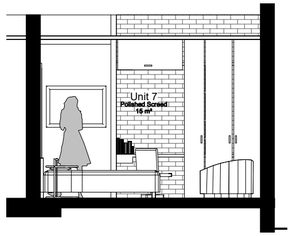


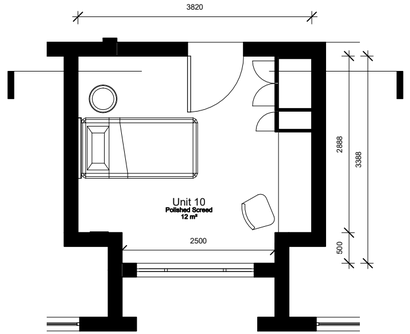


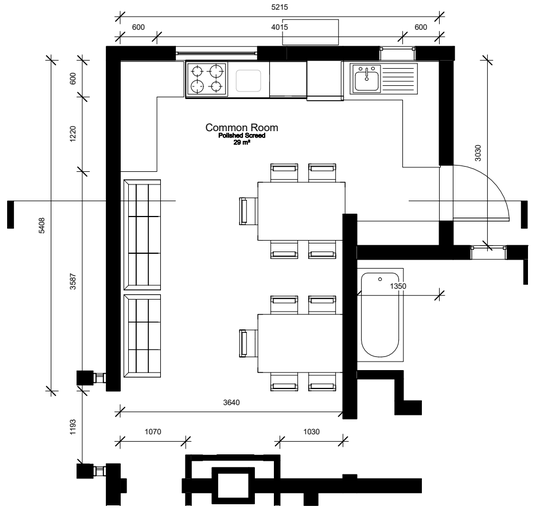

Existing Fireplace
Unit 4
Polished Screed
17 m²
1240
980
2018
600
3260
3860
4260

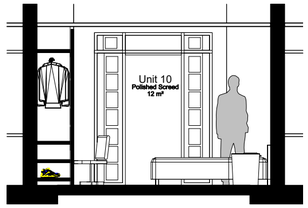

Unit 7
Polished Screed
15 m²
1155
90
2355
3600
600
1000
3730
3330


Unit 4
Polished Screed
17 m²


Unit 7
Polished Screed
15 m²


Unit 10
Polished Screed
12 m²
3820
2500
2888
3388
500


Common Room
Polished Screed
29 m²
5215
600
4015
600
600
1220
5408
3587
1163
3030
1350
3640
1070
1030


Unit 10
Polished Screed
12 m²



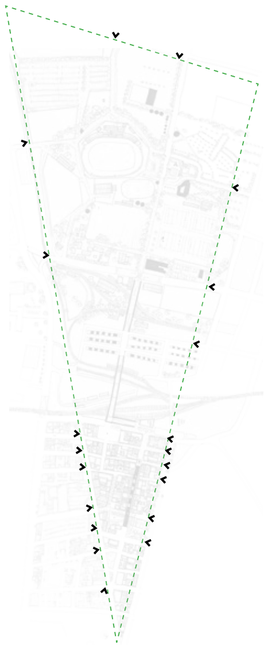
The entrances to the campus are located precisely as they were in the existing town plan. No new defined entrances are proposed, rather layers of security at finer detail.

Sporting facilities will be housed predominantly to the East of the site, using existing facilities.

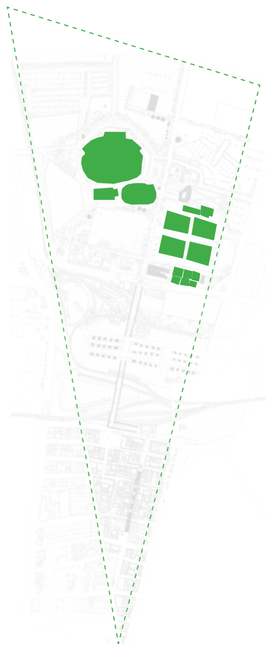
Residential components are located around existing buildings. The multi-storey apartment blocks in the historic triangle can serve a mixed density and use. Old rail housing, located centrally is to be densified as further student housing.

The campus also borders three secondary schools; Dr Johan Jurgens High School, Olympia Park and UICT.

Agricultural land, involving livestock and land cultivation, is located generously around Springs. Additional, unused land on the campus is also proposed to be converted for on site agricultural education



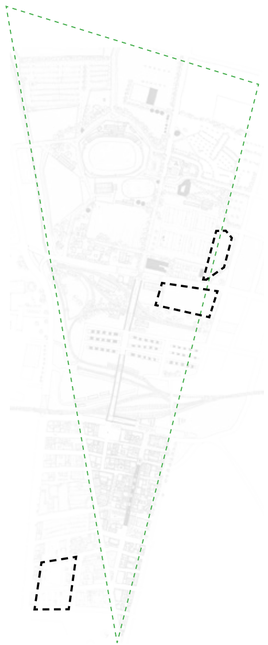
Entrances



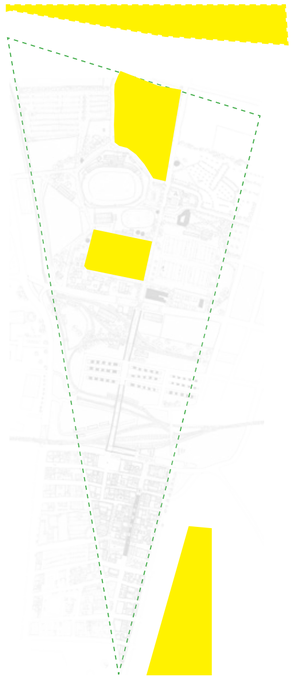
Sporting



Residential



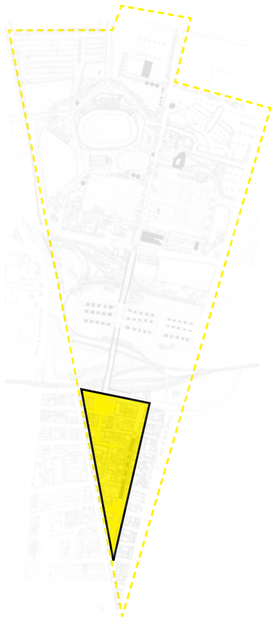
Education



Agriculture



Transport node



FOCUS Area



Pedestrianised Streets

Three of the major streets, as well as five less focal streets, will be pedestrianised. This will allow the focus to once again be on the user rather than the swift passer by. This also creates more public space on what would be cramped, vehicle heavy streets. The three predominant streets of Third and fourth Avenue and 2nd street will receive new names.

- Green indicates completely pedestrianised spaces
- Yellow represents partially pedestrianised streets with controlled vehicular access.



Above: Front Street Promenade
Fig 6.7: Author Unkown (2014)



1 Tshwete Street

- Named after Steve Tshwete
- Former national minister
- Born on the 12th of November 1938 in Springs
- Was a South African politician and activist with the African National Congress.
- Was imprisoned by the apartheid authorities on Robben Island from February 1964 to 1978

Above: **Steve Tshwete**
Fig 6.11: Newham, G (2013)



2 Gordimer Street

- Named after Nadine Gordimer
- Nobel Laureate for Literature
- Born on the 20th of November 1923 in Springs
- Dealt with the moral and racial issues surrounding the anti-apartheid movement.
- Notable works include; *The Conservationist, Burger's Daughter* and *July's People*

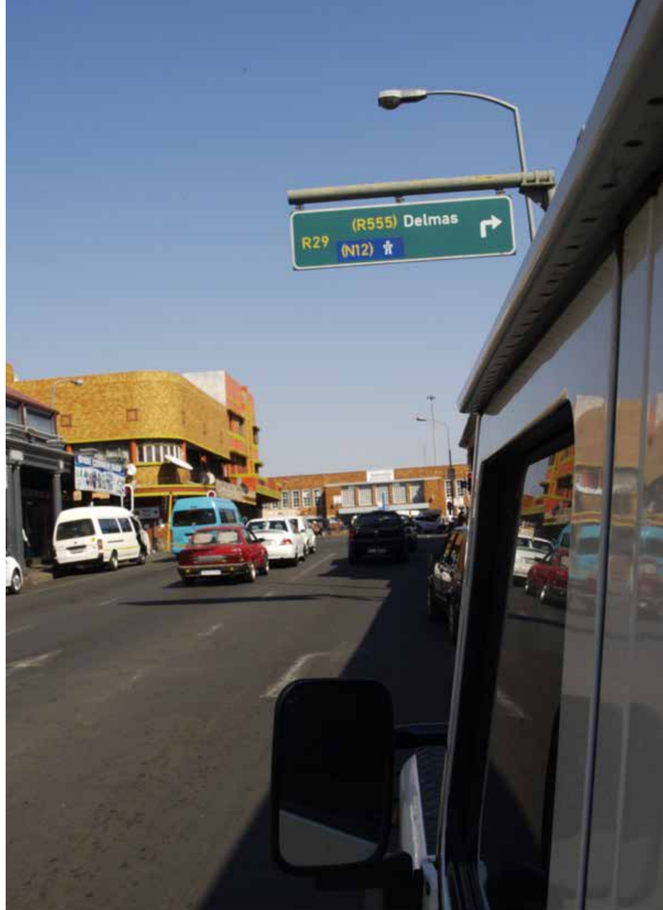
Above: **Nadine Gordimer**
Fig 6.10: Oberholzer, E (2015)



3 ubhejane Way

- Named after the South-central black rhinoceros
- Native to the High-veld
- Listed as critically endangered by the IUCN red list
- Symbol of culture, leadership, resilience and unity.
- Illegal poaching of the animal, stemmed from the overseas demand for rhino horn, has experienced a 90% drop in population.
- Rhinoceros translated in Zulu

Above: **Rhino**
Fig 6.9: Author Unkown (n.d)



Right: **Second Avenue Station**
Fig 6.8: Authors own (2018)

‘Personally, I’m drawn to what’s called the ecological university – a university that’s deeply networked to the society around it, makes its knowledge resources freely available, and engages actively to bring about a better world. I believe it’s inevitable. It’s coming.’
(Dewar,2018; 1)

Springs has the opportunity to create a fine grained interpretation of a university within its existing fabric.

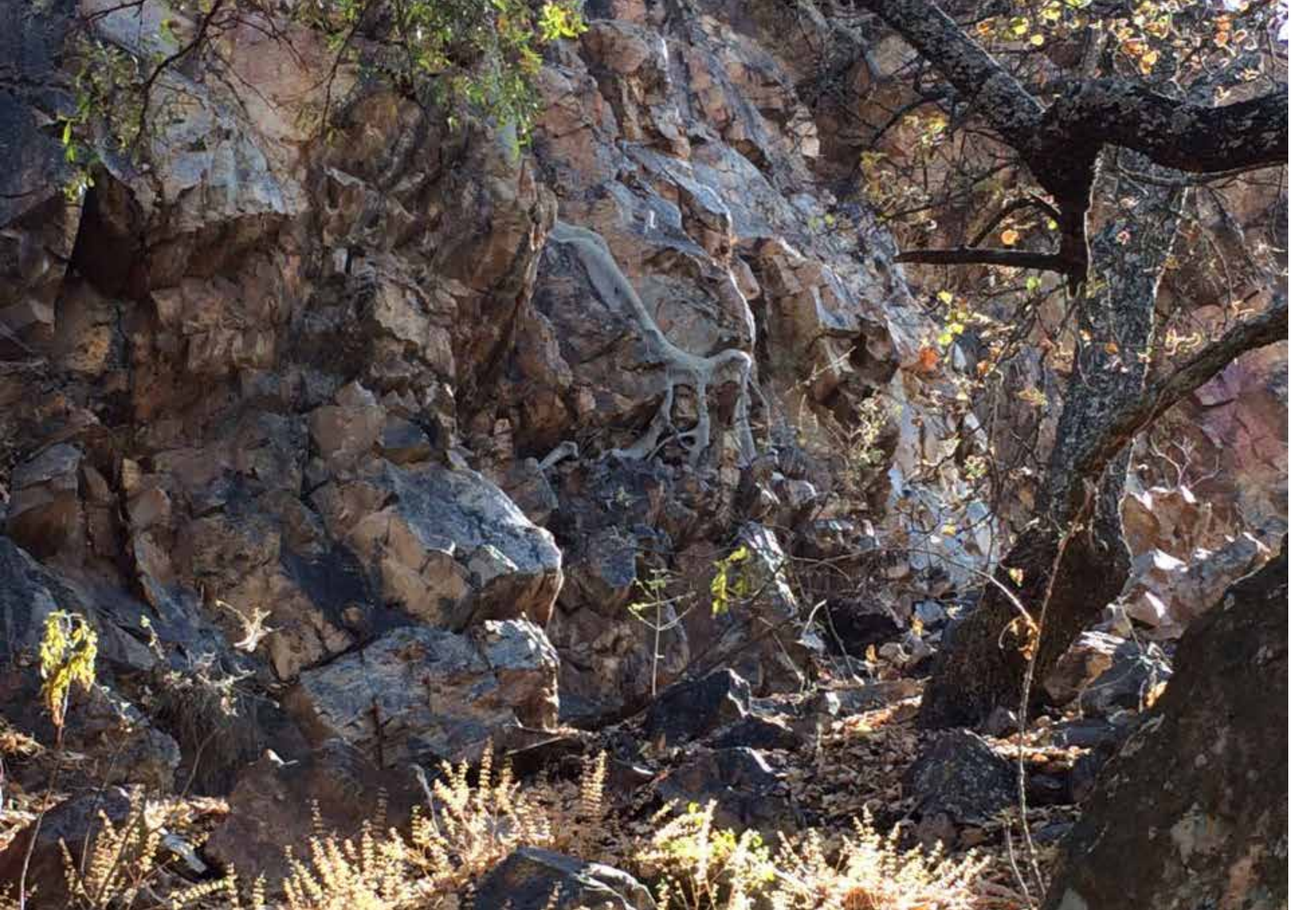


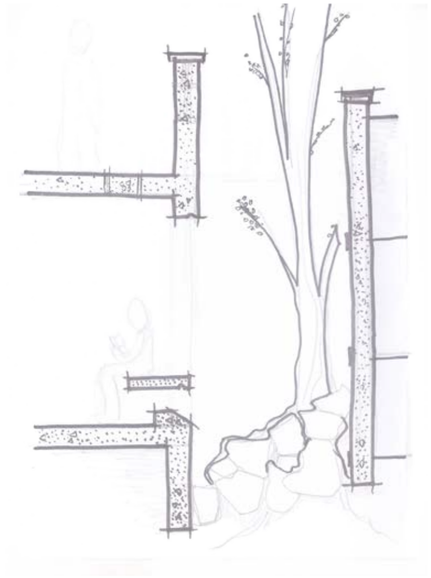


Identified Sites

The figure on the far left represents the possibility of how the university can spread through the focused site. The buildings selected are those which are either empty, heritage or residential buildings which would be suitable for mixed student-local housing.

The figure on the left indicates buildings that are directly used in the proposed intervention. Their location along the southern edge of 2nd Avenue and along a proposed university spine, as well as their current use, makes them applicable to the intervention.





Left: Tree at Walter Sisulu
Fig 6.12: Authors own (2018)
Left: Tree Intervention
Fig 6.13: Authors own (2018)

Adding Landscaping

It is extremely important, at least to me, to add a green fabric to what has become a concrete town of man made shade and a dry, unwelcoming spaces. This is a condition which in no way is reminiscent of the name- Springs. Safe spaces, or comfortable space, seemed to be directly in relation to the green space already found in the town.

It is my desire to incorporate a foreground of nature to shroud the intervention against a backdrop of existing built context. The possibility of hiding the intervention in a green blanket of planting give the effect of watching the building age and adjust as seasons go by.

Planting is selected primarily on its indigenous nature. Secondly they had to have evidence of traditional use. Thirdly they needed to be capable of growing above five metres, allowing landscaping to be trimmed below the 2.1m mark to ensure safety principles. Lastly the planting is selected on aesthetics and poetic narrative of its growing, its history and the way it is spread across the continent.

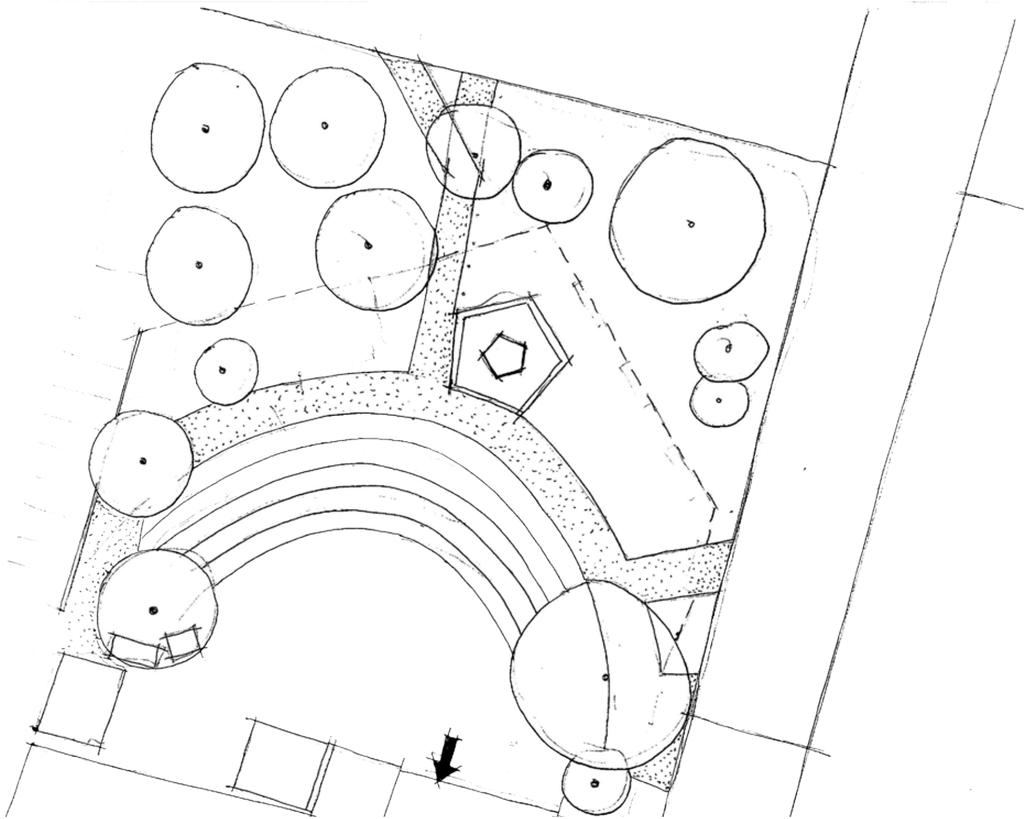


Existing Park

The park is located in the ‘back yard of the Little Theatre. The park area has been walled off from the public since it was created. It houses two sculptural art pieces and a shallow, grass-step amphitheatre facing the Little Theatre. This spaces is generally unused apart from a play pen for children of visiting schools on the rare occasion.

The wall is to be removed and the park made a public feature which looks on to the site of the intervention. This has the potential to form an augmented quadrangle of the typical university.







Ficus Cordata

- Semi-deciduous
- 5-15m Tall
- yellow or red fig fruits
- Indigenous
- Adapted to hugging rock faces and splitting rocks
- Bark decoctions are taken by men as a strengthening tonic and decoctions prepared from the leaves are used in promoting fertility

Below: **Scolopia Mundi**
Fig 6.14: Mucaro, E (2018)



Scolopia Mundi

- Evergreen
- 10-35m Tall
- Yellow to orange fruits
- Indigenous
- Tolerant of high or low light conditions and temperatures
- The Zulu name for the tree umdwenwelwengcuba pertaining to medicine used in the treatment of heart problems

Below: **Prunus Africana**
Fig 6.15: Nonjinge, S (2006)



Prunus Africana

- Evergreen
- 10-20m Tall
- Small white scented flowers.
- Indigenous
- Red Listed (threatened species)
- Bark of the tree is used in traditional medicines to aid in the treatment of chest pain and prostate hypertrophy. It also reputedly holds magical properties

Below: **String of Pearls**
Fig 6.16: Foster, N (2018)



Senocio rowleyanus

- String of Pearls
- Spherical leaves are strung on a thin stem just like the beads of a necklace
- Small white flowers smell like cinnamon
- Red Listed (threatened species)
- Able to form a dense hanging curtain with adbentitious roots.
- To be used for planters above ground floor.

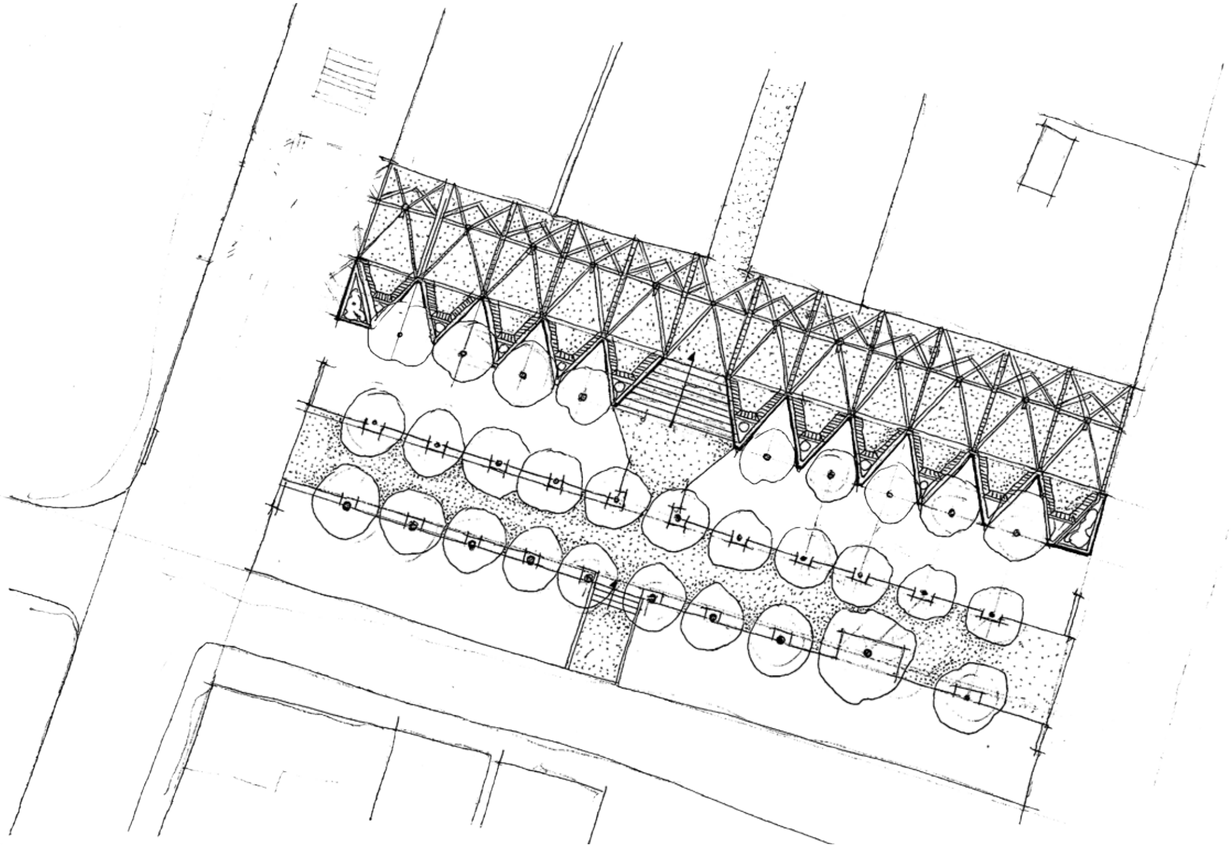


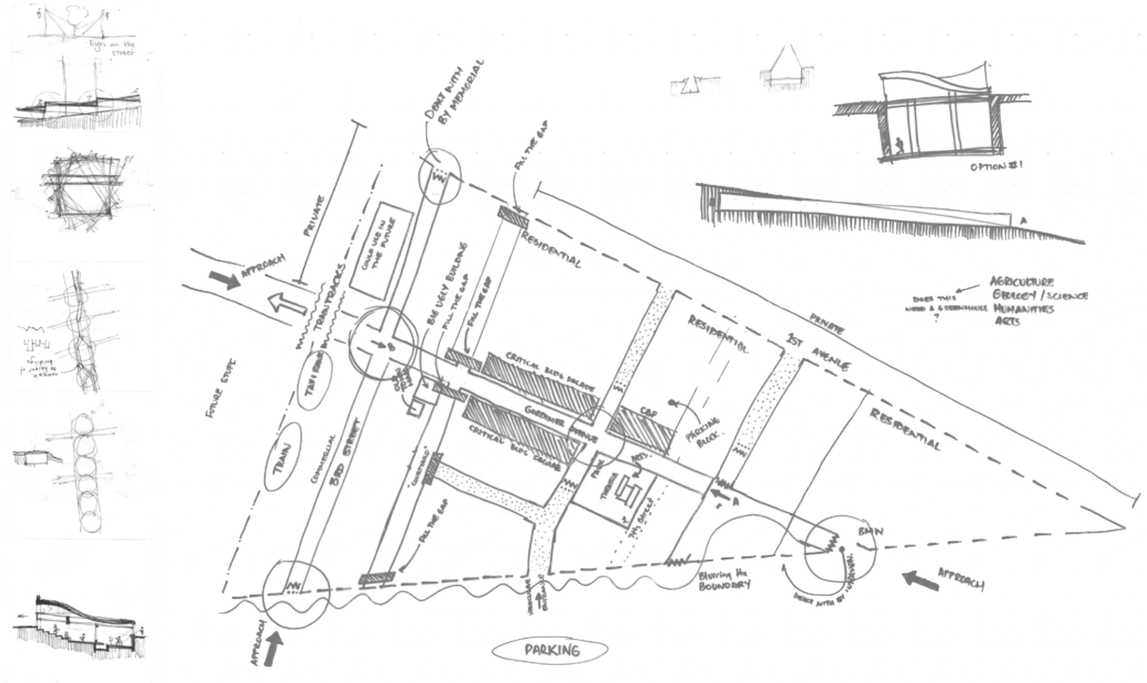
Proposed Park

A new park is to be located at the Eastern edge of the site, reclaiming what is now a paved, underused parking lot which is meant to service the surrounding shops and the Little Theatre. Majority of the parking is fenced off with palisades. The new proposal aims to create a public space out of wasted space. Trees and landscaping are picked according to their indigenous status, apart from the introduction of the sycamore fig, placed over the site of a demolished a Jewish synagogue. The sycamore fig is a native of Israel. The triangle is used once again to reference culture.

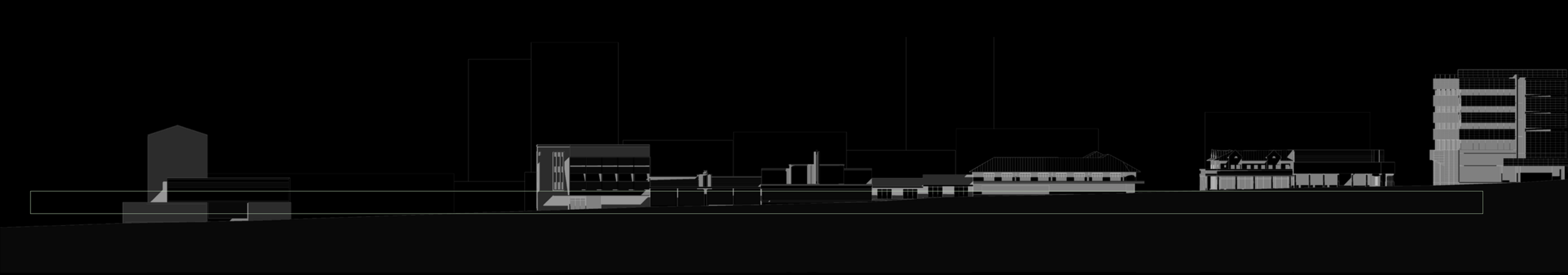
The park is designed as a quieter space of study, a transition between the library and the residences.

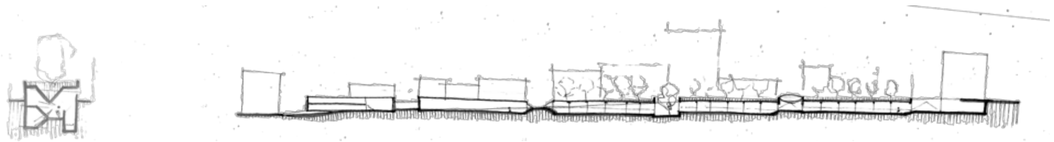


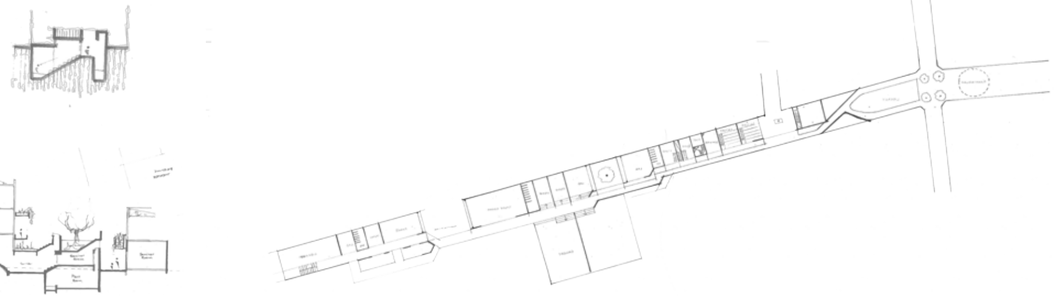


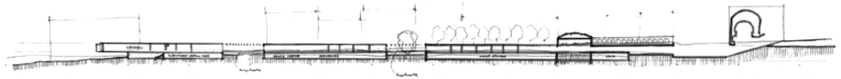

Eyes on the street
Private
Approach
Train
Commercial
Bird Street
Fence Shape
Train Tracks
Connect to the Future
Connect with Memorial
Fill the Gap
Residential
Old Ugly Building
Critical Mass Building
Greenhouse
Critical Mass Garden
Pedestrian Bridge
CBD
Trains
Bus Station
Option #1
A
Does this need a greenhouse?
Agriculture
Biology / Science
Humanities
Arts
1st Avenue
Recreational
Bikes
Blurring the Boundary
Parking

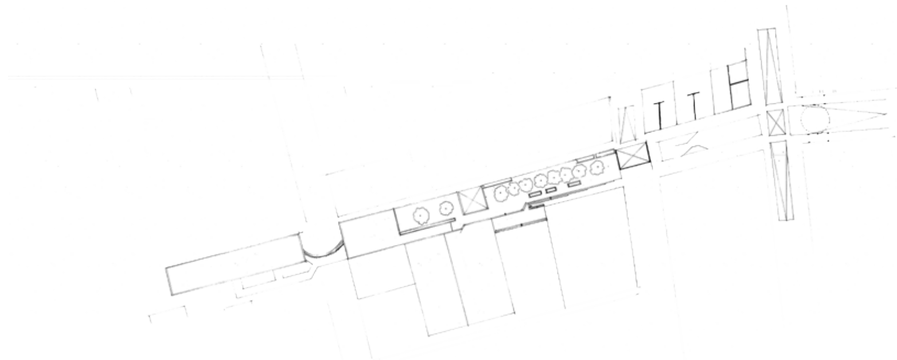

Livestock
Farming
Drought
Flooding

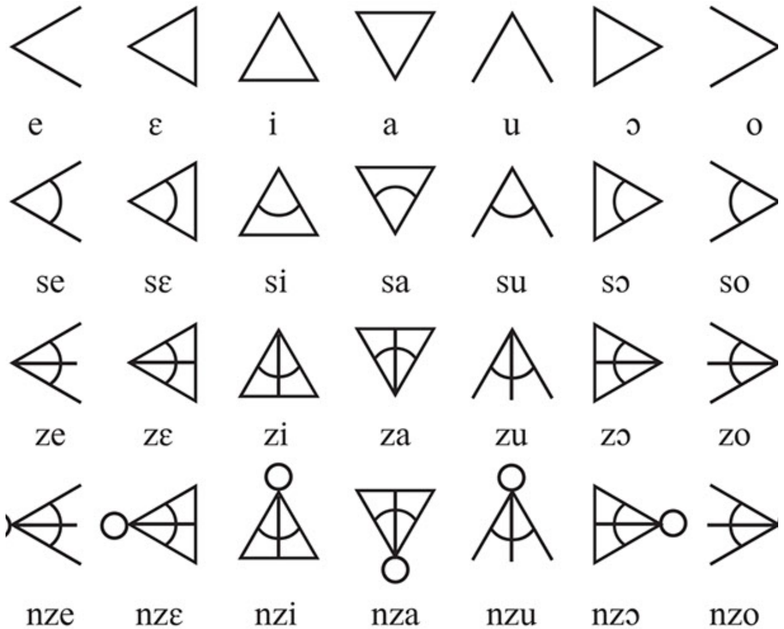










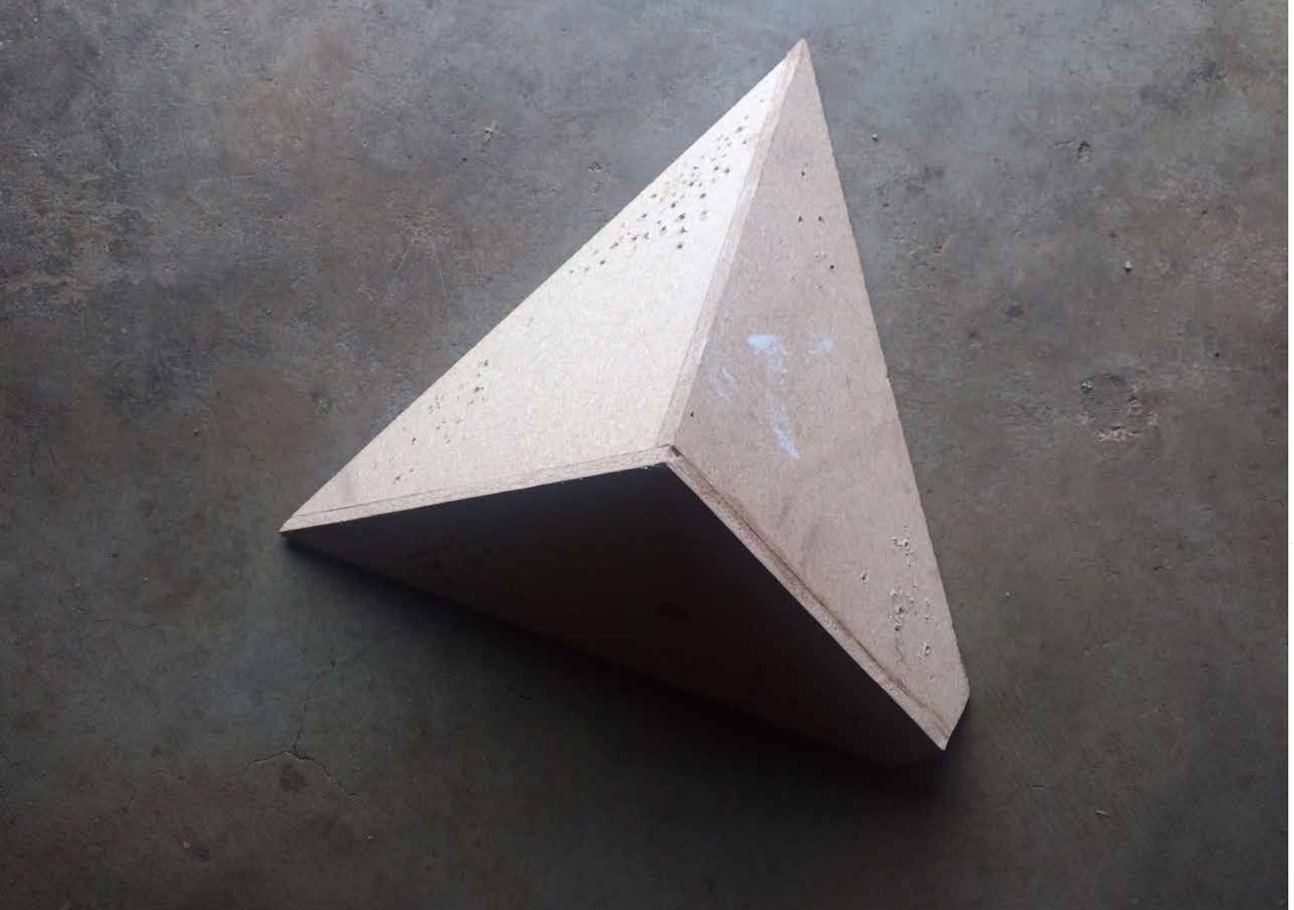


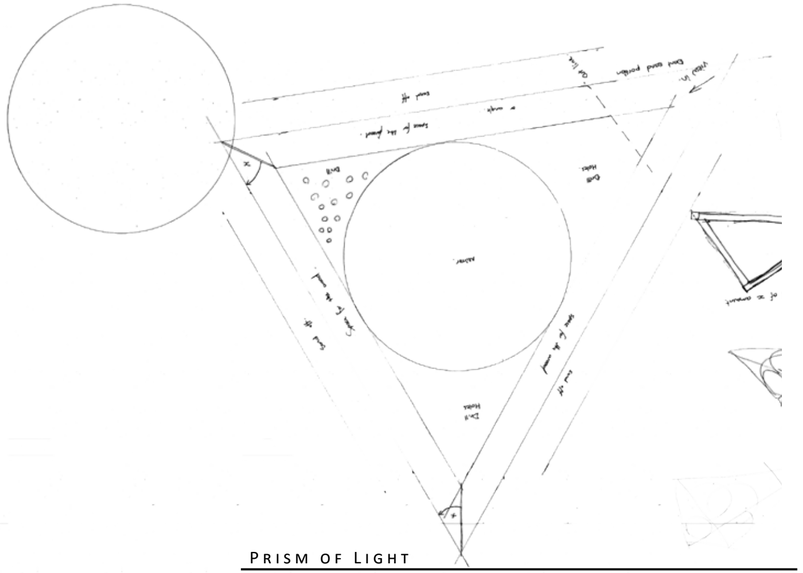
Importance of the Triangle

The geometry of the triangle is mundanely apparent in the site selection of Springs. As a sliver of left over land between three bordering farms met, they created three edges to create what you see in the clear layout of the town. The triangle also holds cultural significance. The shape adorns, in colourful hues, many South African patterns. 'Chequerboard black and white triangles, or squares, represent the separation of knowledge and ignorance. White represents the beginning of process of learning and black, the accumulation of wisdom.' (Evans, 2017,1) The shape also forms the basis of the isiBheqe Sohlamvu script which is an indigenous writing system that could soon become recognised officially in South Africa.



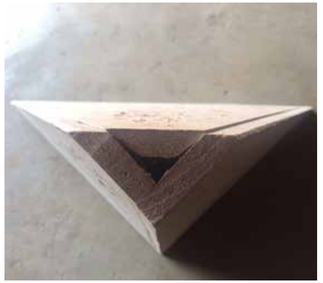
Above: Ndebele Concept
Fig 6.17: Mahlangu, E (2010)
Left: Traditional Font
Fig 6.18: Van Niekerk, G (2016)





Prism of Light

This model was designed as an experimental space where one could ‘float in space’. The design comprises a rectangular prism made out of timber. Each surface has a circular mirror placed at its centre; and surrounded by drilled holes to allow light in. The concept is to then allow the light to bounce off each surface, creating the effect of stars inside, while not allowing the chance to reflect your own eye through the eye hole. The light bounces off each surface, creating a mirrored infinity. Or that was the concept



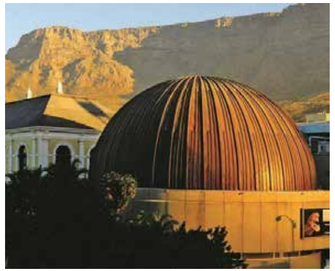
The traditional Tswana shared the fascination with the heavens, believing the stars to be holes in a rocky vault that is the sky, and they tracked these stars to foretell the comings and goings of seasonal phenomena.
(Newby, 2018;50)

The way the heavens are regarded is mirrored in the effects of this model, creating a milky way along it's three surfaces, while still being mere holes drilled into the surface of a timber 'vault'.











Iziko Planetarium & Digital Dome

The planetarium is in line with what we expect when considering a planetarium, including its copper roof. However it is on the interior where we begin to see the advances it has achieved in technology and adapting to the future.

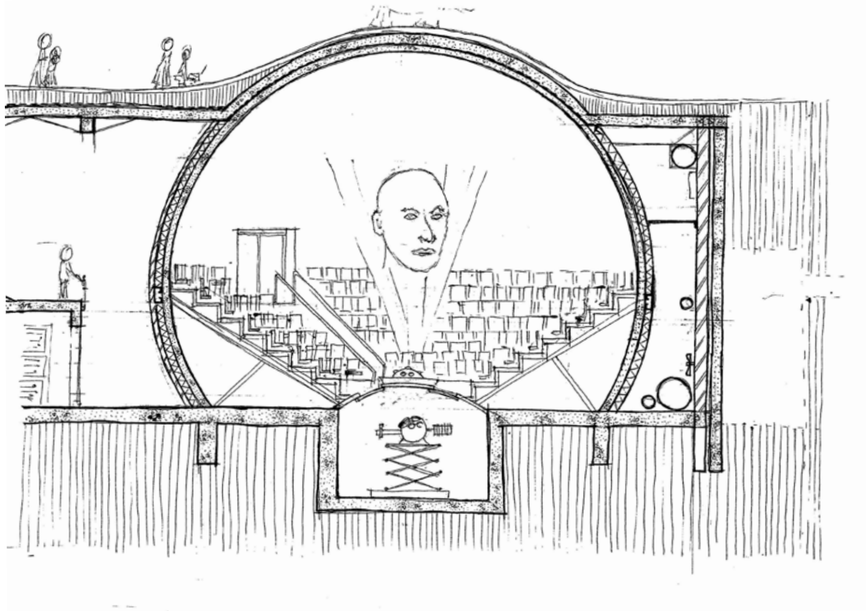
What is called a 'digital dome' has replaced the typical star projection services of the building. What this does differently is it 'provides immersive multi-sensory edutainment and a platform for artistic production.' (Author Unknown, n.d.) In laymans-terms; the dome is used to project a wide variety of computer-generated visuals unto the dome above, allowing the recline attendees to become immersed completely in the show.

'This digital full dome theatre provides virtual exploration of the universe, the inner workings of the human body, or the intricacies of an atomic structure possible.' (Author Unknown, n.d.)

Left: Star Attraction
Fig 6.19: Ritchie, D (2017)
Fig 6.20 Author Unknown (n.d.)
Fig 6.21 Author Unknown (n.d.)

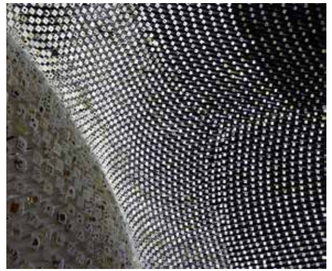














The Seed Cathedral

The pavilion was designed by Thomas Heatherwick as the UK pavilion at the Shanghai Expo 2010. It provides a new idea of how the effect of stars, or in this case strands of light, can be interpreted across a large surface. The building gives its focus to 200 000 seeds placed at the ends of custom made acrylic rods.

The building gives the impression of a dandelion moving in the wind from the exterior, while creating a contained starry capsule within, where one can view each seed highlighted in the foreground of the light caught in each acrylic rod. The inspired concept is not however the goal of this analysis, rather the way the acrylic rods 'transport the light through a seemingly solid surface.

Left: **Seed Cathedral**
Fig 6.22-24: Kaltenbach, F (2010)

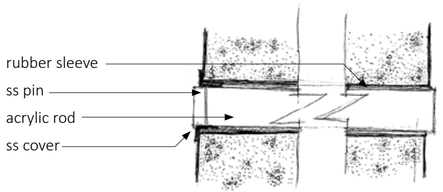
Acrylic Rods

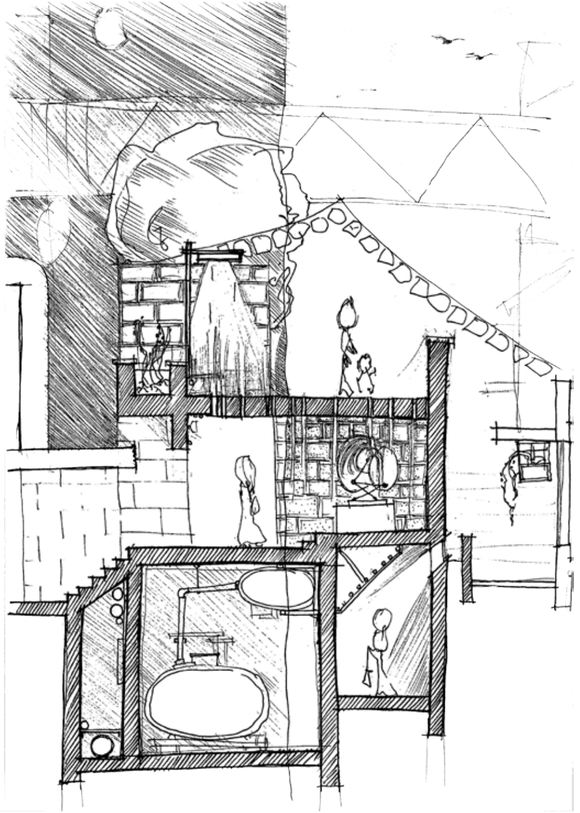
As proven by the Seed Cathedral, acrylic rods have the ability to transmit light. In South Africa, acrylic, extruded, circular rods are easily available.

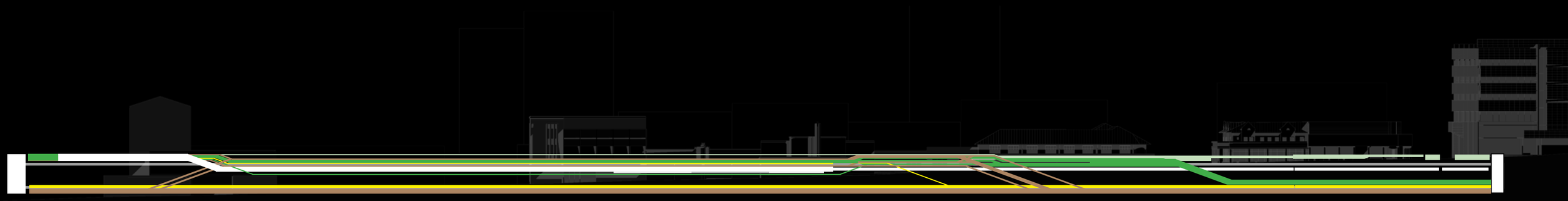
According to ***Acrylite,*** the rods are 11 times stronger than glass and weigh half the weight. In most cases they are used in retail lighting and displays, but as the Sedd Cathedral demonstrate, they have a wide variety of uses.

I intend to cast rods of acrylic into a cast in-situ slab, separating two public corridors. In the day this would allow specks of light, reminiscent of star to shine to the floor below, while allows jets of light to shine from the lit interior in the evening. Creating a semi illuminated walkway.

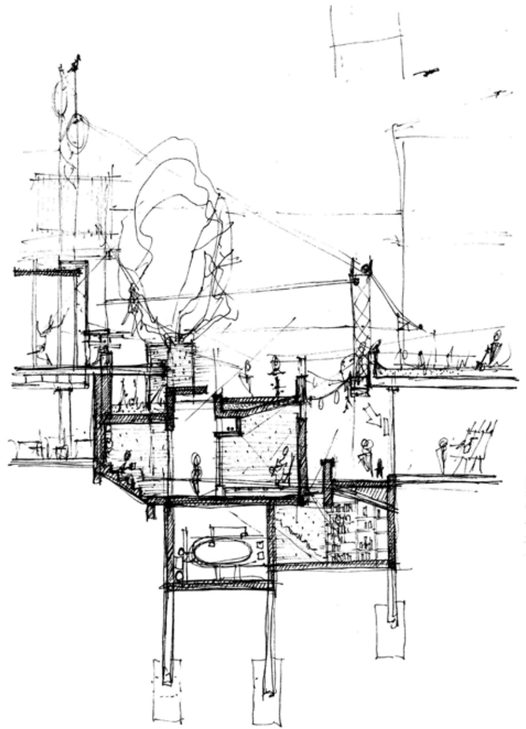
The rods are placed within a rubber sleeve (for expansion) around which the slab is cast, with a SS pin connecting it.

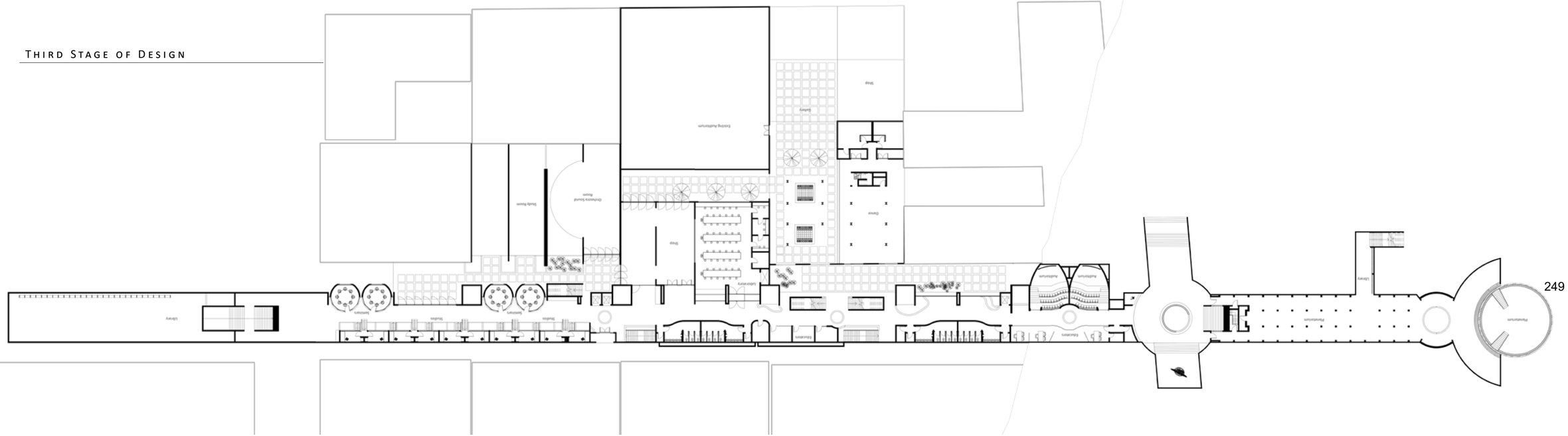


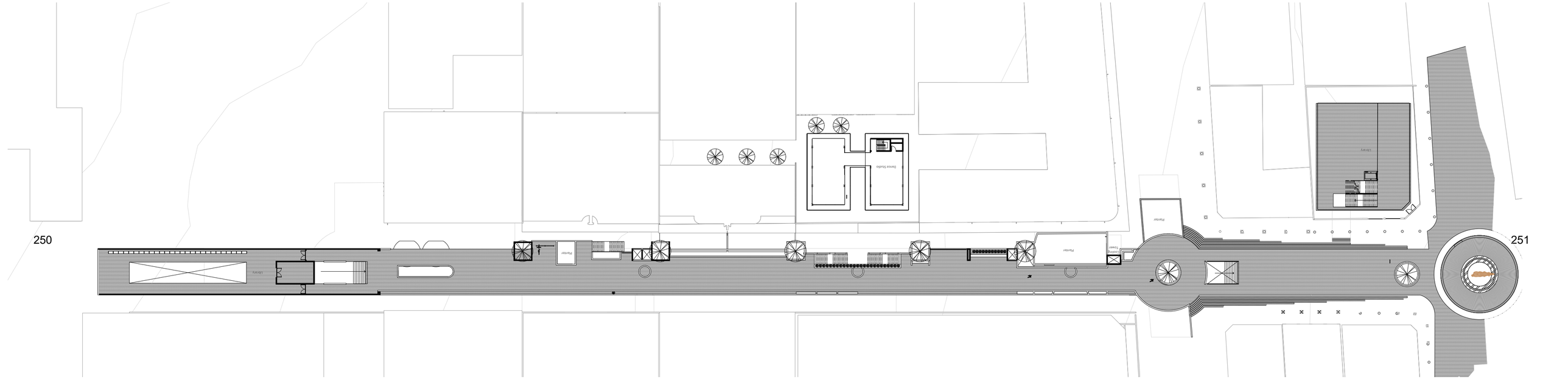


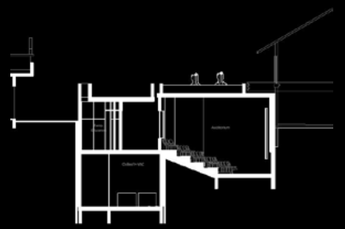


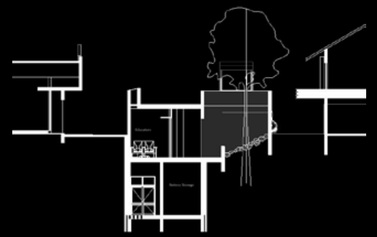

LIBRARY



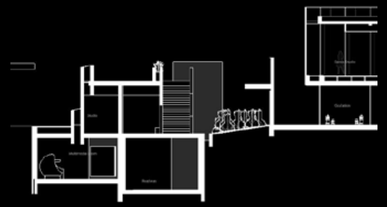

Library
Seminars
Seminars
Seminars
Seminars
Shop
Lecture Auditorium
Shop
Library
Study Room
Orchestra Sound Room
Library
Dance
Shop
Auditorium
Auditorium
Auditorium

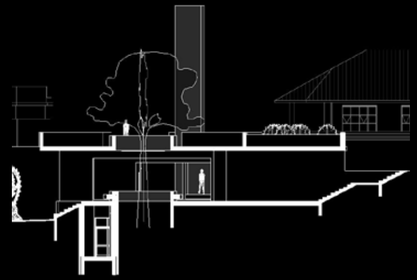

250
251
Library
Dance Studio
Planter
Planter
Planter
Tower
Library
Library
Grey Water Plant
Stores
Hazardous Gases
HT
Generator
Solar Battery Store
H-Vac/Chillers
Auditorium
Store
Store
LIBRARY
Gallery
Server Room
Lobby
Planetarium/VR

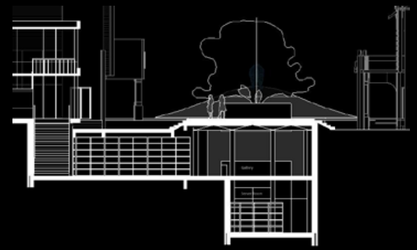












Cross Sections

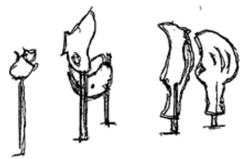
Cross sections were designed with a few key motivations. Subtle natural lighting was chosen over harsh full sunlight. Direct lighting was all together avoided. Lighting from sky lights also appeared in spaces of learning, poetically ‘enlightening’ the space and its function.

A play on levels is also important, promoting the cross observation in spaces, especially where the public can view into the functioning university. The play on levels is also to bring in natural light. The slope of the ground also forces the building to adapt to the surrounding buildings which fall at the level of the ground.

Landscape was also important in the cross sections in particular, as they represent moments within the common roots. It was important to allow visitors be connected with planting and trees, something uncommon in the CBD of Springs.



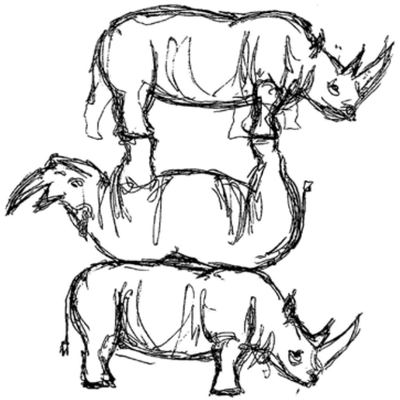
Golden Rhinoceros of Mapungubwe
Gold leaf. Found in the Royal Grave of
Mapungubwe. A symbol of leadership.



‘Rhinosaur’ by Andre Carl van der Merwe
Sea Point Promenade in Cape Town.
Designed to highlight Rhino poaching



‘Run for your Life’ by Gillie and Marc Schattner
again. La Trobe University, Melbourne
Designed to sit on and as protect to Rhino
poaching



‘The Last Three’ by Gillie and Marc Schattner.
New York. The sculpture portrays the unbalanced
and precariously fatal existence of the Northern
White Rhino



‘Rhino Yard garden sculpture’ by Li-Jen SHIH.
Designed with the emphasis on the mechanical
joints, perhaps representing our focus on the
machine and not nature.

Adding Public Art

Public art is not only a method of beautification in our cities, it also promotes the imagination and creativity of an area. Giving it an icon creates a sense of pride and a sense of belonging. When selecting the focal point of public art for the university; the rhino was selected. It signifies the African belief of leadership, while still being a Westernised statue of a leader.

Many examples of rhino sculptures around the world were analysed to determine the style of the rhino sculpture. None suited the sculpture itself, but it was clear that the rhino is iconic for many around the world. Eventually this art piece would be designed by a local artist ideally, but for now a rhino is set in its place, heralding the start of what will hopefully be a ‘new’ university.

Other spaces for public art have been designed and would hopefully be filled by students of the art school and change over time.

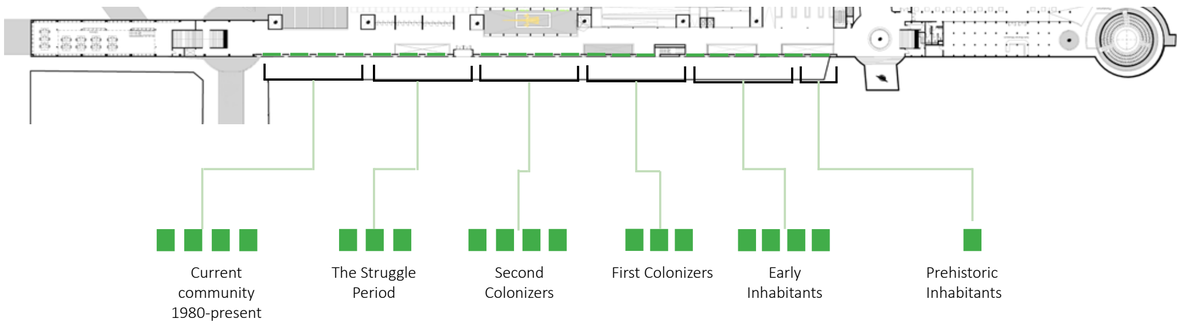


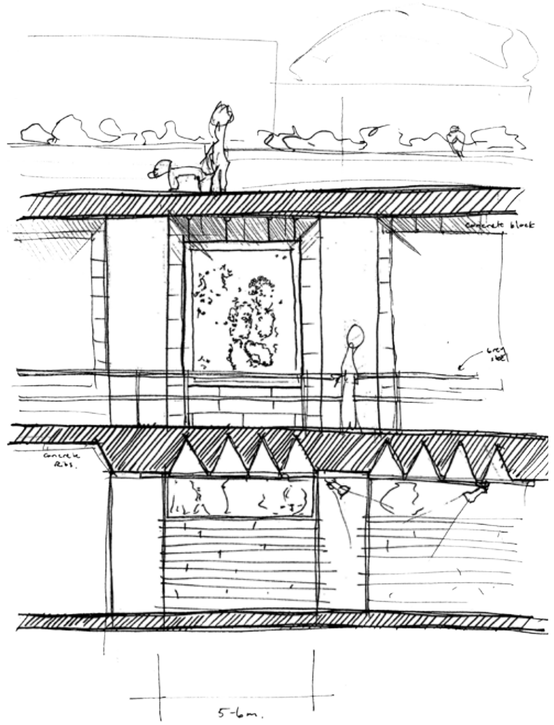
Artwork Panels

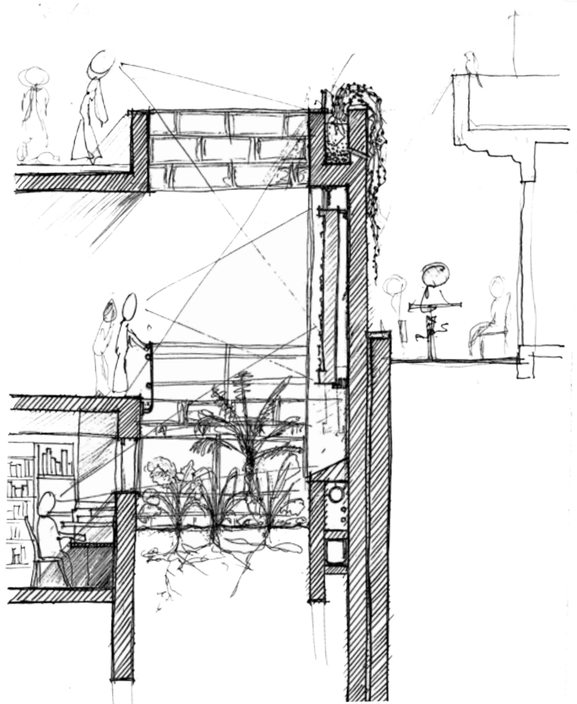


Spaces have been dedicated for artwork along the 'speculative corridor'. These panels are to depict the history of the region around Springs over time, becoming an abstract and illustrated time-line of the area. These panels will be cast out of light weight and strengthened concrete, inset with stone to depict the moment in time. They are 3.5m wide and 4m tall, suspended from the concrete structure above and supported by a steel structure behind.

As they descend down the line, visitors are taught of the towns history, reminding them that the area is not just a Post-mining town, but a town with a long rich history.



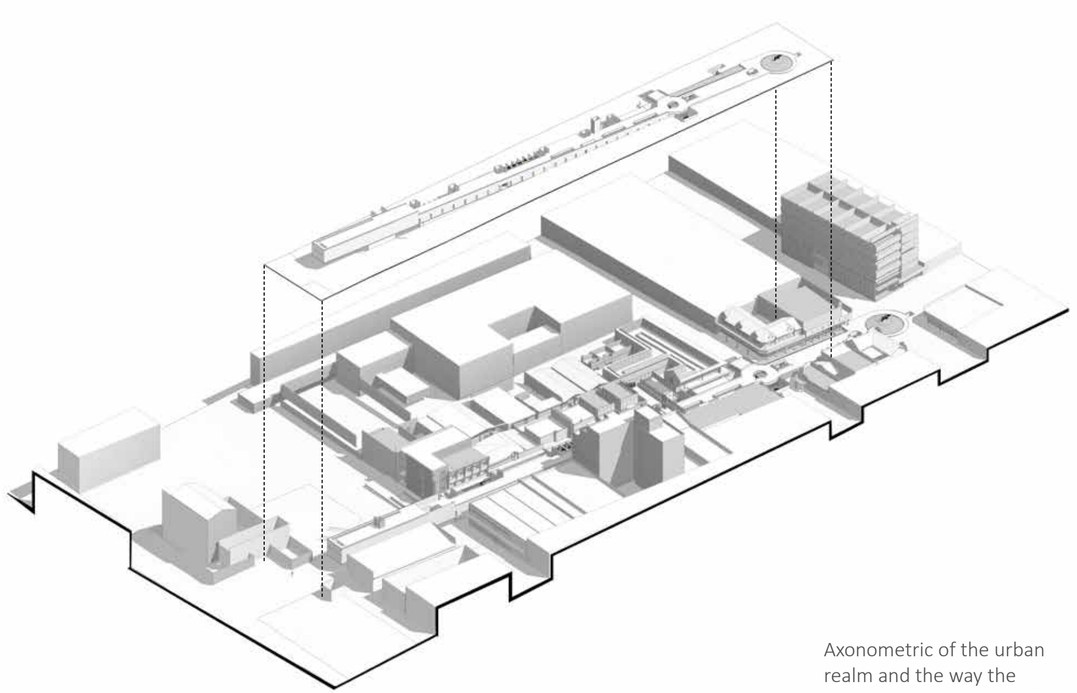




An Intervention

A culmination of the research. An attempt at an intervention which could become part of the town itself

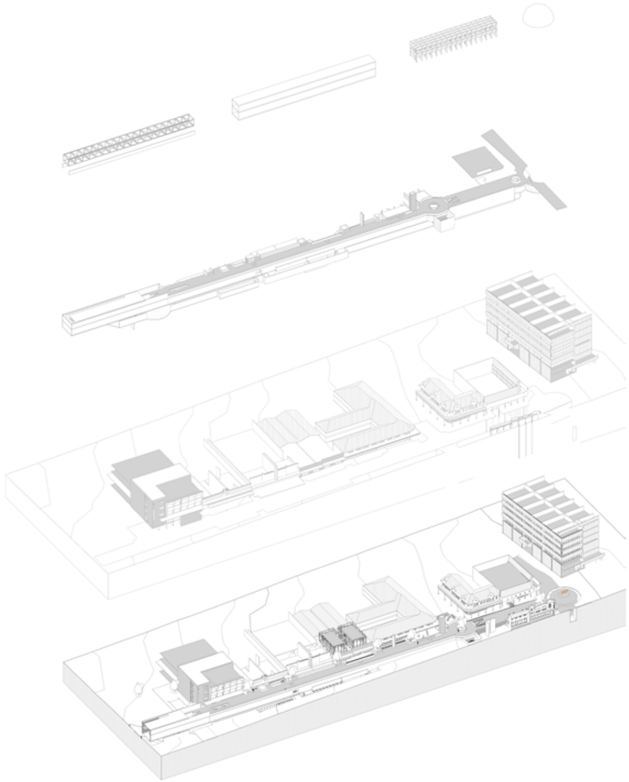
07

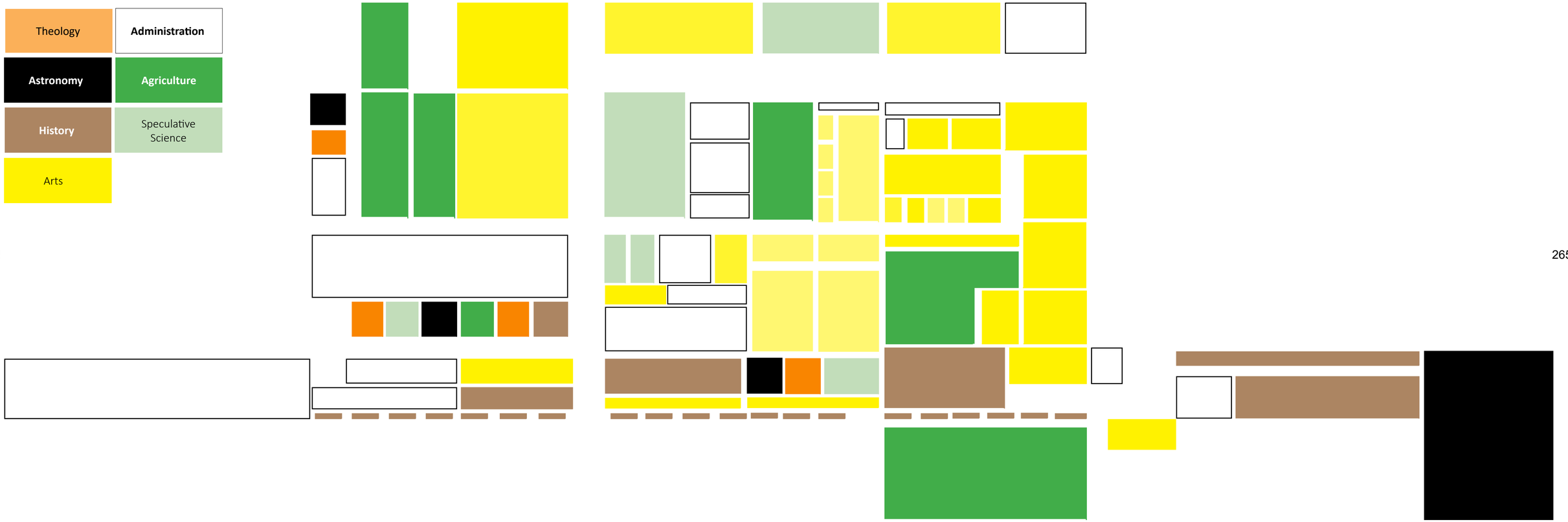


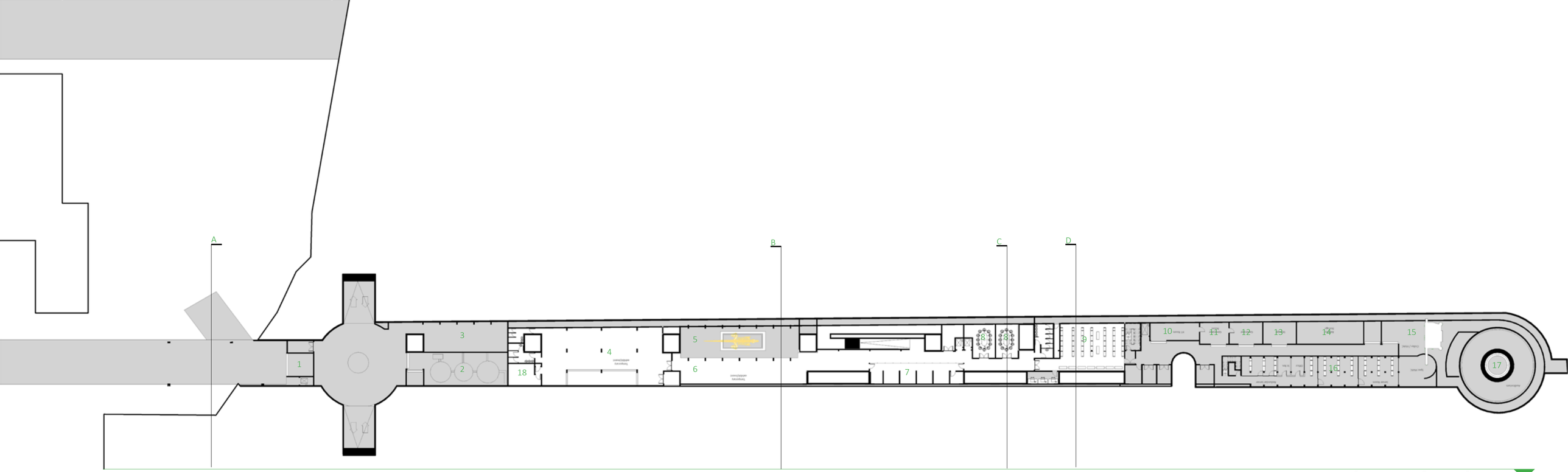
Axonometric of the urban realm and the way the intervention inserts itself along the existing street.

Exploded Axonometric of the primary components making up the project. The structure highlights the progression along the speculative corridor. The uninterrupted public space forming a break away for the town. And the existing infrastructure which serves majority of the functions as the intervention flows into them. All combine to hopefully create a harmonious blend of past and present, public and education. >

< View from the interior, highlighting light-wells which create focal points along the corridor, drawing the attention of the individual while creating courtyards of filtered light. The acrylic rods imitating the stars is also illustrated. The dominance of brick is a call back to the towns history and is easily obtained in the area




Theology
Administration
Astronomy
Agriculture
History
Speculative Science
Arts



1. Circulation
2. Grey Water Treatment Plant
3. Simulated Wet Land
4. Events Space
5. Exhibition Space
6. Temporary Exhibition Space
7. Springs Museum
8. Seminar Rooms
9. Archive
10. HT Room
11. LT Room
12. Circuit Chamber
13. Generator
14. Battery Storage
15. H-Vac Plant
16. Sever Room
17. Planetarium
18. Kitchen

Basement Floor Plan

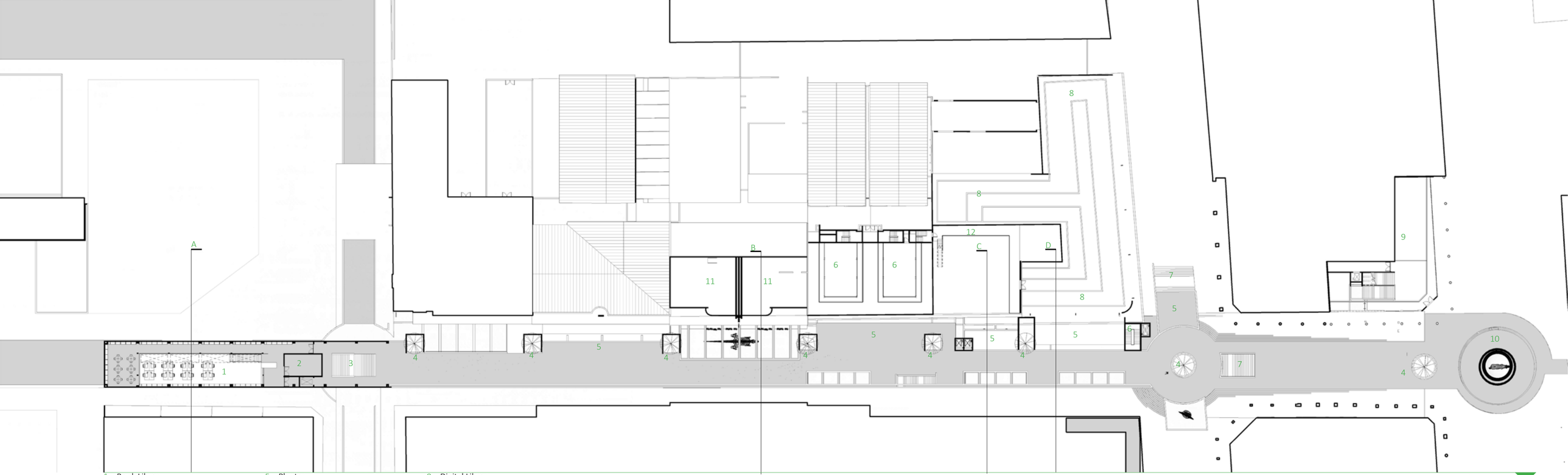
1 3 7 13 21



1. Existing Theatre
2. Book Library
3. ‘Student Work’ Gallery
4. Seminar Room
5. Study Hall
6. Green House
7. Instrument Store
8. Rehearsal Room
9. Recording Studio
10. Sound Testing Room
11. Orchestra Rehearsal Room
12. Existing Auditorium
13. VR Room Entrance
14. Restaurant/Cafe
15. Kitchen
16. Costume Workshop
17. Laboratory
18. Bio-Gas Generator
19. Workshop
20. Drama Rehearsal Rooms
21. Sculpture ‘workshop’
22. Multi-Purpose Studio
23. Fine Art Studio
24. Cultivated Land
25. Security Office
26. Africa Museum
27. Planetarium

Ground Floor Plan

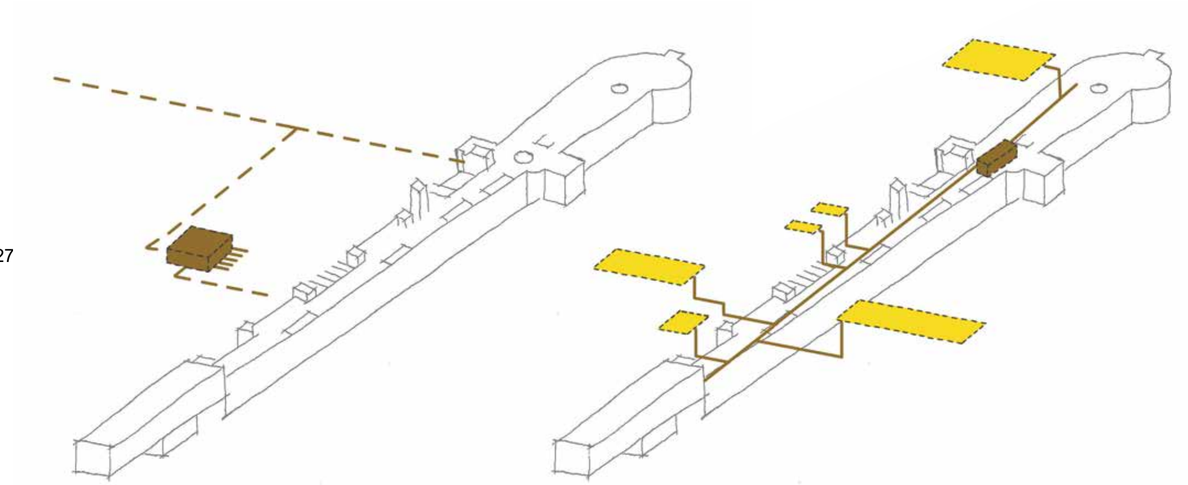
1 3 7 13 21



1. Book Library
2. Library Admin
3. Entry Staircase
4. Light Well & Tree
5. Planter
6. Drama/Dance Rehearsal
7. Entry Staircase
8. Shade Cloth Green House
9. Digital Library
10. Rhino Sculpture
11. Virtual Reality Room
12. Raised Walkway

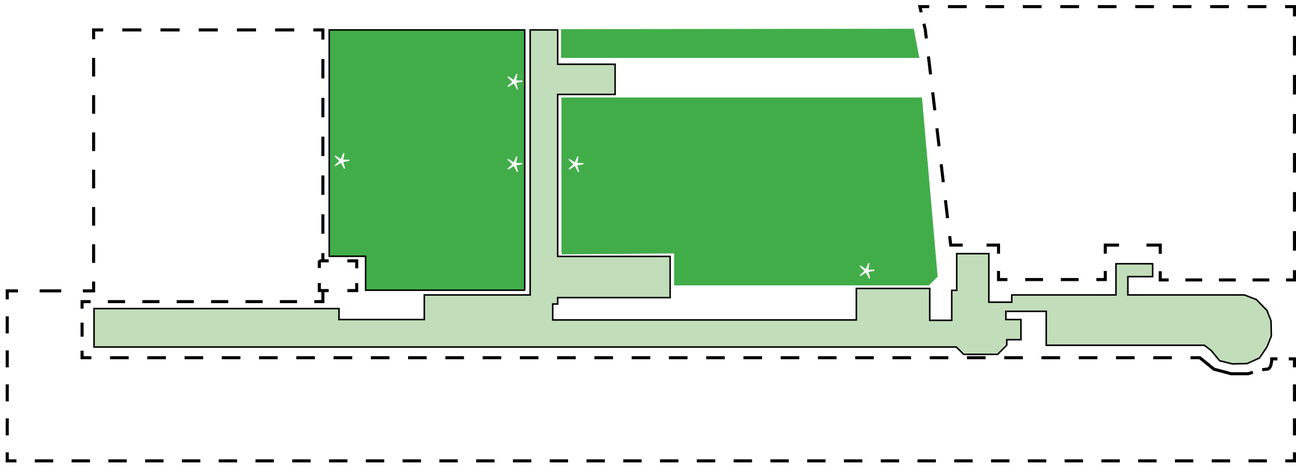
PUBLIC WALKWAY PLAN

1 3 7 13 21



Bio-Gas Generator
Annotating the output and input of digester.
Dashed lines indicate output.
Solid Lines indicate input.

Energy Generation
Annotating the collection of solar power
Yellow surfaces indicate roofs to place panels
The brown location is the battery store



Security Levels

Private access for Students and Staff

Security Controlled Spaces

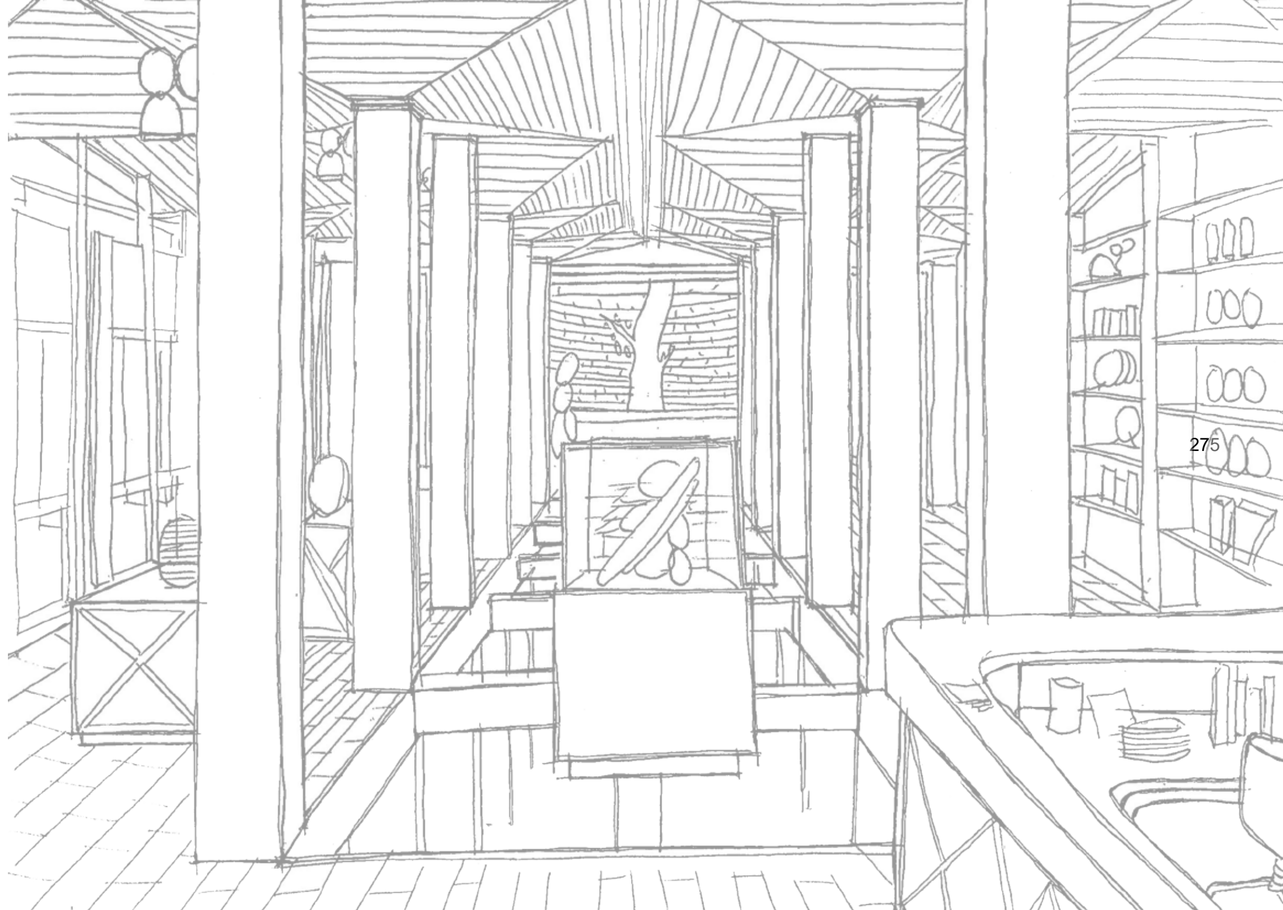
Public Realm

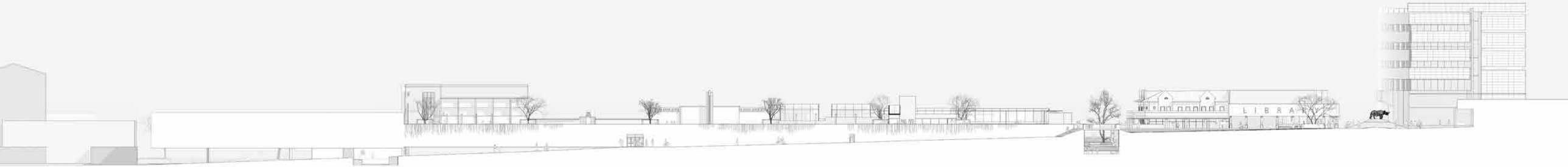
Card Access Points

The levels of privacy/security are an interpretation of vernacular african architecture, which emphasises the layered thresholds experienced in the interaction with the building.

The server room functions as the brain of the university. All knowledge shared is based in its capacity, flows from its core and is interpreted by students and locals. They in turn create their own knowledge which is once again stored in the server, ready for the cyclical process to repeat.

The server is located below the Sub-Saharan Africa Museum which houses the story of our lands history. The server is visible through the transparent glass floor running down the centre of the floor. Its network lighting illuminates the otherwise darkened museum, creating a link between history and the past
(Newby, 2018)





The intervention is designed to gradually emerge from the ground, stating it's presence as you descend. This allows the building to respect the heritage buildings while still creating a statement at the end.

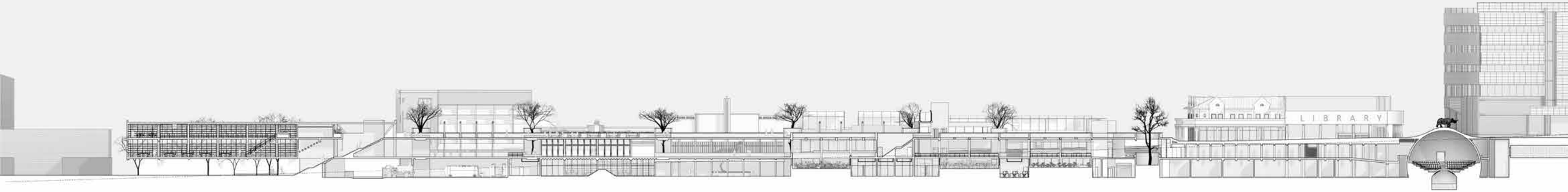
The concrete block and panel facade was selected to create a simple facade which highlights the existing heritage buildings.

Entrances are placed on either end, as well as in the center where ground floors line up and meet.

Existing streets are preserved as they run over and under the intervention.

North Elevation

1 3 7 13 21



SECTION E

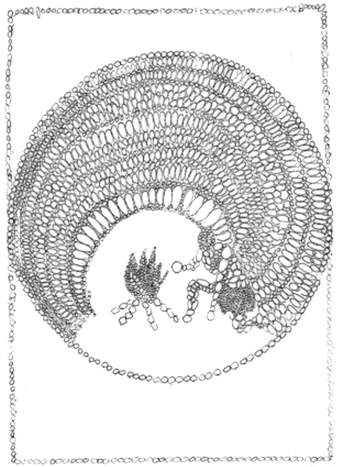
1 3 7 13 21



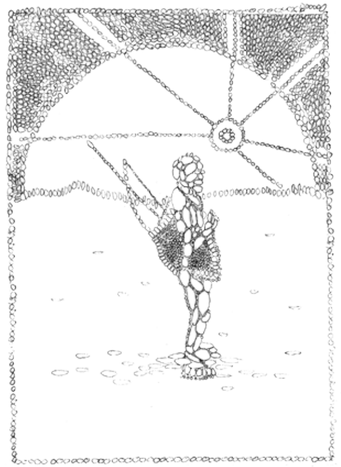
Represents a time before man populated the region.



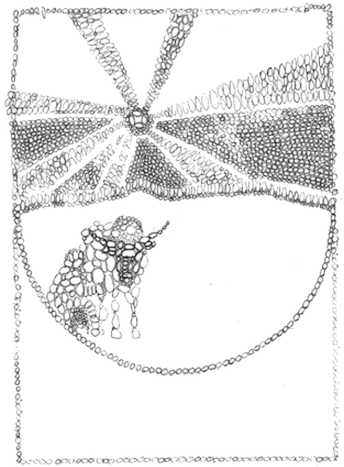
Represents a time when animals were the main occupants of the land.



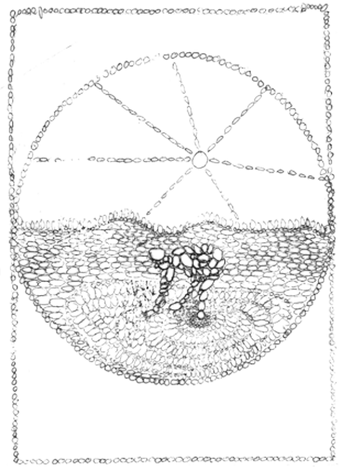
Man begins to set make an impact on the history of the world in general.



The rise of the Sub-Saharan Hunter-Gather communities.



Herders begin to accumulate domesticated flocks.

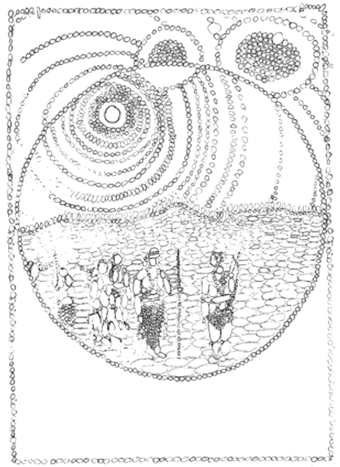


Agriculture is slowly introduced into the area.

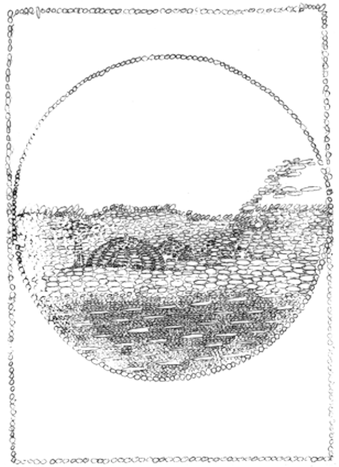
Time-line Art Pieces

Scale 1:30

The idea behind this is to introduce public art to the intervention which additionaly acts as a form of education. The fibre cement panels tell the story of the region through stone frescos, hopefully created by local school children on site. They span from the West of the intervention and run to the end of the public space.



From beyond the Limpopo, new settlers begin to arrive in what will become South Africa and encounter the current occupants.



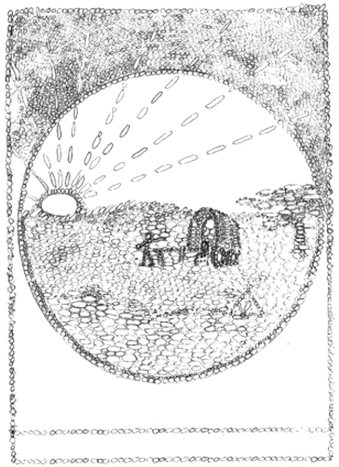
The settlers settle the land and call it home.



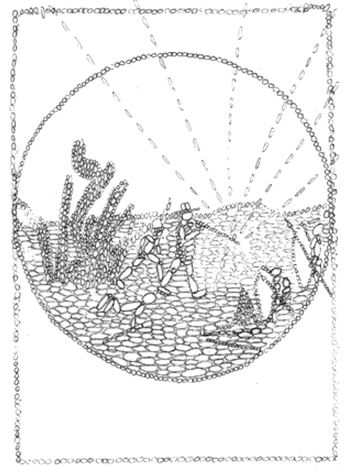
New leadership is introduced to the region.



On the distant Cape coast, a new settler arrives.



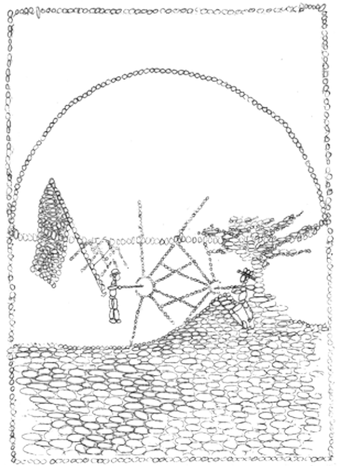
The new settlers settle in the land and call it home.



Strife begins to increase between the groups of settlers.



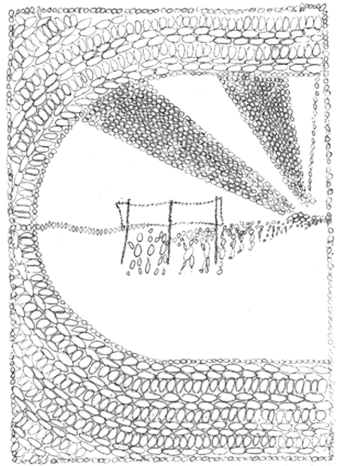
Gold is found on the Witwatersrand.



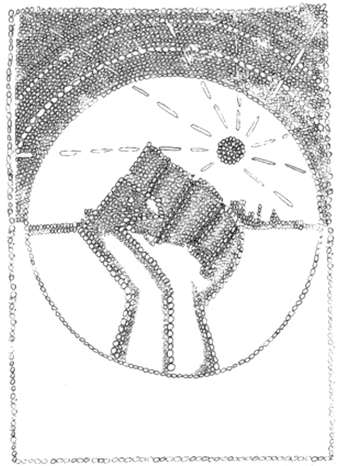
The Second group of settlers begin to fight among themselves, naming the conflict the Anglo-Boer War.



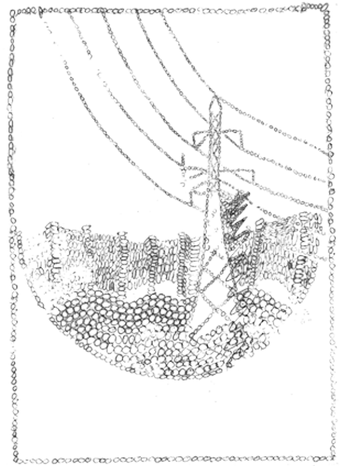
New leadership is introduced in the region.



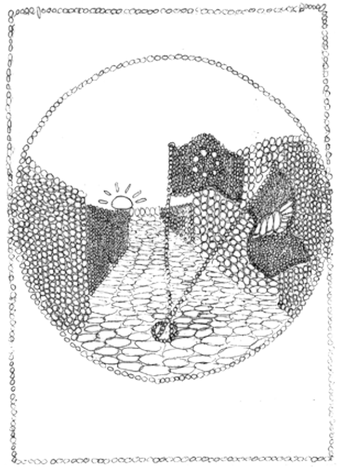
The first settlers strive to rid themselves of the yolk inflicted by the second.



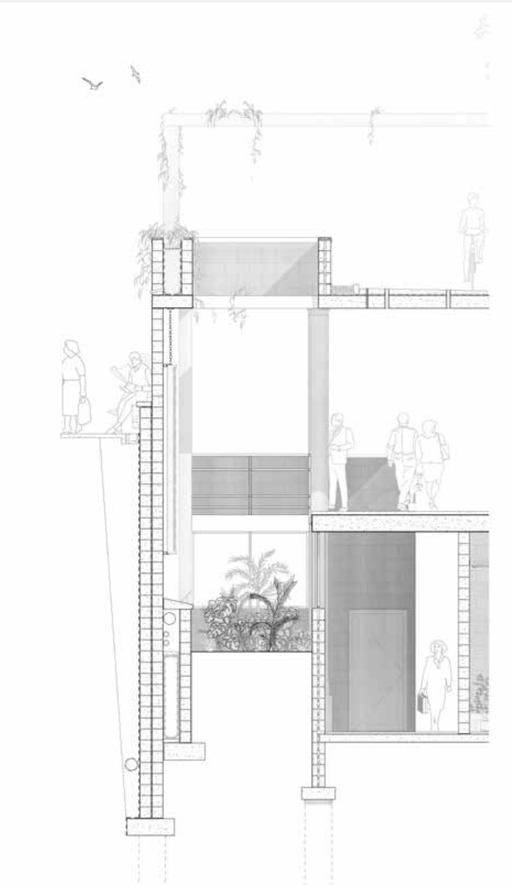
‘Equality’ and freedom for all settlers and occupants of the region is achieved.



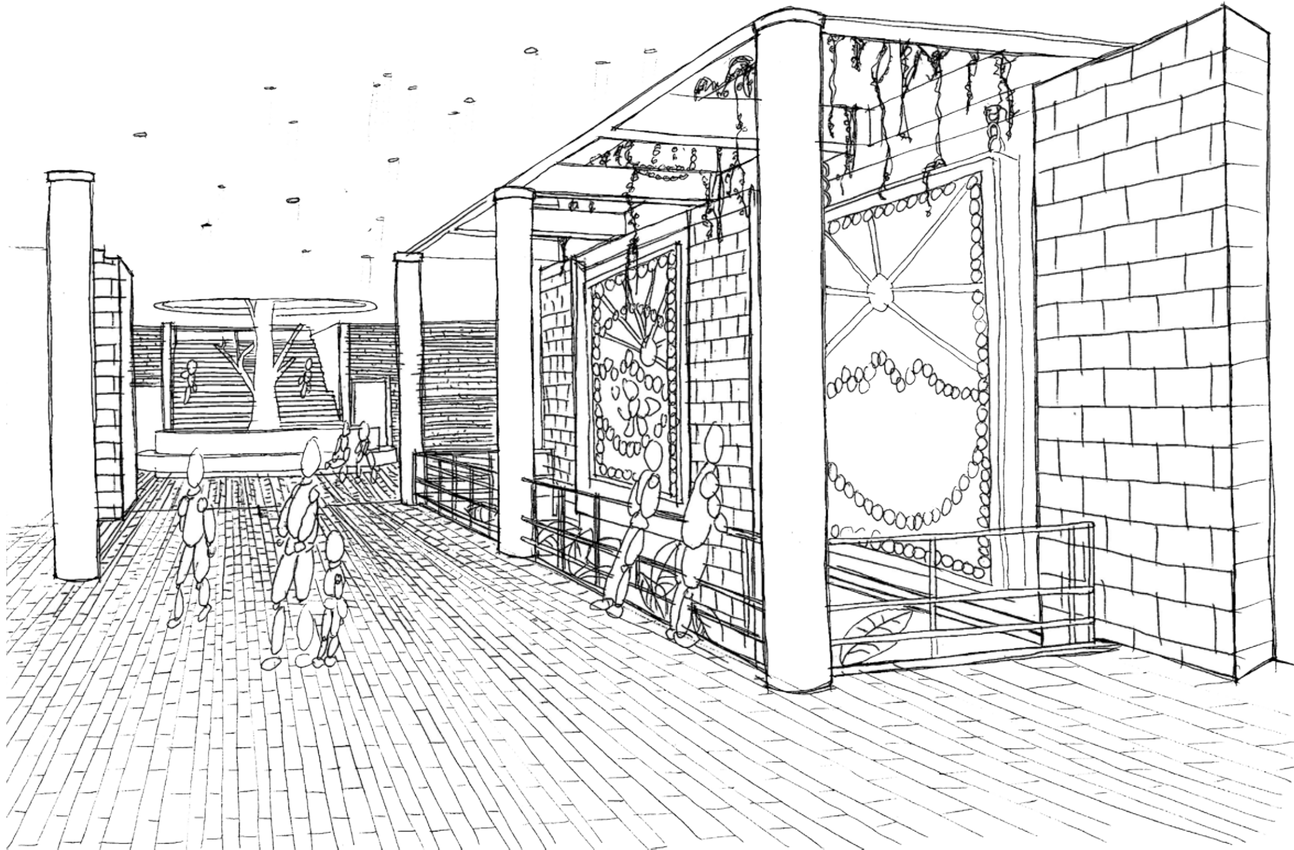
Services and technology increase in order to drive productivity and wealth to few.



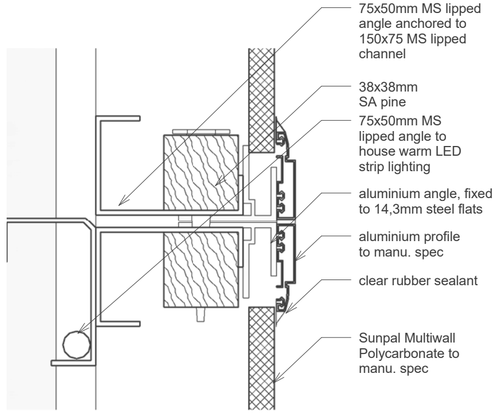
From distant states, new settlers begin to arrive in the land and begin to establish a new leadership of Neo-Colonisation.

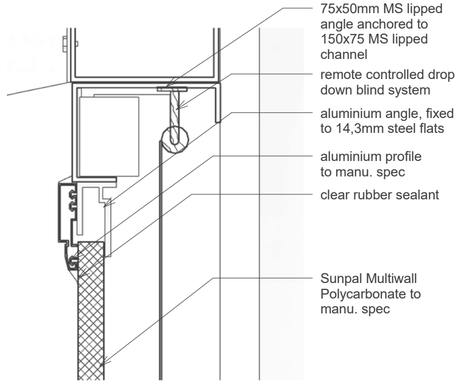


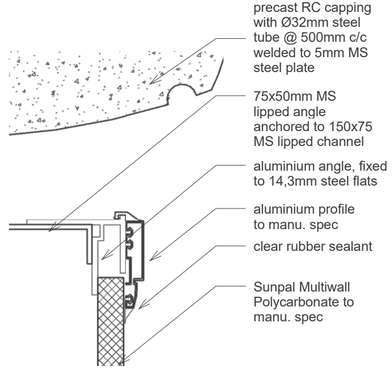
A view of how the panels are integrated into the intervention. They form the backdrop of planted courtyards which filter light form above, through the concrete ‘ribs’ of the structure. These courtyards create a link between the three levels. These planted spaces also create a pause space for public. It is the intention that they create the feel of protected oases to the typically harsh South African street-scape. The use of brick acts as a flowing backdrop, highlighting other materials and the planting which would drape over the space eventually, hiding the structure, creating the sense of a ruin. Though not mentioned previously, the idea of creating a building which will weather and age distinctly and quickly was a main design feature. The concrete walls are designed to be stained by water marks.

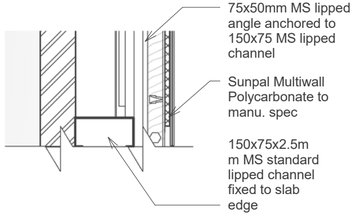


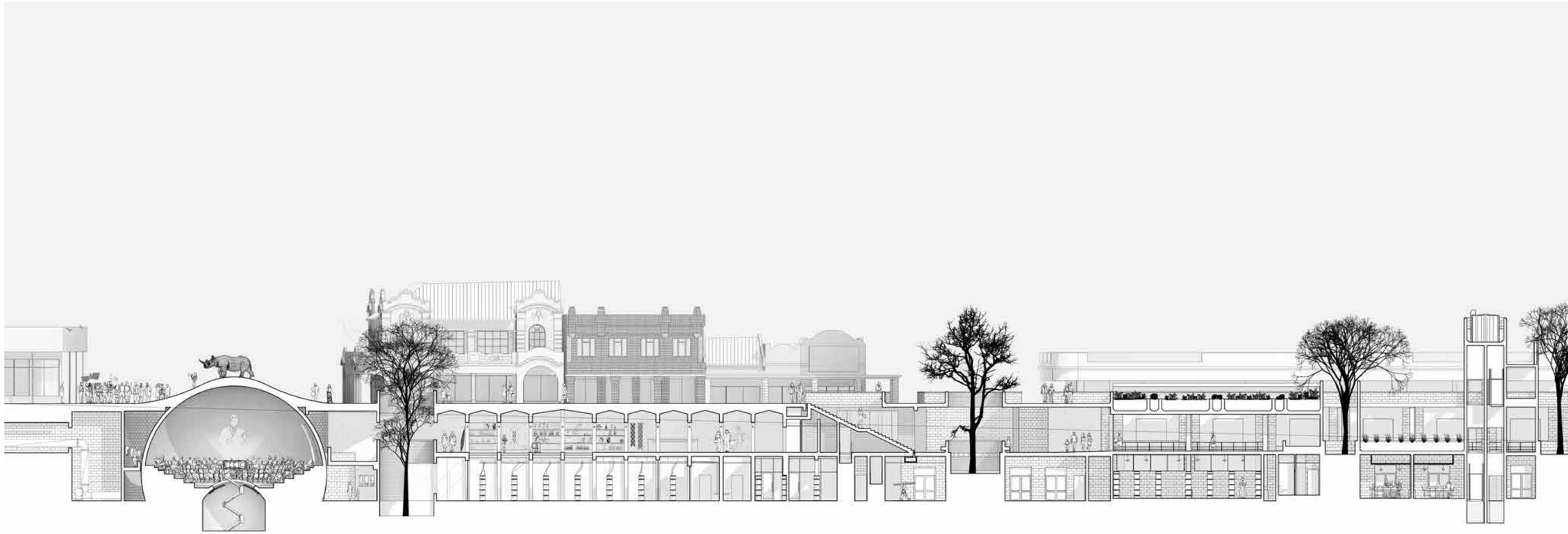



75x50mm MS lipped angle anchored to 150x75 MS lipped channel
38x38mm SA pine
75x50mm MS lipped angle to house warm LED strip lighting
aluminium angle, fixed to 14,3mm steel flats
aluminium profile to manu. spec
clear rubber sealant
Sunpal Multiwall Polycarbonate to manu. spec

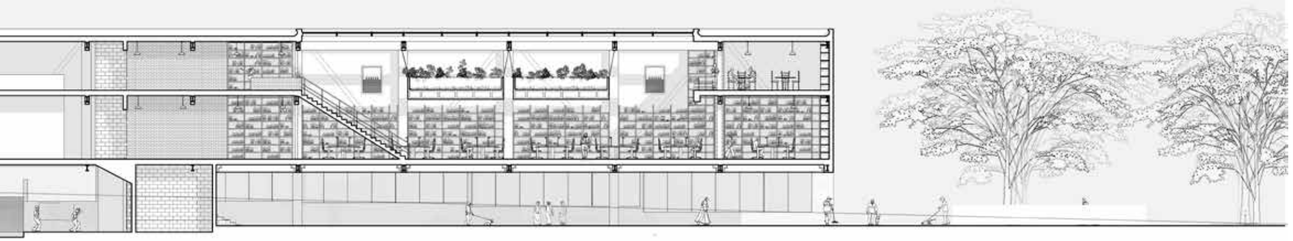

75x50mm MS lipped angle anchored to 150x75 MS lipped channel
remote controlled drop down blind system
aluminium angle, fixed to 14,3mm steel flats
aluminium profile to manu. spec
clear rubber sealant
Sunpal Multiwall Polycarbonate to manu. spec


precast RC capping with Ø32mm steel tube @ 500mm c/c welded to 5mm MS steel plate
75x50mm MS lipped angle anchored to 150x75 MS lipped channel
aluminium angle, fixed to 14,3mm steel flats
aluminium profile to manu. spec
clear rubber sealant
Sunpal Multiwall Polycarbonate to manu. spec


75x50mm MS lipped angle anchored to 150x75 MS lipped channel
Sunpal Multiwall Polycarbonate to manu. spec
150x75x2.5m m MS standard lipped channel fixed to slab edge

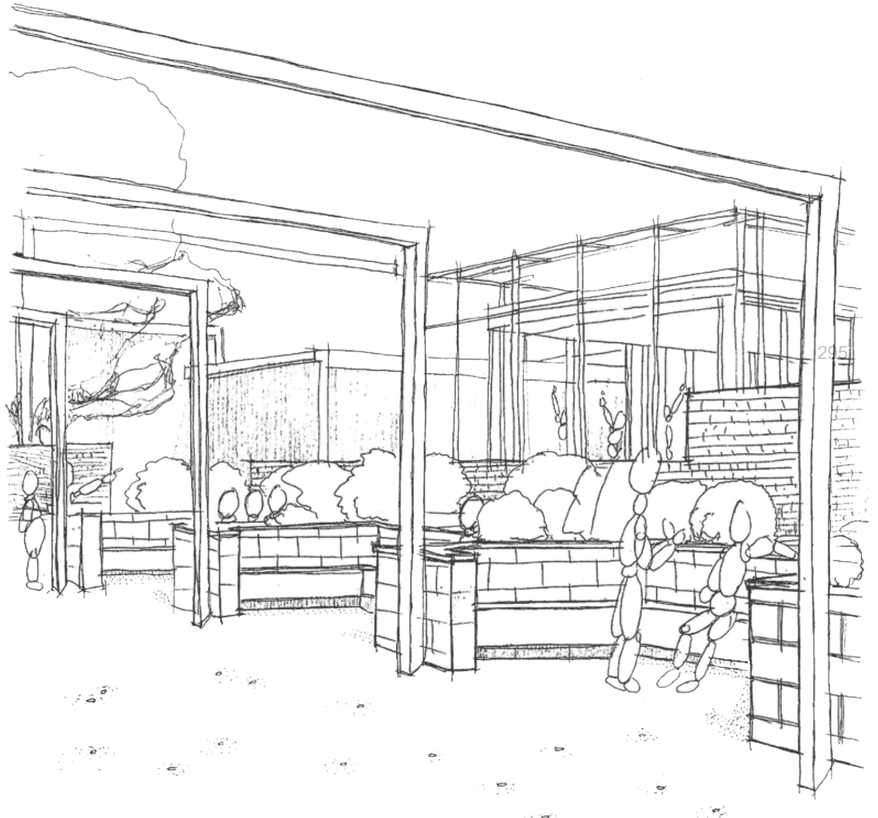




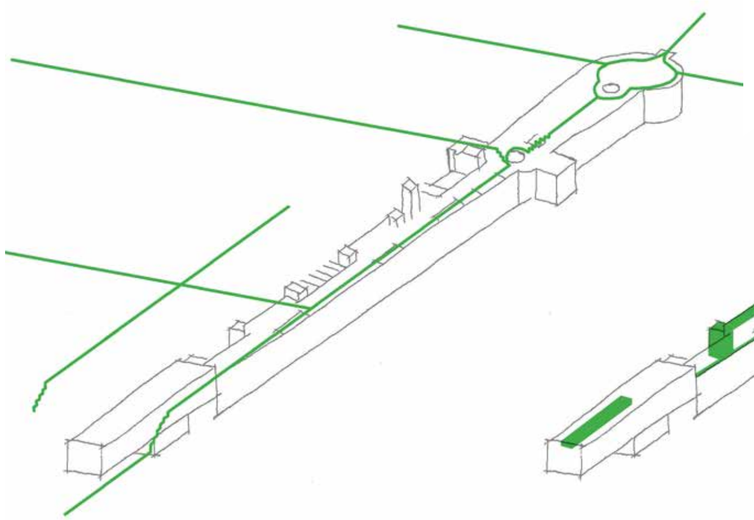


View from the public roof walkway, highlighting the public seating and landscaping, while also illustrating the view to the glass boxes in the rear, into which the public cam look to see arts in action. >

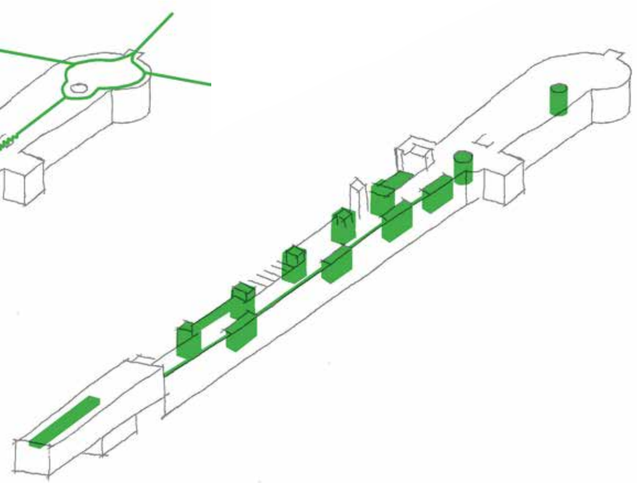
Next Page
This render highlights the existing space which is located next to the existing theatre. This space is opened up to create a public square, or a quadrangle, which becomes a quieter area of study, a point to break away from studies. The building is celebrated by cantilevering beyond the space, while still remaining a mysterious, yet geometrically simple, structure, forcing the viewer to enter the building to educate themselves in its interior and entice it to reveal its secrets.







Circulation
Main circulation paths through this portion of the university. Primary nodes are located at entrances and along security controlled spaces.

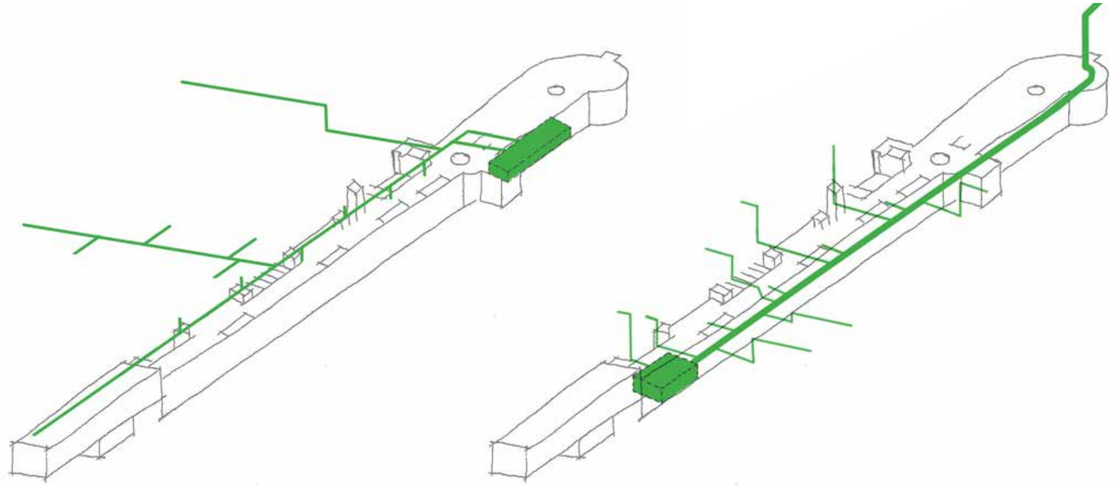


Landscaping
The inclusion of landscaping is illustrated here. Light wells which act as tree planters are on the far wall. Shaded planters for protected plants on the closer wall. Hanging gardens and pedestrian gardens are also indicated



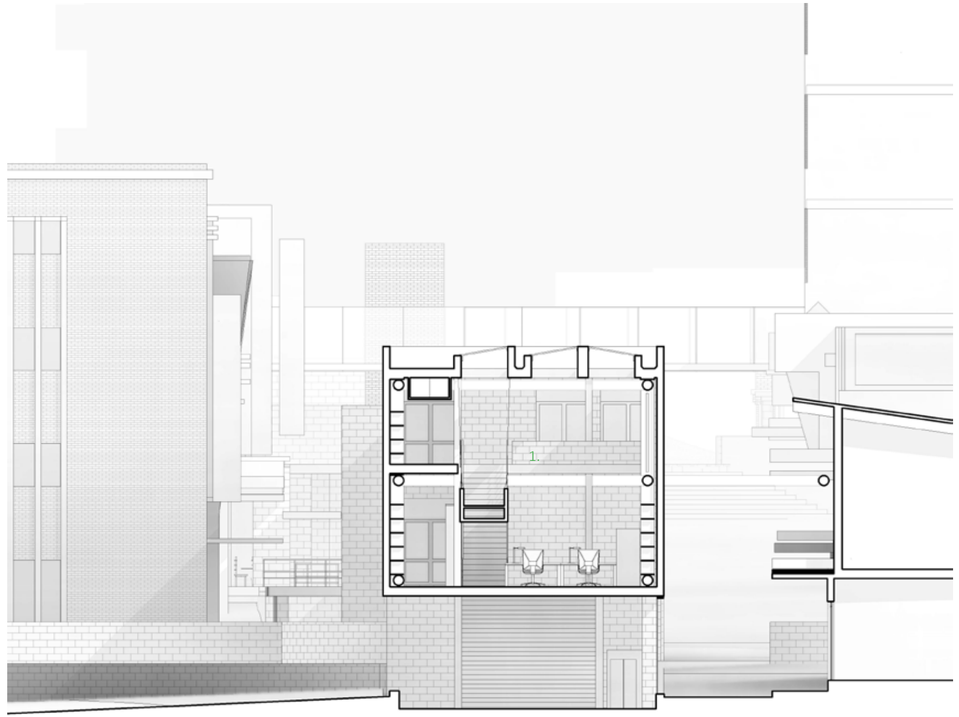
EAST ELEVATION

0 1 3 5



Data Distribution
This diagram points out the main fiber optic lines running through the intervention from the central server.

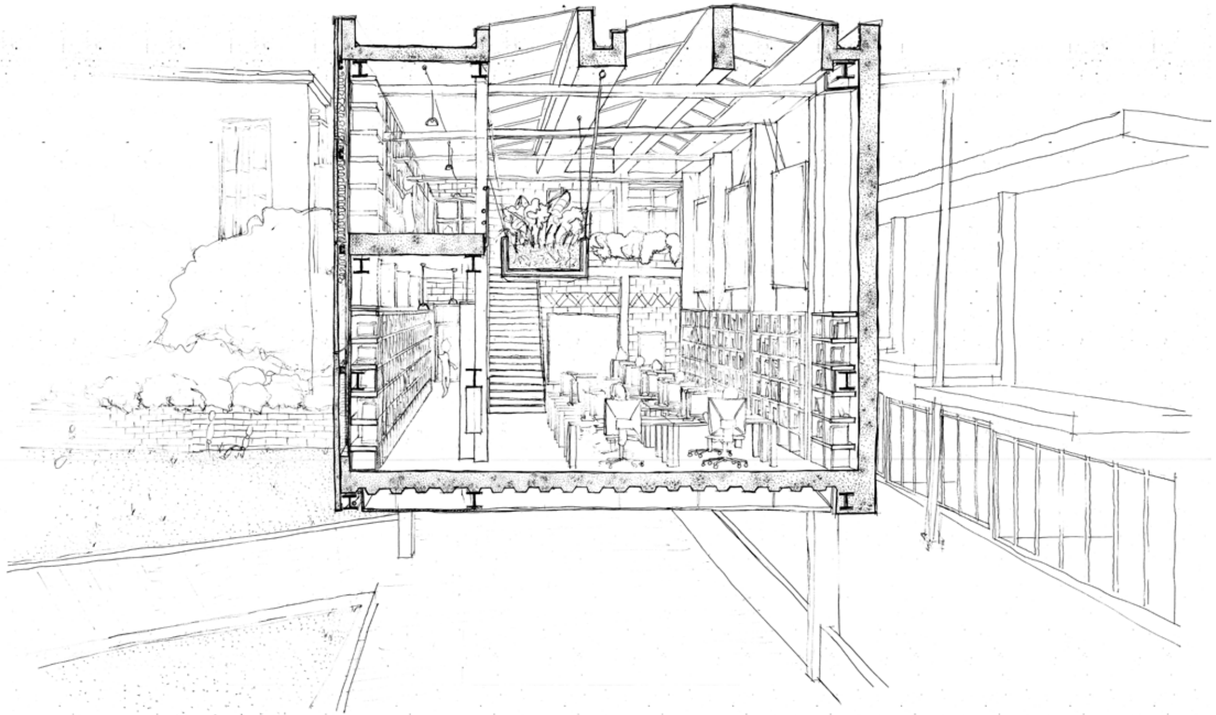
Grey Water Treatment
Annotating the collection of grey water. The plant is placed at the lowest end of the intervention to take advantage of gravity. Surrounding buildings also feed the plant



1. Book Library

SECTION A

0 1 3 5

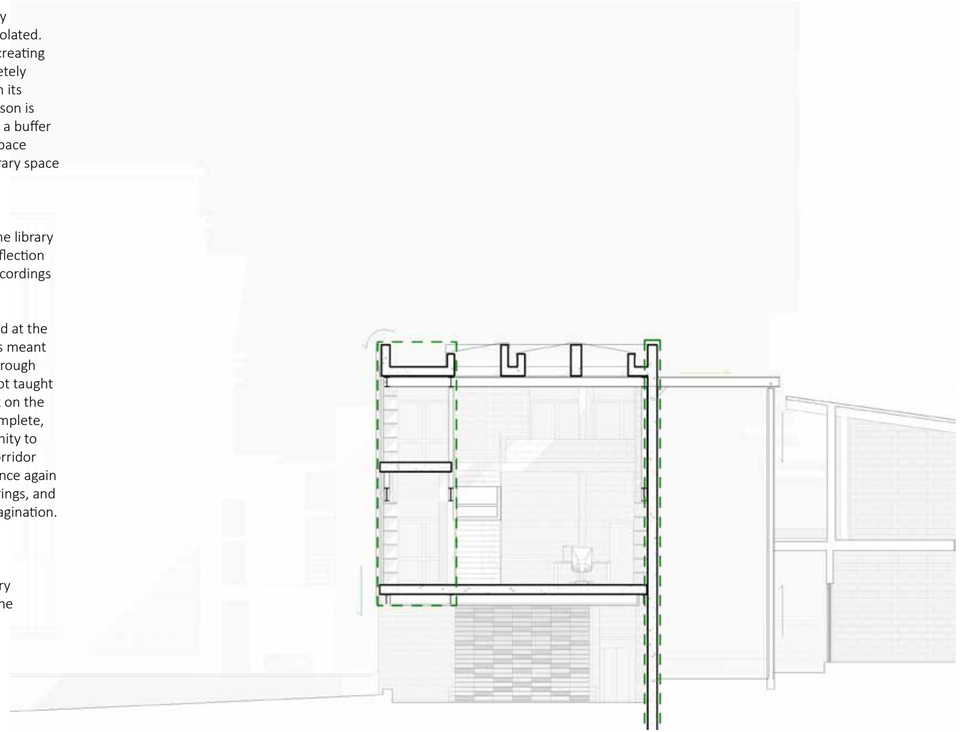


< The library is purposefully completely enclosed and isolated. The primary reason lies in creating a haven of learning, completely elevated and removed form its context. The secondary reason is linked to the first, to create a buffer between the noisy public space outside and the quieter library space within.

This library is intentionally traditional as opposed to the library of the future. A space of reflection of ones learning and the recordings of others.

It is poetic that this is placed at the end of the corridor which is meant to represent are journey through learning. The lessons are not taught if one does not reflect back on the experience. Once this is complete, the visitor has the opportunity to exit the building and the corridor and immerse themselves once again into the public realm of Springs, and hopefully assist in its re-imagination.

An illustration of the primary structural components of the cantilever. >



1. Book Library

SECTION A

0 1 3 5





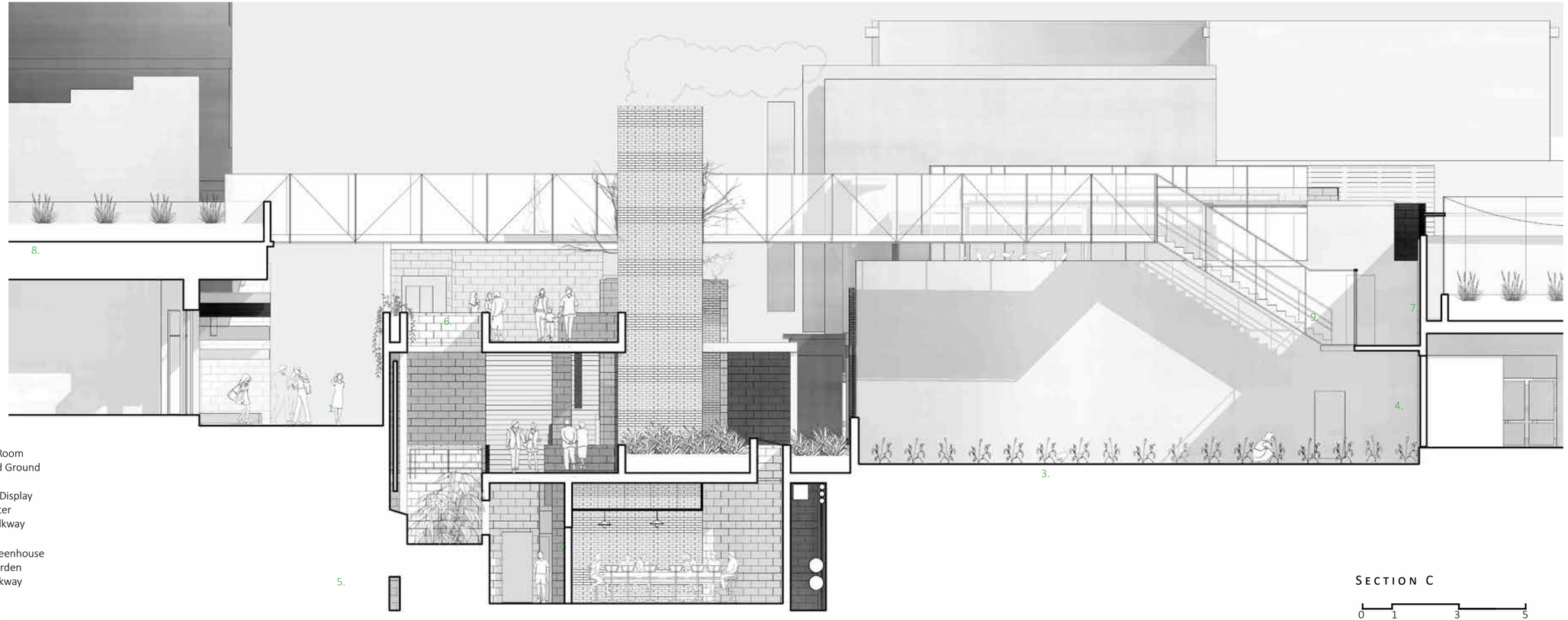
West Elevation

0 1 3 5



Section B

0 1 3 5



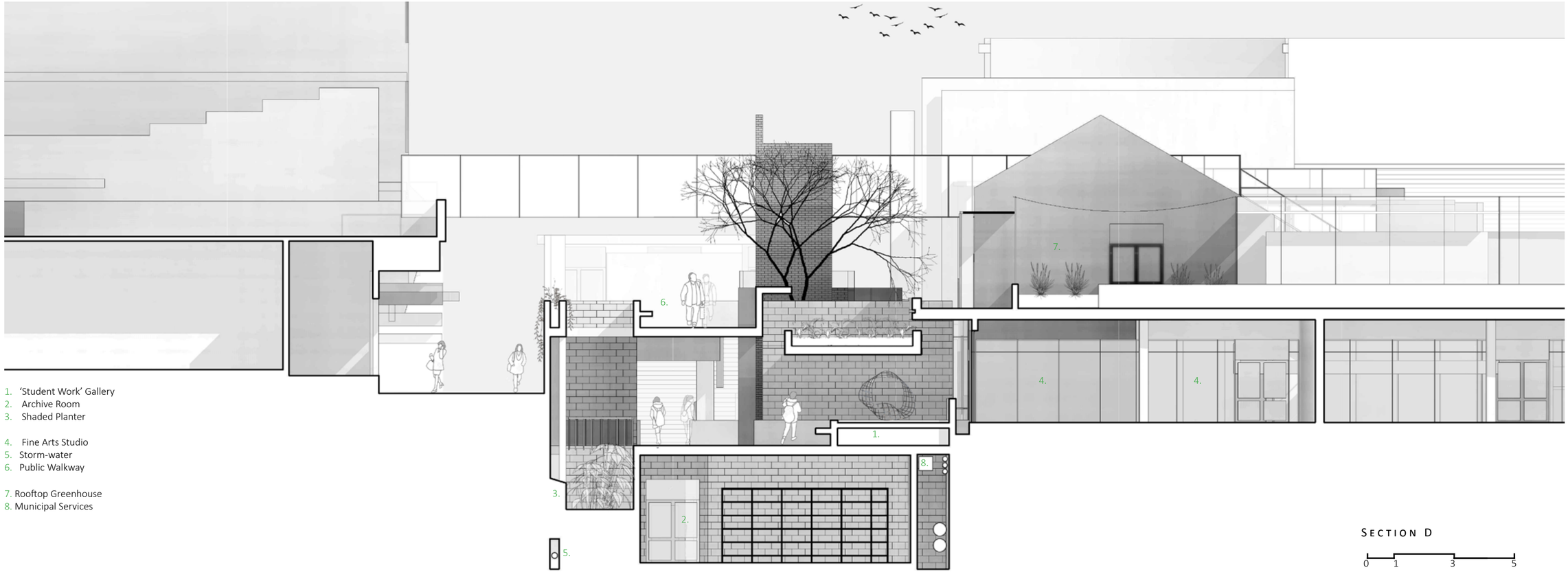
1. Art Piece
2. Seminar Room
3. Cultivated Ground

4. Fine Arts Display
5. Storm-water
6. Public Walkway

7. Rooftop Greenhouse
8. Rooftop Garden
9. Raised Walkway

SECTION C

0 1 3 5



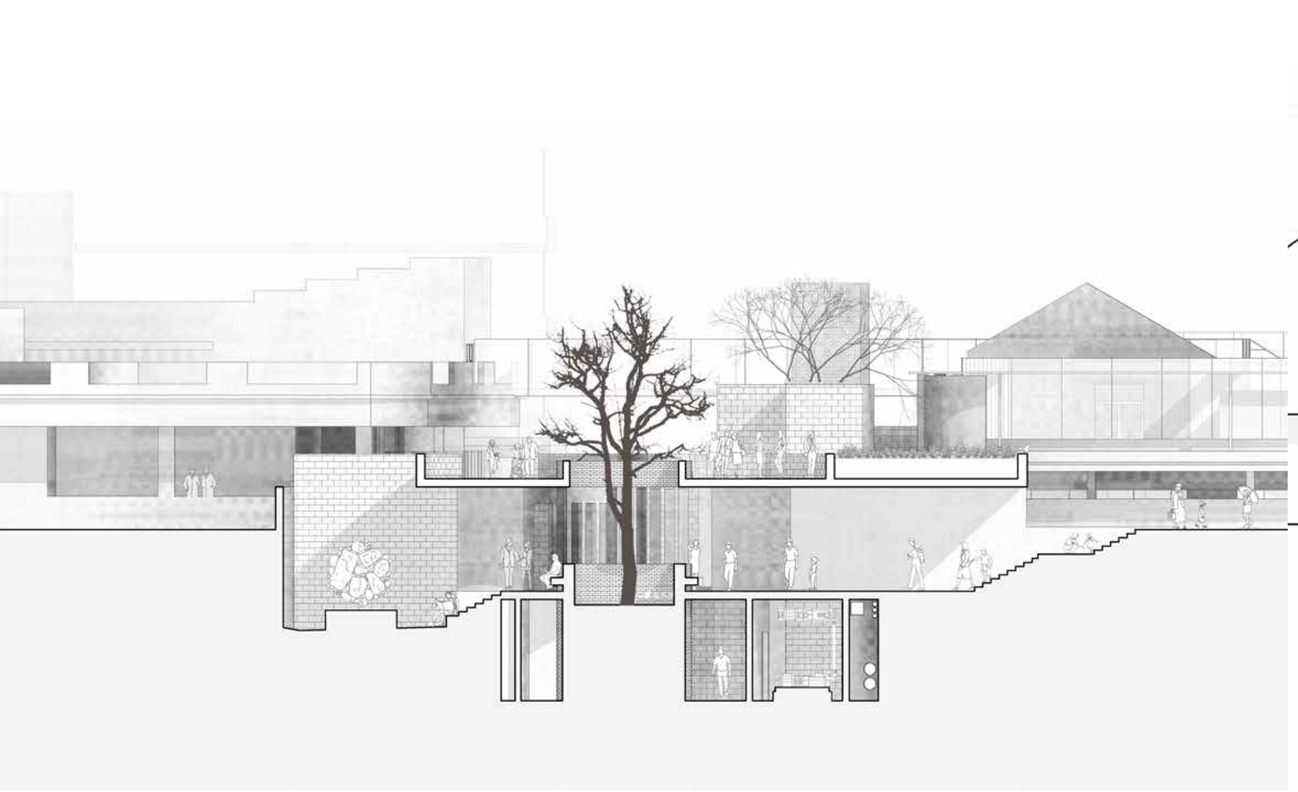
1. ‘Student Work’ Gallery
2. Archive Room
3. Shaded Planter

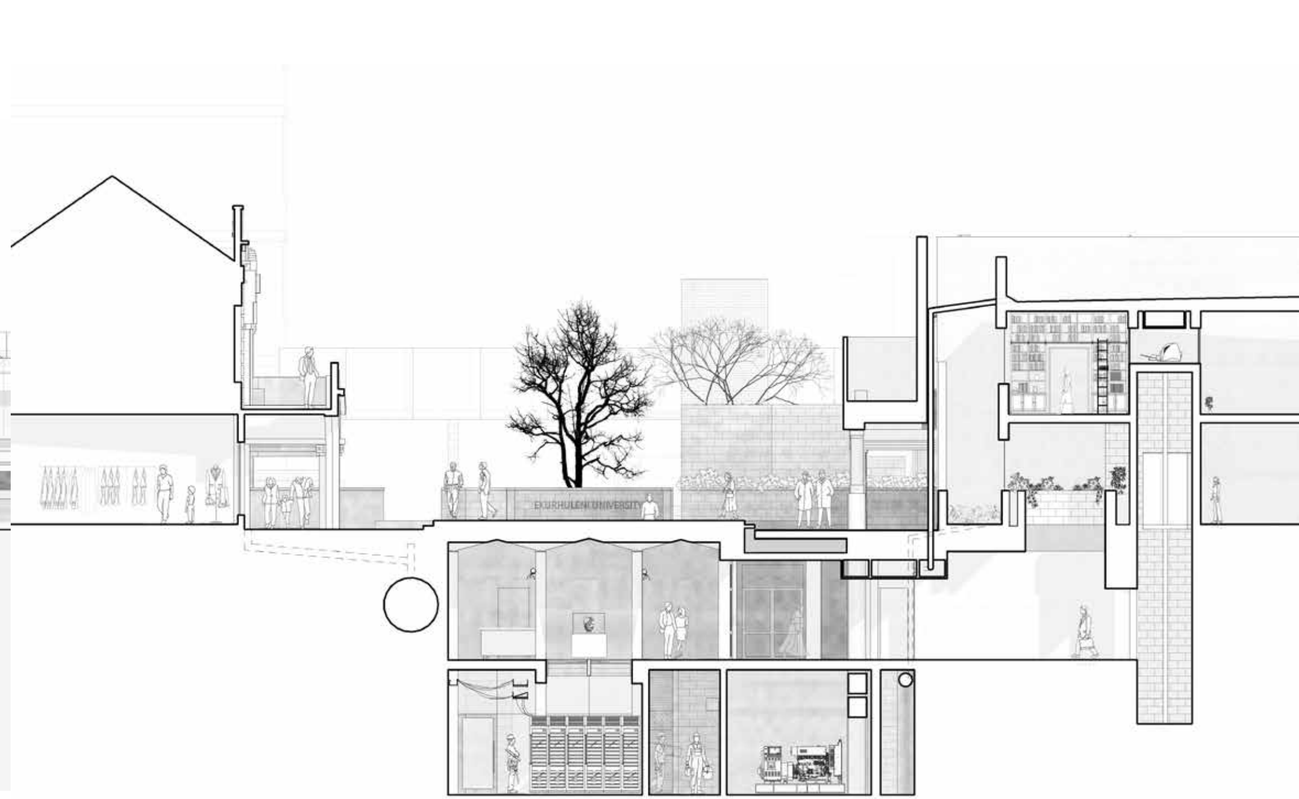
4. Fine Arts Studio
5. Storm-water
6. Public Walkway

7. Rooftop Greenhouse
8. Municipal Services

SECTION D

0 1 3 5




EKURHULENI UNIVERSITY

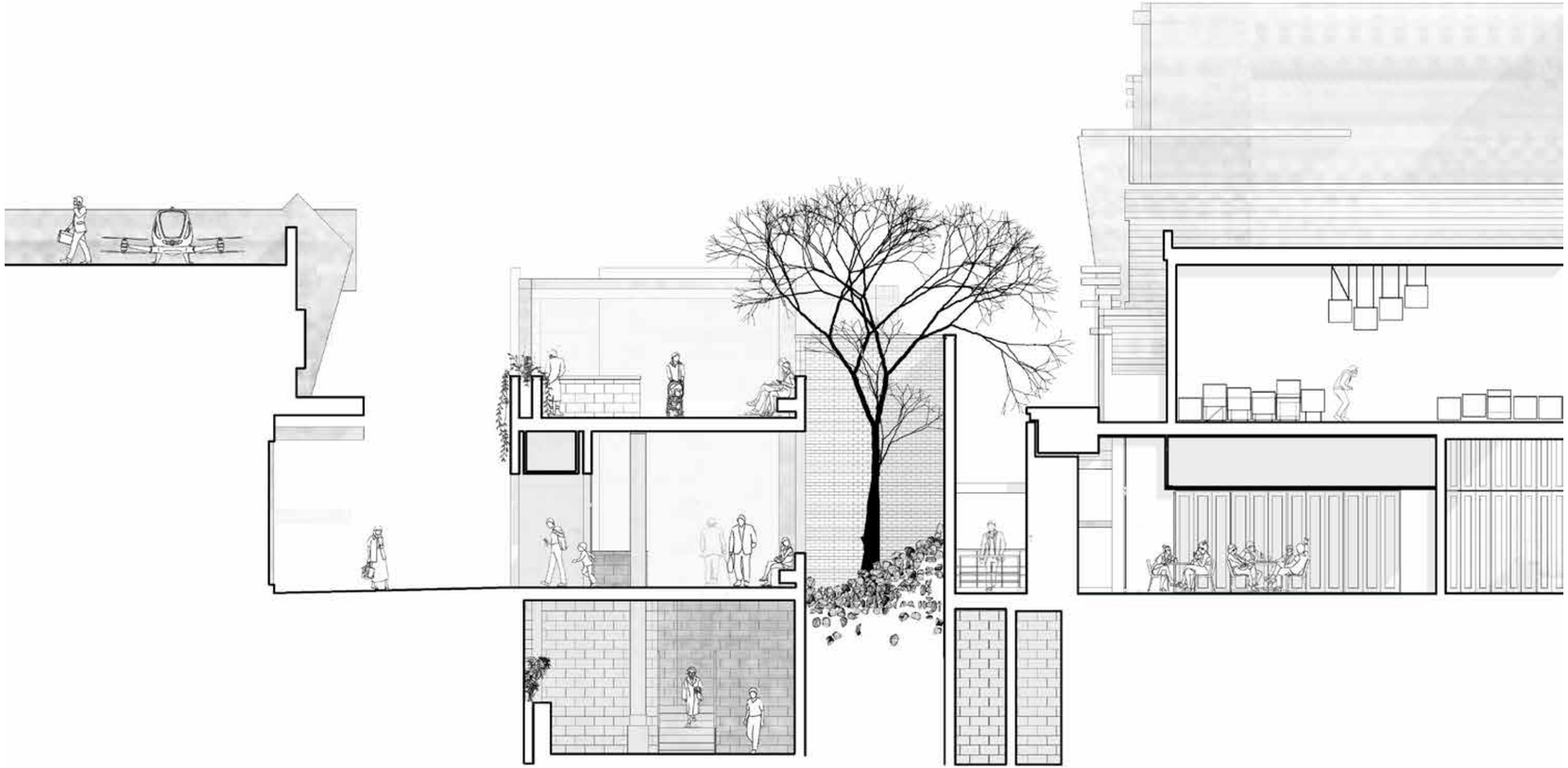


Fig 0.1: Author's own, 2018, Coat of Arms
Fig 0.2- 0.4: Author's own, 2017
Fig 0.2a: Author's own, 2014

Chapter 1
Fig 1.1: Google Satellite Image (2018)
Fig 1.3: Author's own (2018)
Fig 1.5: Author's own (2018)
Fig 1.6: unknown author (n.d,) 'Springs', Pam Golding Properties, obtained from https://www.pamgolding.co.za/real-estate/east-rand/springs, accessed on 24 January 2018
Fig 1.7: unknown author (n.d,) '2018 South African University Ranking', uniRank, obtained from https://www.4icu.org/za/, accessed on 14 August 2018
Fig 1.8: drawn after Preston, R (n.d,) 'University of the Witwatersrand', Times Live, obtained from https://www.timeslive.co.za/news/south-africa/2018-01-24-workers-at-wits-university-down-tools/, accessed on 30 August 2018
Fig 1.9: drawn after Louw, Dewar & Urban Solutions (n.d,) ''Issues Relating to University Planning and Design', ArchSA (Issue 89 2018), Picasso Headline, Cape Town
Fig 1.10: drawn after McLaren, T (n.d,) 'GXY Architects', Tristan Mclaren Photography, obtained from http://www.tristanmclaren.com/sol-plaatje-univ-c003#0, accessed on 30 August 2018
Fig 1.11: drawn after Hansen, L (n.d,) 'Campus Design and Architectural Development for Sol Plaatje University and the University of Mpumalanga', Digest of South African Architecture Volume 21, Picasso Headline, Cape Town
Fig 1.12: drawn after Adams, T., n.d, 'UCT to make provision for students during fast, Eid after heavy backlash', IOL News, obtained from https://www.iol.co.za/news/south-africa/western-cape/uct-to-make-provision-for-students-during-fast-eid-after-heavy-backlash-15006603, accessed on 30 August 2018
Fig 1.13: drawn after Louw & Dewar, n.d, 'Issues Relating to University PLanning and Design', ArchSA (Issue 89 2018), Picasso Headline, Cape Town
Fig 1.14: drawn after unknown author, n.d, 'Advancing science tourism with Amazing Mission Race', RNews, obtained from https://www.rnews.co.za/article/15650/advancing-science-tourism-with-amazing-mission-race, accessed on 30 August 2018
Fig 1.15: drawn after Louw & Dewar, n.d, 'An Approach to University Planning and Design Part 3', ArchSA (Issue 90 2018), Picasso Headline, Cape Town
Fig 1.16: drawn after unknown author, n.d, 'No name change for Rhodes University following council vote', Mail & Guardian, obtained from https://mg.co.za/article/2017-12-06-no-name-change-for-rhodes-university-following-council-vote, accessed on 30 August 2018
Fig 1.17: drawn after Louw & Dewar, n.d, 'An Approach to University Planning and Design Part 3', ArchSA (Issue 90 2018), Picasso Headline, Cape Town
Fig 1.18: unknown author, n.d., 'wits feesmustfall protest 10 october 2016 braamfontein', The Daily Vox, obtained from https://www.thedailyvox.co.za/amp/image-40/, accessed on 23 August 2018
Fig 1.18a: Author's own, 2018
Fig 1.19: drawn after unknown author, n.d., 'Oxford University partners with Berlin academics to cement world standing after Brexit', Express, obtained from https://www.express.co.uk/news/uk/891998/Oxford-University-Berlin-Humboldt-Freie-Technische-research-partnership-Brexit-academia, accessed on 30 August 2018
Fig 1.20: drawn after unknown author, 1850, 'Oxford University City Hand Tinted Town Plan', Finbar MacDonnell, obtained from https://www.finbarmacdonnell.co.uk/england/37-oxford-university-city-hand-tinted-antique-town-plan-circa-1850.html, accessed on 30 August 2018
Fig 1.21: drawn after unknown author, n.d, 'Johns Hopkins University Office Photos', John Hopkins University, obtained from https://www.glassdoor.co.in/Photos/Johns-Hopkins-University-Office-Photos-IMG577414.htm, accessed on 30 August 2018
Fig 1.22: drawn after unknown author, 1909, 'Proposed plan for John Hopkins University', Wikimedia Commons, obtained from https://commons.wikimedia.org/wiki/File:PSM_V74_D107_Proposed_plan_for_johns_hopkins_university.png, accessed on 30 August 2018
Fig 1.22a: author unknown, n.d, 'Top 10 Most Beautiful Universities in the Emerging Markets', Go Beyond, obtained from http://gobeyond.sg/top-10-most-beautiful-universities-in-the-emerging-markets/, accessed on 10 September 2018
Fig 1.23: RHWL Design International, n.d, 'Gulf University Master Plan Report', chapter: Landscape page 47, unknown publisher
Fig 1.24:
Fig 1.25: Jacobs, F., n.d., 'The Eggs of Price: An Ovo-Urban Analogy', Big Think, obtained from https://bigthink.com/strange-maps/534-the-eggs-of-price-an-ovo-urban-analogy, accessed on 14 March 2018
Fig 1.26: Nel, L., 1930's, 'Wits University's East Campus and Great Hall in the 1930's', Artthrob, obtained from https://artthrob.co.za/00mar/images/mnemosyne01a.jpg, accessed on 6 September 2018
Fig 1.27: Turner, J (1810) 'The High Street, Oxford', obtained from http://www.ox.ac.uk/news/2015-06-05-ashmolean-ca mpaigns-acquire-major-painting-jmw-turner, accessed on 15 September 2018
Fig 1.27a: Author's own, 2017

Chapter 2

Fig 2.1: Biermann, B (1997) 'Traditional Architecture', KZ-NIA Journal, Issue 2, Kwazulu-Natal Institute for Architecture, Durban
Fig 2.1a: Bohan, M (n.d) 'White Rhinoceros Pencil Sketch', Bohan Art, obtained from https://blog.bohanart.com/2015/06/white-rhinoceros-pencil-sketch-p62/, accessed on 24 August 2018
Fig 2.2a: Kusama, Y (2013) 'Infinity Mirrored Room- The Souls of Millions of Light Years Away', The Broad, obtained from https://www.thebroad.org/art/yayoi-kusama/infinity-mirrored-room-souls-millions-light-years-away, accessed on 25 September 2018
Fig 2.2: author known as 'Raymbetz' (n.d) 'Africa's Stonehenge, Nabta Playa, in Aswan Nubia museum, Egypt', UCT News, obtained from https://www.news.uct.ac.za/article/-2014-12-02-africas-ancient-astronomers-made-their-mark-in-culture-folklore, accessed on 11 September 2018
Fig 2.3: Google Street View
Fig 2.5: author unknown (n.d) 'Saynatsalo Town Hall', Moma, obtained from https://www.moma.org/interactives/exhibitions/1998/aalto/timeline/saynatsalo_thall_img.html, accessed on 25 September 2018
Fig 2.6: author unknown (n.d) 'Gauteng Provincial Government (Kopanong) Precinct', The Heritage Portal, obtained from http://www.theheritageportal.co.za/thread/gauteng-provincial-government-kopanong-precinct, accessed on 25 September 2018
Fig 2.7: Goff, B (n.d) 'Detailed Map of Africa Continent in Black Silhouette', Shuttershock, obtained from https://www.shutterstock.com/image-vector/detailed-map-africa-continent-black-silhouette-356305088?src=HGmTBDL1CunT0bb9-Aspqg-1-0, accessed on 25 September 2018
Fig 2.7a: author unknown (n.d) 'Map of europe silhouette', 123rf, obtained from https://www.123rf.com/photo_105351475_stock-vector-map-of-europe-silhouette-.html, accessed on 25 September 2018
Fig 2.8: unknown author, n.d., 'African Renaissance Monument--Dakar, Senegal', Forget to Remember, obtained from http://forgetyousawthis.blogspot.com/2013/01/african-renaissance-monument-dakar.html, accessed on 4 September 2018
Fig 2.9: Author's own (2018)
Fig 2.11: Blackwell, R., n.d., from 'For Many in Senegal, Statue Is A Monumental Failure', National Public Radio, obtained from https://www.npr.org/templates/story/story.php?storyId=122220923, accessed on on 4 September 2018
Fig 2.12, 2.13: Baan, I., n.d, 'Universite Cheikh Anta Diop UCAD Dakar', African Modernism, chapter Senegal, page 215, Park Books, Switzerland
Fig 2.14 – 2.16: Herz, M., n.d, 'Universite Cheikh Anta Diop UCAD Dakar', African Modernism, chapter Senegal, page 215, Park Books, Switzerland
Fig 2.17: Baan, I., n.d, 'Universite Cheikh Anta Diop UCAD Dakar', African Modernism, chapter Senegal, page 215, Park Books, Switzerland
Fig 2.18: various authors, n.d, 'Universite Cheikh Anta Diop UCAD Dakar', chapter: Senegal
page 214, African Modernism, Park Books, Switzerland
Fig 2.19: Baan, I., n.d, 'Khaly Amar Fall Auditorium, UCAD, Dakar', chapter: Senegal
page 224- 225, African Modernism, Park Books, Switzerland
Fig 2.20: drawn after Google Satellite Image, 2018

Chapter 3

Fig 3.1: unknown author (1891) 'Springs- History of a Gold Town', Facebook, obtained from https://web.facebook.com/springshistory/?_rdc=1 HYPERLINK "https://web.facebook.com/springshistory/?_rdc=1&_rdr"& HYPERLINK "https://web.facebook.com/springshistory/?_rdc=1&_rdr"_rdr, accessed on 17 April 2018
Fig 3.1a: McCarthy (1986) Gold Fields
Fig 3.2: unknown author, 1940, 'Springs- History of a Gold Town', Facebook, obtained from https://web.facebook.com/springshistory/?_rdc=1 HYPERLINK "https://web.facebook.com/springshistory/?_rdc=1&_rdr"& HYPERLINK "https://web.facebook.com/springshistory/?_rdc=1&_rdr"_rdr, accessed on 17 April 2018
Fig 3.3: drawn after unknown author, 1922, 'Springs- History of a Gold Town', Facebook, obtained from https://web.facebook.com/springshistory/?_rdc=1 HYPERLINK "https://web.facebook.com/springshistory/?_rdc=1&_rdr"& HYPERLINK "https://web.facebook.com/springshistory/?_rdc=1&_rdr"_rdr, accessed on 27 August 2018
Fig 3.3a: author unknown (n.d) 'Springs- History of a Gold Town', Facebook, , obtained from https://web.facebook.com/springshistory/?_rdc=1HYPERLINK "https://web.facebook.com/springshistory/?_rdc=1&_rdr"&HYPERLINK "https://web.facebook.com/springshistory/?_rdc=1&_rdr"_rdr, accessed on 20 September 2018
Fig 3.4: unknown author, 1936, 'Springs- History of a Gold Town', Facebook, obtained from https://web.facebook.com/springshistory/?_rdc=1 HYPERLINK "https://web.facebook.com/springshistory/?_rdc=1&_rdr"& HYPERLINK "https://

web.facebook.com/springshistory/?_rdc=1&_rdr”_rdr, accessed on 17 April 2018
Fig 3.5: unknown author, 1958, ‘Springs- History of a Gold Town’, Facebook, obtained from https://web.facebook.com/springshistory/?_rdc=1 HYPERLINK “https://web.facebook.com/springshistory/?_rdc=1&_rdr”& HYPERLINK “https://web.facebook.com/springshistory/?_rdc=1&_rdr”_rdr, accessed on 17 April 2018
Fig 3.6: unknown author, 1949, ‘Springs- History of a Gold Town’, Facebook, obtained from https://web.facebook.com/springshistory/?_rdc=1 HYPERLINK “https://web.facebook.com/springshistory/?_rdc=1&_rdr”& HYPERLINK “https://web.facebook.com/springshistory/?_rdc=1&_rdr”_rdr, accessed on 17 April 2018
Fig 3.7: unknown author, 1937, ‘Springs- History of a Gold Town’, Facebook, obtained from https://web.facebook.com/springshistory/?_rdc=1 HYPERLINK “https://web.facebook.com/springshistory/?_rdc=1&_rdr”& HYPERLINK “https://web.facebook.com/springshistory/?_rdc=1&_rdr”_rdr, accessed on 17 April 2018
Fig 3.8 – 3.27: Google Street View, 2017, obtained from https://www.google.co.za/maps/place/Springs/, accessed on 24 August 2018
Fig 3.28: Parsons, G., n.d., ‘Update: Vehicles turn to ashes in Pam Brink Stadium’, Springs Advertiser, obtained from https://springsadvertiser.co.za/125546/vehicles-turn-to-ashes-in-pam-brink-stadium/, accessed on 14 March 2018
Fig 2.30: unknown author, n.d., ‘Springs Mall Robbed’, The Citizen, obtained from https://citizen.co.za/news/news-cns/1902722/springs-mall-robbed/, accessed on 14 March 2018
Fig 2.31: Google Satellite Image, 2018
Fig 2.32: Ekurhuleni GIS Maps (2018)
Fig 2.33: Author’s own (2018)
Fig 3.34: Fig 3.34: Author’s own (2018), compiled from Ekurhuleni GIS Maps
Fig 3.35: Google Satellite Image, 2018
Fig 3.36: Google Satellite Image, 2018
Fig 3.37: Author’s own (2018)
Fig 3.37a: sourced from Tamaryn-Jade Collins, 2017
Fig 3.38: author’s own, 2018, compiled from unknown author, 1904, ‘Municipal Map’, Springs- History of a Gold Town and Google Satellite Image, 2018
Fig 3.39: Author’s own, 2018
Fig 3.40: author unknown (n.d) ‘Springs- History of a Gold Town’, Facebook, obtained from https://web.facebook.com/springshistory/?_rdc=1HYPERLINK “https://web.facebook.com/springshistory/?_rdc=1&_rdr”&HYPERLINK “https://web.facebook.com/springshistory/?_rdc=1&_rdr”_rdr, accessed on 17 April 2018
Fig 3.42: Google Street View, 2017
Fig 3.43: Author’s own, 2018
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Fig 3.45: Author unknown, (n.d) ‘Springs- History of a Gold Town’, Facebook, obtained from https://web.facebook.com/springshistory/?_rdc=1HYPERLINK “https://web.facebook.com/springshistory/?_rdc=1&_rdr”&HYPERLINK “https://web.facebook.com/springshistory/?_rdc=1&_rdr”_rdr, accessed on 17 April 2018
Fig 3.45a: Google Street View (2017)
Fig 3.46: Author’s own (2018)
Fig 3.47: Author’s own (2018) compiled from Google Satellite View, 2018
Fig 3.48 & 3.48a: Google Street View, 2017
Fig 3.49: Author’s own (2018)
Fig 3.50: Author’s own (2018)

Chapter 4

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Fig 5.2: Authors Own (2018)
Fig 5.3: Authors Own (2018)
Fig 5.4: Authors Own (2018)
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Fig 5.20: Authors Own (2018)

Chapter 6

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