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Design Dissertation:

IS PERMANENCE NECESSARY?

Rethinking Public Space Design through principles of Nomadism: the Case of Magomeni Park in Dar es Salaam

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University of Johannesburg

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Tutors: Mr. Jabu Makhubu, Mr. Dickson Adu-Agyei

2019





“
To be permanent is contrary to
existence.
Things are forever changing.”

-Enric Miralles

”

Acknowledgments

To my mother Ntombizodwa Mahlangu, thank you for providing me with unfailing support and continuous encouragement throughout the years of my study, when I started this journey you were one of the only a few that understood what I wanted. Thank you Jonnah Mahlangu for raising me to be the person that I am today, and to all my mother's sisters, I am a strong independent woman because of the roles you all played in growth.

Unit 15(x) leaders and tutors, Dr Saidi Finzi, Mr. Jabu Makhubu and Mr. Dickson Adu-Agyei, thank for continuous encouragement, patience and support on my thesis topic, for keeping your doors open at all times and never failing to see the gold in everyone's project throughout the year. For insightful comments and feedback, but also for the hard question which incited me to widen my research from various perspectives. Thank you for bringing the well needed "X" factor in architecture schools.

I thank my fellow classmates in for the stimulating discussions, for the sleepless nights we were working together before deadlines, and for all the fun we have had in the last two years.

Mzwandile Maawu, thank you for your love, support encouragement, for wiping my tears, for your craze ideas and critiques and mostly for sacrificing your days and nights to help finish my work. Your patience and understanding have been my strength in the past two years.

Zanele Mahlangu and Nqobile Mahlangu, thank you for your love and care, despite my unintentional neglect, for checking up on me and motivating me.

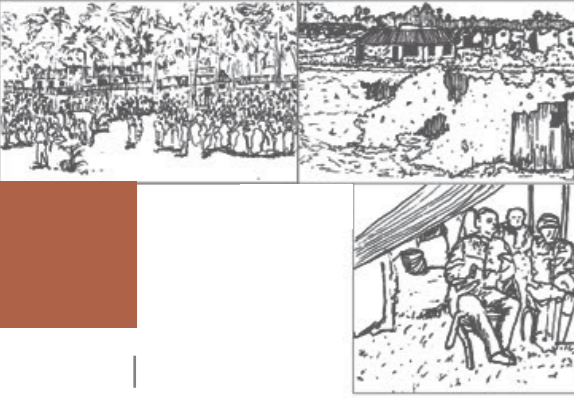
Finally, I must express my love for my grandmother, siblings and all my cousins, for grounding me and being my constant joy when I am home.



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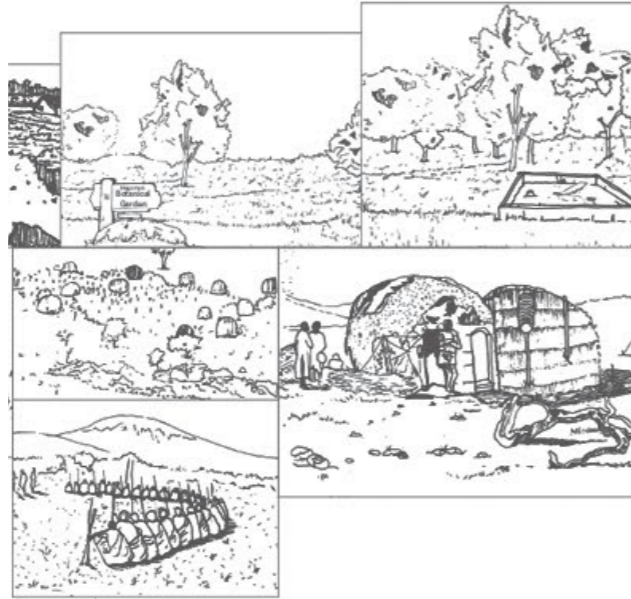


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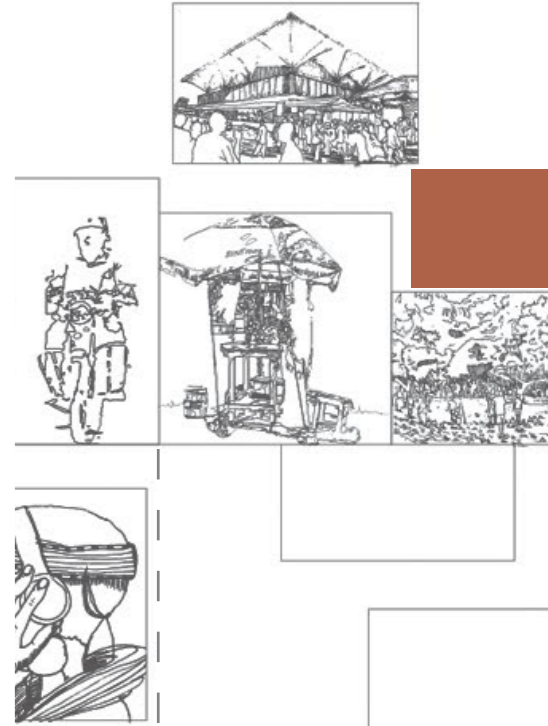
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UNIT 15(x) FRAMING STATEMENT

The theme for Unit15X in 2019 focuses on critical investigation of emergent, larva' public open spaces in Africa. The chosen sites of investigation for Unit 15X are three public spaces in the inner city of Dar es Salaam in Tanzania. Unit15X is motivated by two reasons for investigating public spaces in Dar es Salaam. Firstly, Dar es Salaam has been identified as one of the rapidly urbanizing cities in Africa and therefore it holds important lessons for developing cities on the continent in future.

Secondly, Dar es Salaam, has implemented a rapid-bus-transit-system, and city has realized that the transportation systems have adverse impact on public spaces, hence there is need establish quality public spaces in synergy with the transportations systems and the cultural needs of contemporary inhabitants. Unit15X's interest is to re-imagine and re-define

public space beyond the traditional modernist/ Eurocentric ideals of places designed for relaxation, visual enjoyment or offering climatic respite from the indoor environment for the working classes communities in inner city environments. In contemporary African cities, public spaces need to respond to multiple functions and create broader meanings; this is what Unit15 X aims to define through this research in Dar es Salaam.

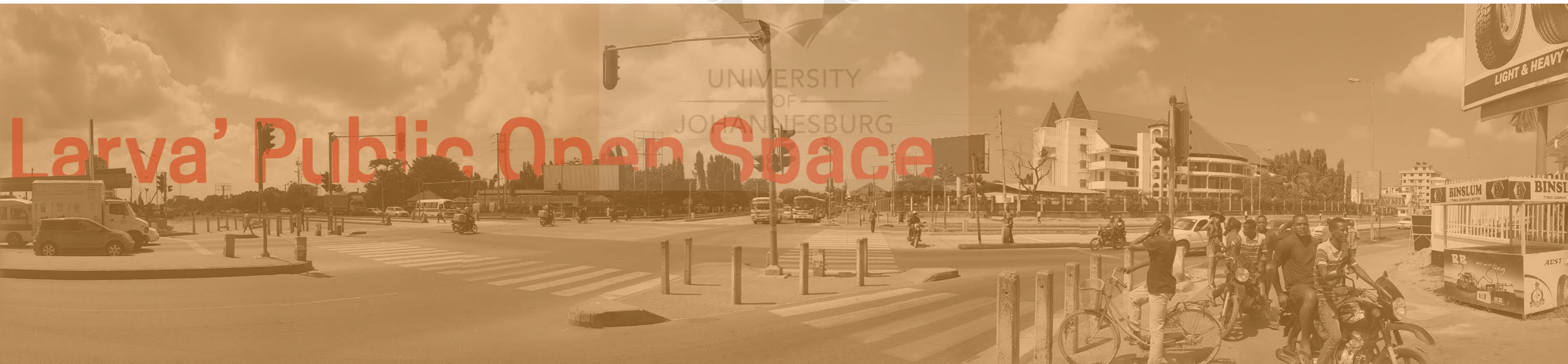
Public spaces in many cities across the world are on the decline, in terms of size and quality, because of increasing urban population and the pressure to build shelter and find land on which to grow food for the new urban inhabitants. In most post-colonial African cities like Dar-es- Salaam, public spaces are under pressure from a rapidly growing urban population and a severe lack of resources to maintain and respond to changing social,

cultural and economic values. Further, there is a lack of funding for public spaces for planning, design and maintenance. City authorities maintain that the financial benefits of investing in public open spaces are difficult to be quantify as compared to public infrastructure such as transportation, buildings, bridges and services, all of which can readily be evaluated, costed and future profits projected. Consequently this lack of economic qualification leads to loss of public open spaces to development, led by corporate businesses or to being 'hijacked' by street traders and illegal housing estate investors .

Planners, architects, urban designers, psychologists, ecologists and the likes agree that the quality of life in cities is determined by the quality of its public spaces. In cities like Dar-es- Salaam where public space is lost to 'development', 'urban

regeneration' projects or illegally occupied by traders. Unit15X- explores the role of planners, urban designers and architects in redesign and redevelopment projects of public spaces. Unit 15X's projects investigate the influence architects planners, landscape architects and urban designers over the trajectory of these projects in the public space with a view to discovering alternative ways of defining and designing public spaces?

Units15X draws insights from the contemporary issues in Dar-es-Salaam's urban context and its' diverse communities in our quest to articulate what public open spaces are and could be. The methodology utilizes lessons from literature and adjacent disciplines such as film, music, visual art ecology and evolving environmental rules and regulations, and legislation to assist us.



ABSTRACT

Magomeni Park, in Dar es Salaam, Tanzania, has gone through various changes since 1955. Originally, it was designed as a botanical garden and a water reservoir, then later, became an informal fish-harvesting park. In its current state the park serves as a multi-purpose space, a transient space that lends itself to the homeless and informal traders who are mainly the Tanzanian locals and the Maasai people. This park has been able to evolve with its community, suiting their ever-changing needs for over sixty years.

My thesis investigates forms of temporality and transitory spaces through a study of three East African nomadic culture, the Maasai, the Rendile and the Samburu, with reference to the Maasai people in Dar-es-Salaam. I will provide speculative transpositions of their “ephemeral existence” (Prussin 1995:16) into an urban landscape as a way to imagine alternative methods of urban occupation that exist outside Western forms of modernity, which are territorial, permanent, rigid and individualistic.

Two questions that will guide my research are: “How do we design for what is temporal, although often occurring in the urban landscape?” and “Is it possible to design public spaces as forms that follow necessity and change?”

The Nomadic people are communities who move from one place to another, rather than settling permanently in one location; they are independent and “live outside the cultural pale” (Prussin 1995:15). This has inspired concepts like the Plug-in City by Peter Cook, a constantly evolving mega-structure, moving and adopting throughout time (Siegal 2000:23). Kumbh Mela (2018) : Mapping the Ephemeral Mega-city is a study of the world’s largest religious gathering in India, the authors question the idea of a city being a stable entity

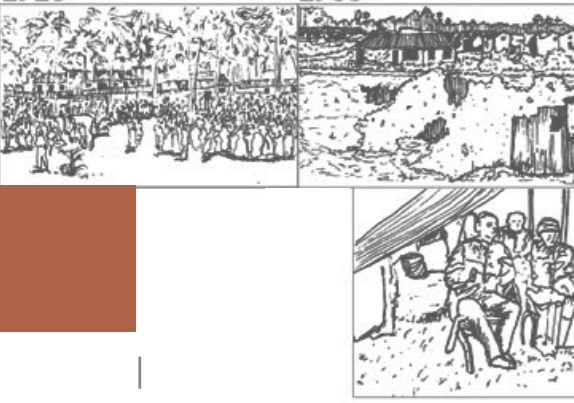
and argue that present day cities should be flexible, adaptable and responsive to flows of people and material (Bose 2018:1). These two precedents will be my guiding case studies throughout my research inquiry and design iterations. As there are no maps documenting the changes Magomeni has gone through, I will be using speculative mapping based on images, videos and interviews taken on site, to document these various transformations. Essentially, I aim to develop a range of possible public space scenarios through multiple speculative design iterations, specific to the Magomeni park and inspired by a deep understanding of- and reinterpretation of the nomadic culture of the Maasai.

The thesis will be a corollary to a theory by Karen Frank, stating that time is a series of singular, static moments with an enriched and more nuanced perspective, treating time as a source of inspiration to be embraced, not a condition to be defended against (Frank 2016:5). This is a concept the Maasai nomads understand - fracturing the coherent categories of belonging to space and time. “They adapt and evolve their way of life in response to the changing environment” (Prussin 1995:10), a change based on the environment and not only in modernism.

Through this research, I aim to gain an intimate understanding of the experience and relationship between time, culture and the Magomeni park and open a debate on public space, through an inquiry of how structure can fulfil an important purpose, even if only transiently (Baan 2013). This understanding will be explored through the use and generation of drawings, model making and written text.



Part One

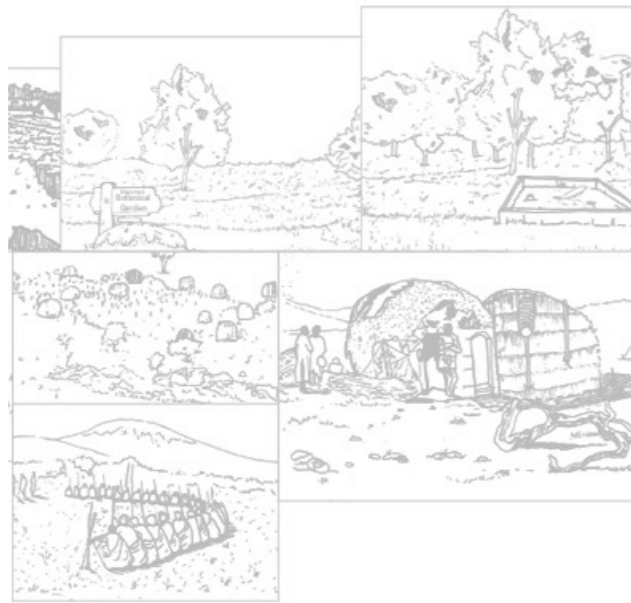


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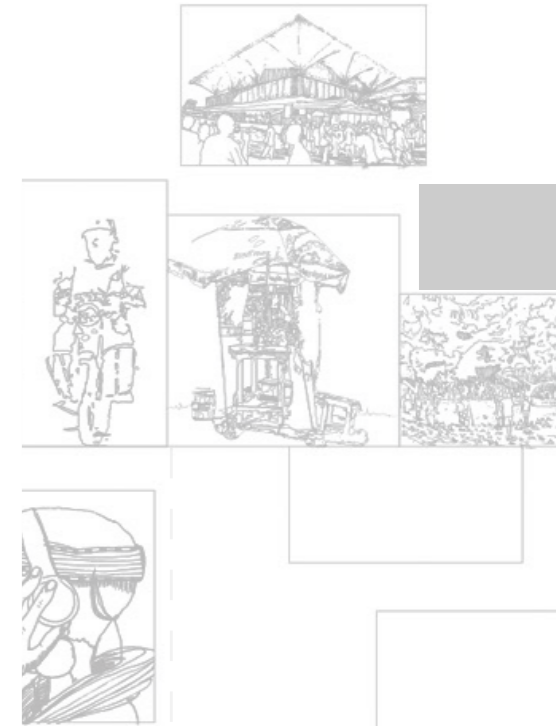


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Part one

Public Space as Territory

Whose public space is it anyway?

Whose public space is it anyway?

Architecture's primary tool is space, yet who is space for? What purposes does it serve? Public space is ambiguous. Do you consider the space in-between buildings? Or the spaces in buildings.

Territory is more specific. It refers to an assigned area. It implicates and points, to those who have assigned. Another theory suggests that territory derives from the Latin word *terrere* meaning to frighten.

Thus territory could mean 'a place from which are warned off', we can therefore think of territories as places where people belong or are warned off.

A public sidewalk is a type of thoroughfare that is intended for use only by pedestrians and not other forms of traffic such as motorized vehicles and cycles.

The By-Laws state that no person may garden on any public road or any sidewalk or pathway if this obstructs or interferes with pedestrian traffic.

Yet suburbs like Blackheath, Cresta have more than 5m of lawn completely privatized. This is the case in most suburbs in the city of Johannesburg.

The perfect neighborhood interrogates the misconception of these sidewalks belonging to the pedestrian, through a series of interviews and participation.



Blackheath typical street-view

I am currently based in Blackheath, a suburb in the NorthCliff. The above image is a typical view of what the street looks like on a day to day basis. It is a fairly quiet neighborhood where people come out at different times, to socialize, jog, work, walk the dog, deliver newspapers etc. We all come out for different reasons, we use the public walkways for different reasons.



The Invisible Participant
05:00-09:00

He comes every Thursday morning without fail. He know his territory. They all know their territory. He is the faceless member of society but yet he plays an important role in our economy. Its is estimated that waste-pickers (Abomagkgereza) will reduce land fill by 7% in 2040. According to Sunday Times, this informal industry saves South Africa over R700m annually. Waste pickers have been around for over 10years and no plan has been put in place to accommodate them in the public.



The Jogger
05:00am | 18:00pm

The residents, they come out in numbers in the morning and in the afternoon to walk their dogs or jog. They constantly have to make space for cars to pass because there is no designated pedestrian walk way. Their lawns are over 5m's wide and restricted. with dogs and barking at you at every chance. This is not encouraging for the user.



The Help
13:00pm | 17:00pm

The legacy of apartheid and its spatial planning haunts us to this very day. It was based on the European perception of town planning, these urban settlements were created by whites for whites. Black people were attracted only as laborers. They left their families in the rural areas to come work for the elite in the suburbs. 25 years into democracy they are still struggling to feel accommodated not only in their work space but also in public spaces.



"Paperboy"
09:00am | 14:00pm

"A paperboy or papergirl is someone—often an adolescent—who distributes printed newspapers to homes or offices of subscribers on a regular route, usually by bicycle or automobile". In Blackheath this job is done by an older generation of men and women. Despite the numerous 'beware of the dog' signs they do their jobs. The sidewalk is his space of work, his office.

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The Eyes 09:00 | 14:00pm

Increasingly, CCTV cameras are becoming a normal feature of public life. But is this an infringement on our rights in public spaces or a form of security? In 2015 CSS was launched as the latest crime fighting initiative in Jo-burg's suburbs. These cameras will assist the SAPS & CSS in their investigation. On the other hand such security creates the impression of firstly I am in danger and secondly I am a threat. These camera are not available for public use/knowledge which can be a good and a bad thing. One can even argue that these suburb residential cameras should be installed in such a manner that the owner views his/her yard and not public areas such as sidewalks. But than again can one really expect privacy in a public space.



Conclusion

I followed some of my actors to see how they venture around these public spaces. I attempted to participate in their day to day practices but some shoes are really too big to fill. Most of these actors felt very unwanted, they felt they were trespassing but others took charge of what they had to work with. There are a lot of intertwined activities from private to public spaces. All these actors share the same space but are somewhat disconnected from each other with time providing the divide.

Part One

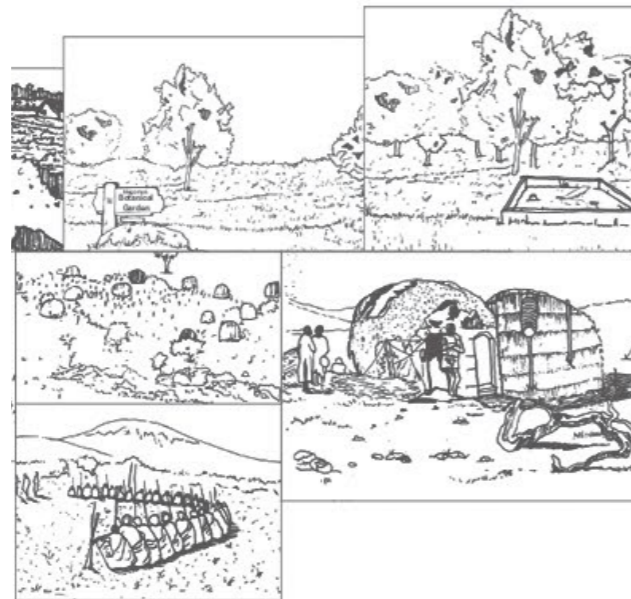


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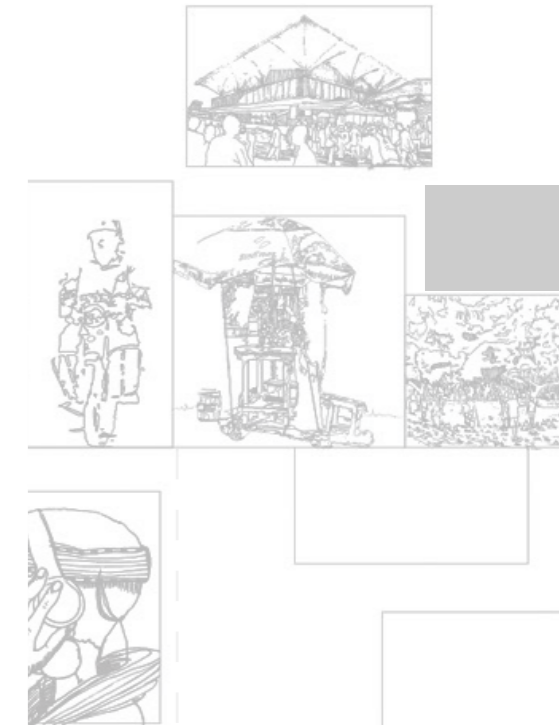


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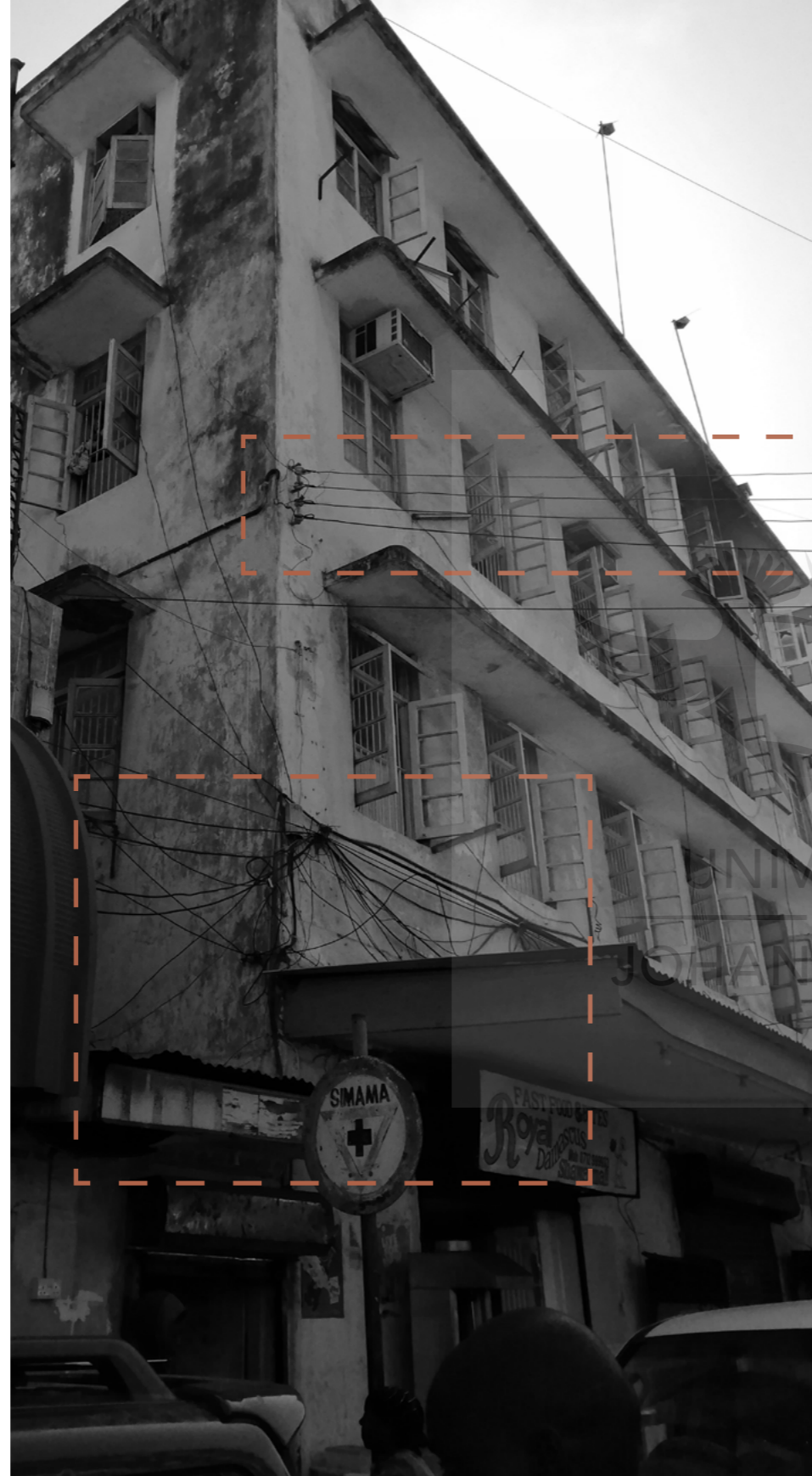
Theoretical Discourse

Is permanence necessary?

“
...Time is a series of singular,
static moments with an
enriched and more nuanced
perspective, treating time as
source of inspiration to be
embraced not a condition to
be defended against.”

~Karen Frank~

”



Brief History of Dar-es-Salaam The urbanization process

Dar es Salaam is a relatively new city which emerged during the second half of the 19th century. Dar es Salaam is the largest city in Tanzania. With its location on the Indian Ocean coast, separated from the island of Zanzibar by the Zanzibar Channel, it is also the manufacturing and commercial center of the nation. The city began as a fishing village in the mid-19th Century and gradually became an established port and trading center.

The site of Dar es Salaam was originally a small village named Mzizima (Kiswahili for healthy town) dating back to 1857. Later, it became the site of plantations growing cassava, millet and maize. Dar es Salaam, an Arabic name meaning “haven of peace,” was formally founded by the Majid bin Sayyid (c. 1834-1870), the Sultan of Zanzibar, in 1866. It is not as old as other historic stone towns in Africa but grew into an administrative and commercial center during the German and British colonization. (Smith:2010)

The ‘city’ served as a port and trading center on the mainland, but after the Sultan’s death, the city fell into decline (Brennan, Burton, & Lawi, 2007). Like other prominent African cities, Dar es Salaam has only emerged as an important economic center in the colonial and post-colonial period and thus the urbanization pattern can be viewed by two time-slots, which will be discussed respectively (UNCHS-Habitat, 1996).

The images on the left were taken during the city walk as reflection on of our visit, but the more the space was investigated it was clear that it was also suffering the results of rigid and stagnated ways designing a city. Because of this the city has not been able to adapt well to the constant technology advancements, whether it’s the newly installed wifi cables or satellite dishes. Over time there is no room for change in

spaces like this. Karen Frank describes time as “...time is a series of singular, static moments with an enriched and more nuanced perspective, treating time as source of inspiration to be embraced not a condition to be defended against”, which I believe is one of many ways we can avoid having such problems in the future again.

Due to rapid urbanization the CBD is full of spaces like this (image on the left). Informal traders cover the walk ways and drive ways at some points, leaving little to no space for pedestrians, motorist and cyclists.

Dar es Salaam growing rapidly after World War II and soon became the center of anti-colonial agitation led by the Tanganyika African National Union (TANU) founded in the city. When Tanganyika became independent in 1961, Dar es Salaam became its first capital, a position it continued to have when Tanganyika and Zanzibar merged in 1964 to become Tanzania. Despite its size and strength Dar es Salaam lost its title as the counties capital in 1973, Although the interior city of Dodoma is now the new capital of Tanzania, Dar es Salaam continues to be the location of most government offices. (Smith:2010)

Buildings in Dar es Salaam often reflect the city’s colonial past and display a rich mix of architectural styles, incorporating Swahili, British, German, and Asian traditions.

According to most reputable surveys, Tanzania’s population includes more than 120 different indigenous African peoples, most of whom are today clustered into larger groupings.



Dar-es-Salaam, Tanzania: By Jasmine Zwane

Because of the effects of rural-to-urban migration, modernization, and politicization, some of the smallest ethnic groups are gradually disappearing. (Bryceson:2019)

Today, Dar-es-Salaam is still expanding rapidly. Almost one-third of the population lives in urban areas, and more than one-tenth of the urban population resides in Dar es Salaam.



Dar-es-Salaam, Tanzania: By Author



Population increase

In 1957, in the waning years of British colonial rule, the then-unremarkable port city of Dar es Salaam sat on the coast of present-day Tanzania. It boasted a meager population of 128,000.

“
It’s on pace to be Africa’s fastest growing urban center
”

But recent years have brought unimaginable growth and change to Dar es Salaam. In terms of annual population growth, it’s on pace to be Africa’s fastest growing urban center. Its total population—currently about 4.1 million people—is expected to expand by more than 85 percent through 2025, according to the African Development Bank, and could reach 21.4 million people by 2052. It’s likely to achieve ‘mega-city’ status—10 million residents or more—by the early 2030s.

Although huge, this staggering growth is not a complete surprise. City-Lab has written about sub-Saharan Africa’s other mushrooming cities. Tanzania is already one of Africa’s most populated nations. By 2020, according to the U.N., Africa will become the most rapidly urbanizing region of the world. Dar es Salaam is at the epicenter of a perfect storm of demographic change: A cosmopolitan city in a population-rich country amid unprecedented regional urbanization.

In other ways, the rise of Dar es Salaam is remarkable. For decades, urban development was actively discouraged by the state. City life, and its perceived individualism, was viewed with contempt by many of the country’s socialist ideologues. (Strugis:2015)

Dar-es-Salaam, Tanzania: By Author



2010

However, Dar es Salaam has continued to sprawl dramatically. Much of this was due to the expansion of informal housing. According to the U.N., 70 percent of city residents today live in informal communities. And with the population projected to grow by tens of millions of people in coming decades, some anticipate far more informal housing. (Strugis:2015)

In 2010, the density of Tanzania’s population amounted to 52.05 inhabitants per square kilometer.



2030

In 2030, the city is expected to double in population, from 4,364,541 people in 2012 to over 10m people in the coming 11 years, and these are people migrating from the rural areas to the urban environment.

Dar-es-Salaam, Tanzania: By Author

“

By 2020, according to the U.N., Africa will become the most rapidly urbanizing region of the world. Dar-es-Salaam will be one of the cities at the epicenter of this demographic change: It (4.6 million population in 2012) is expected to become a mega city by 2030 with a population over 10 million. However, the rapid expansion of Dar es Salaam in terms of population growth, extension of built up areas and densification, puts pressure on all aspects of its living conditions.

”

Dar-es-Salaam, Tanzania in 2050: By Author





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Designated Site

Magomeni, Kinodoni

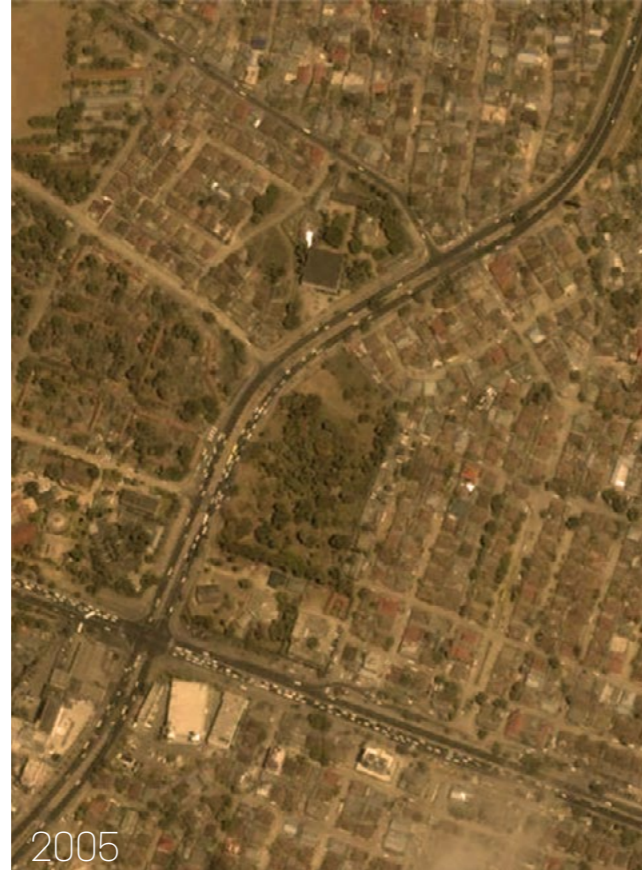
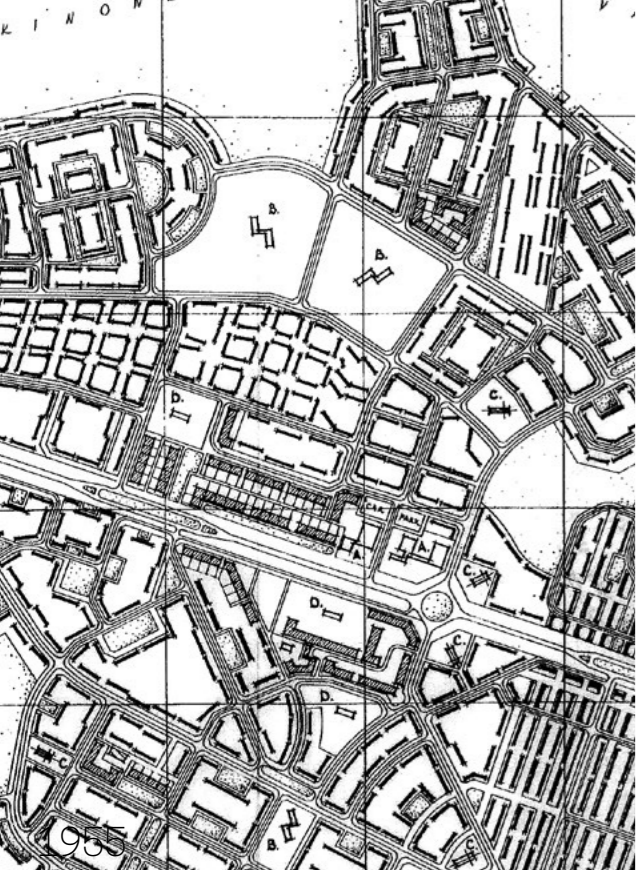
Magomeni, Kinodoni

Though Dodoma is the true capital city, Dar es Salaam is Tanzania's main economic and cultural capital. It is one of East Africa's most populous cities with a continuously growing number of inhabitants of currently over 4.4 million and thus fast tracked to becoming one of the continent's 'mega-cities' (Wolff, Kuch, & Chipman, 2018).

Dar es Salaam is made up out of five districts: Kinodoni (which constitutes the city of Dar es Salaam), Ilala and Temeke. For my MDP I chose Magomeni park in Kinodoni. It has the largest population amongst the three municipalities and the majority of Dar es Salaam's higher and middle income population resides here. This is also reflected in higher traffic volumes; a larger amount of solid waste being generated and intensive socio-economic activities.

Various rivers, streams, lakes and swamps drain the Dar es Salaam area. Some, like the Msimbazi river have significant effects on the development of Dar es Salaam. The expansion of uncontrolled settlements into these flood plain areas, and uncoordinated developments that block natural drainage patterns have made flooding a widespread problem in the city.





2005



2007



2014



2016



2009



2011



2012



2018



2019

Magomeni

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This is also reflected in higher traffic volumes; a larger amount of solid waste being generated and intensive socio-economic activities.

The sequence of the Google Earth history images illustrate the changes Magomeni park has gone through in the past 64 years, since the year 1955. Not only contextual changes but site itself.



Magomeni Public Space

Magomeni public space was first declared as a Botanical garden in 1969 with a collection, cultivation, preservation and display of a wide range of plants.

During that period, Magomeni was also used as a vegetable and fruits garden but failed to continue to operate in 2008 due to poor management. In 2015, part of the garden was given to the government to construct the Dar-es-salaam Metropolitan office in Kindoni municipality, due to the shortage of land.

The BRT was introduced in 2014 with one of its stations being adjacent to the site (Magomeni Hospital Bus Station). The introduction of the BRT has increased interaction with the site as some commuters use the site as a thoroughfare.

Various rivers, streams, lakes and swamps drain the Dar es Salaam area. Some, like the Msimbazi river have significant effects on the development of Dar es Salaam. The expansion of uncontrolled settlements into these flood plain areas, and uncoordinated developments that block natural drainage patterns have made flooding a widespread problem in the city.

The site is surrounded by residential area, restaurants, churches, a hospital and a market less than 1km away. The spaces is currently used a group of Maasai people selling herbs and beaded jewelery, homeless people and informal trades. The park also home to the space with the DMDP (Dar es Salaam Metropolitan Development Project) offices



Artifacts

Abandoned,unutilized space

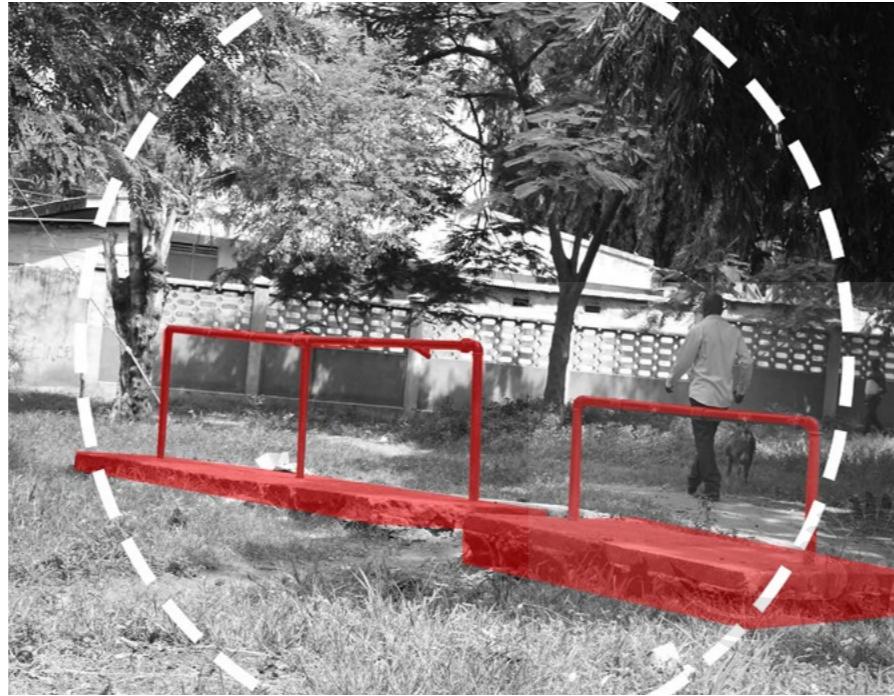
“space only exists with human occupancy, it is not uncommon for spaces and to be abandoned after they fulfilled their purposes. Magomeni public space is filled with these architectural ruins of the past. As mentioned before, the space was once a botanical garden and than a communal water supply for the residence.

“

decaying with time and have become redundant to the community's' current social and economic needs..

“

But since the residence have their on taps now, the water house and taps are abandoned. Similar with ponds that were in use when its was a botanical garden, the ponds are now



swamped carcasses. Made with concrete and steel for durability and longevity these objects are decaying with time and have become redundant to the communities current social and economic needs.



Magomeni Dar-es-Salaam, Tanzania: By Author

Magomeni Dar-es-Salaam, Tanzania: By Author



So I question the necessity to resolve our present and very temporary problems with permanent solutions?

Why is permanence always the default in architecture?
(Rahul Mehrotra)

Part One

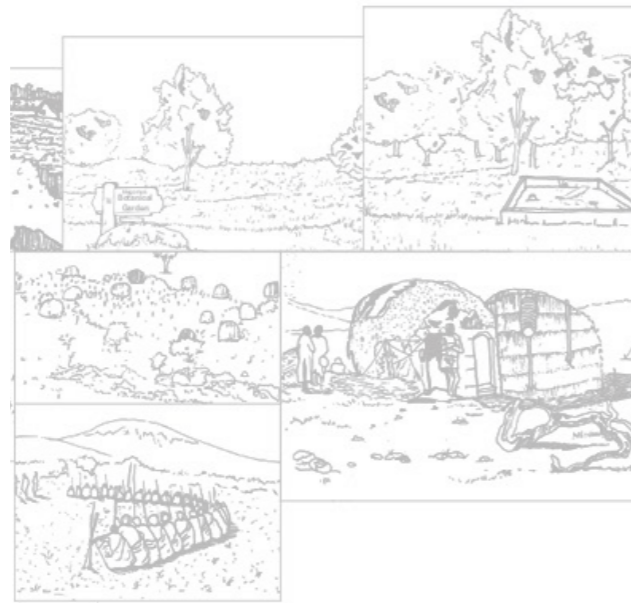


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An Ephemeral Existence

East African Nomadic Architecture Practices

“
When a tradition gathers enough strength
to go on for centuries, you don't just turn it
off one day.

~Chinua Achebe~

”



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The Maasai

The Maasai are a Nilotic ethnic group inhabiting northern, central and southern Kenya and northern Tanzania. They are among the best known local populations internationally due to their residence near the many game parks of the African Great Lakes, and their distinctive customs and dress. The Maasai, historically a nomadic people, have traditionally relied on readily available materials and indigenous technology to construct their unusual and interesting housing. The traditional Maasai house was designed for people on the move and thus Their houses were very impermanent in nature. The Inkajjik (houses) are either circular or loaf-shaped, and are made by women. *Siyabona Africa:*



The Rendille

The Rendille are a Cushitic-speaking ethnic group inhabiting the northern Eastern Province of Kenya. The Rendille are believed to have originally migrated down into the Great Lakes area from Ethiopia in the more Northerly Horn region, following southward population expansions by the Oromo and later the Somali. Traditionally, They are nomadic pastoralists, tending camels, sheep, goats and cattle. The camels are generally kept in the northern part of their territory and the cattle in the southern section. (Siyabona Africa:)



The Samburu

The Samburu tribe lives north of the equator in the geographically fascinating Samburu County of Northern Kenya. The Samburu people are closely related to the Maasai tribe who also live in East Africa. The Samburu, just like the Maasai are a semi-nomadic people. Only the Samburu are still very traditional and have not parted with old customs as compared to the Maasai. Cattle, as well as goats, sheep and camels, play a vital role in the Samburu way of life and culture. The Samburu are highly dependent on their livestock for survival. (Siyabona Africa:)

“

“Nomadic architecture plays a far greater role in the transmission of the culture and in the maintenance of well-being than much of our sedentary architecture because it is so integrated with rituals endowed with meaning and emotional content. This architecture, so responsive to underlying needs of the human psyche, entails a hands-on process of creativity. The inherent involvement overtime is what allows it to serve as a cultural mnemonic, reinforcing the existing value system, yet responding to the inevitable change.”

Labelle Prussin

”



Basic Nomadic Principles

Migration Pattern

The Representation of Space

Light, Sun, Shade and Shadows

Vegetation

Ritual and Celebration

Boundaries

Anthropometry

Settlement vs unSettlement

Adaptability



The Representation of Space Spatial Ability

“

┌ Nomadic people orientate themselves in a space according to the physically measurable cardinal directions, but along paths or directions in response to topographic features in the natural environment.... In sum, cardinal points and directions are not fixed at infinity as they are for the Western world.

Labella Prussin

”





The Representation of Space

Spatial Ability

“Nomadic people do not orientate themselves in a space according to the physically measurable cardinal directions, but along paths or directions in response to topographic features in the natural environment... In sum, cardinal points and directions are not fixed at infinity as they are for the Western world” (L. Prussin).

Their understanding and measurement of space is different, it is based on the journey traveled and an understanding that topography is in a constant flux. For them nothing in nature is fixed, hence they do not use cardinal points and directions like us (sedentary people). This further makes their spatial ability different to ours.

Spatial ability denotes how people represent the understanding and knowledge of about space and how they think about space and objects in space. This is an important capability to nomadic survival as well as to architectural aptitude. “Field-independence” and “field-dependence” is a concept used in psychology to test and measure such abilities.

These terms refer to how the human mind relies on the visual and other information in making guided judgments about their own orientation and the orientation of objects in space. However, this might make sense to sedentary people, it might not be the same to the nomad, where visual representation so limited and linear boundaries are so unique.

In the field of cross-cultural psychological research there is are suggested variables that might explain a different form of spatial ability, one of them being ecological adaptation. The hypothesis states that differentiated cognitive styles are facilitated by the nomadic lifestyle which demands a constant

assessment in different ways of the environment and constant perceptual re-articulation of a little-differentiated environment. However, the same study has argued that for an ecological hypothesis, the nomadic people, regardless of the degree of nomadism they have more accurate spatial abilities than sedentary people. (Prussin 1995: 32-33).

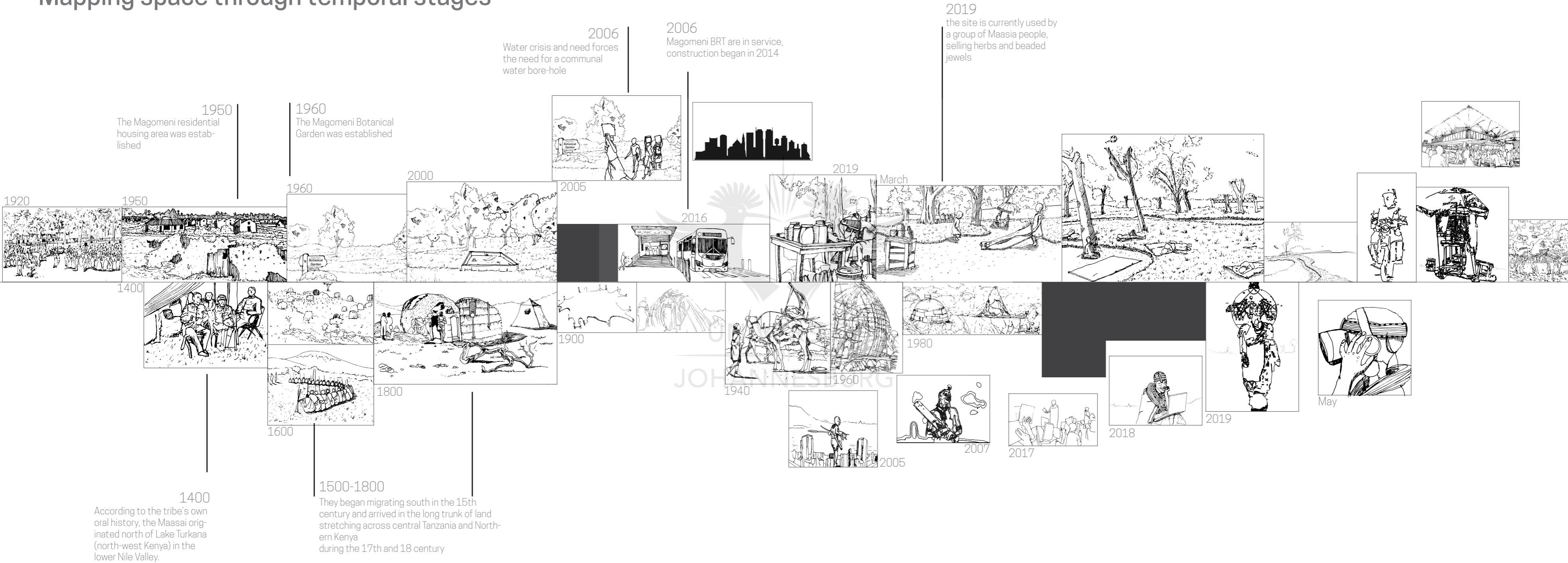
Every human being defines and experiences spaces and boundaries through movement. Human movement in turn, links the concept of space to the natural environment- from the sun, stars, moon, clouds, wind direction and topography- as well as the built environment and time. For the nomad this is very vital, for them the measure of space is defined primarily by the movement of time. For examples travelers/geographers that traveled with these nomadic groups noted that distance was measured in temporal stages. It was the number of days from place to place and point to point that determined their itineraries. Another important factor to their understanding of space is that their variability of the cardinal points are equally dependent on the position of the observer. This means there is more than one way of viewing space, and it will hardly be the same as the next person, this is also known as Hodological Mapping (Figure 00)

This aided in the making of the time-line illustrated in the next page. The sketches was an attempt of capturing the changes of Magomeni in temporal stages, through specific events, that make the site what it is today. This goes hand in with the three East African Nomadic ethnic groups to show how these groups have changed or stayed the same in history. “The Arrival” is an summary illustration of the above and an introduction to the rest of the project. This will be explained in depth on page 5.

The arrival: By Author

The Representation of Space

Mapping space through temporal stages



Mapping space through arrival

The idea of moving for betterment of family, lively-hood is not new, we are still doing it to this day. We move to the city in search for employment, school or a better living. This illustration is juxtaposition of the urban and rural, of the permanent building methods vs temporary way of building to play with the idea of these ideas coexisting with each other.

The illustration further shows the 3 East African Nomadic ethnic groups mentioned earlier that have been used in the collection of the principles used in this dissertation.

This concept is explained in detail through migration patterns on page 9.



The arrival: By Author

Hodological Mapping

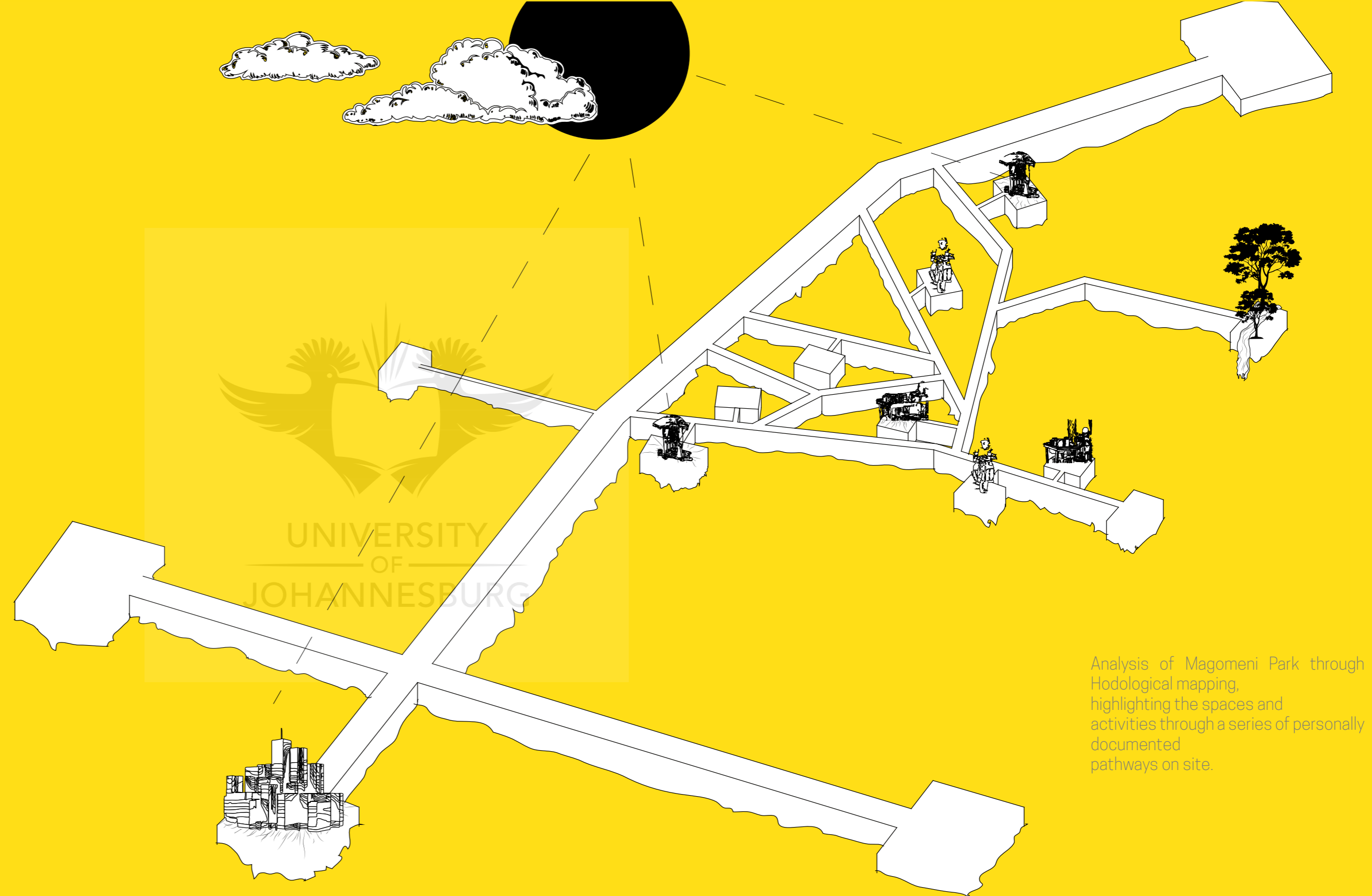
Nomadic people do not orientate themselves in a space according to the physically measurable cardinal directions, but along paths or directions in response to topographic features in the natural environment.... In sum, cardinal points and directions are not fixed at infinity as they are for the Western world (L. Prussin).

They have their very own principles of navigating and understanding of space and the environment. Space is measured through movement not only physically but physiologically as well (hodological mapping). Distance is measure through temporal stages, through activities and experience. These are some of the traits that have helped them live side by side with nature for all these years.

Hodological Mapping, In contrast to the mathematical concept of space as presented on maps, plans, etc. 'Hodological space' is based on the factual topological, physical, social, and psychological conditions a person is faced with on the way from point A to point B, whether in an open landscape or within urban or architectural conditions.()

The purpose of Hodological space", writes Lewin, "is to find a type of geometry which permits the use of the concept of direction in a manner which will correspond essentially with the meaning that direction has in psychology." (Lewin, 1938, p. 23). The Hodological space is a discrete presentation of the space.

Hodological Mapping: By Author



Analysis of Magomeni Park through Hodological mapping, highlighting the spaces and activities through a series of personally documented pathways on site.

Migration Pattern

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For the nomads, home cannot be understood except in terms of journey, just as space is defined by movement.

Labella Prussin

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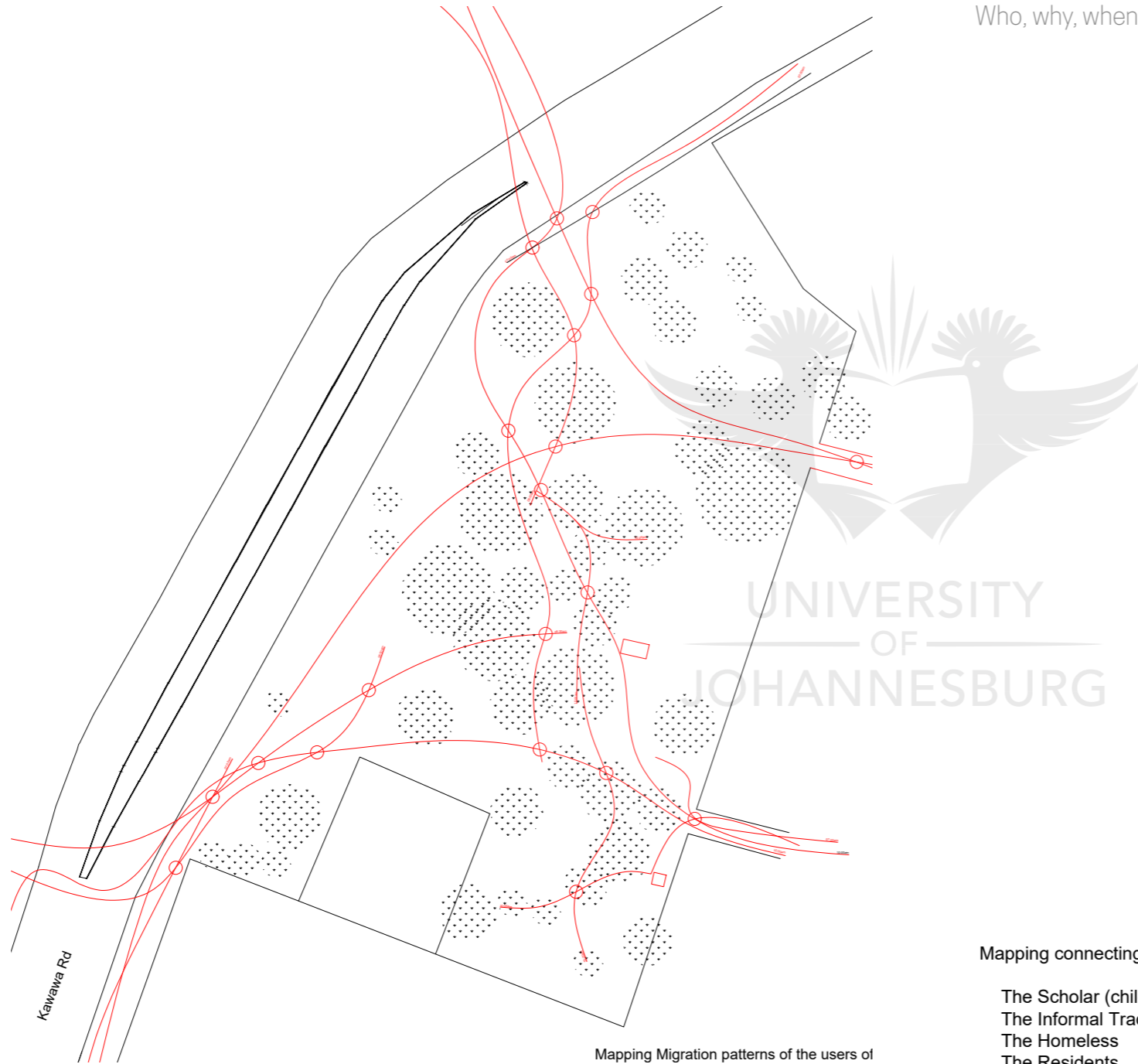


Migration Pattern

“For the nomads, home cannot be understood except in terms of journey, just as space is defined by movement.”
 Labella Prussin

Human migration is the movement by people from one place to another, particularly different countries, with the intention of settling temporarily or permanently in the new location. There are different types of migration, but I will sole focus on seasonal migration, which entails moving with each season or in response to labor or climate conditions, the nomad “follows the clouds”. Their migration is based on their herd, (cattle, sheep or camels) this is their form of wealth. The herd travels from one habitat to another in search of food, better conditions, or reproductive needs. To this day migration is still evident in our societies, we might not be following a herd of cows in its literal sense but be migrating to cities following wealth, in search for greener pastures.

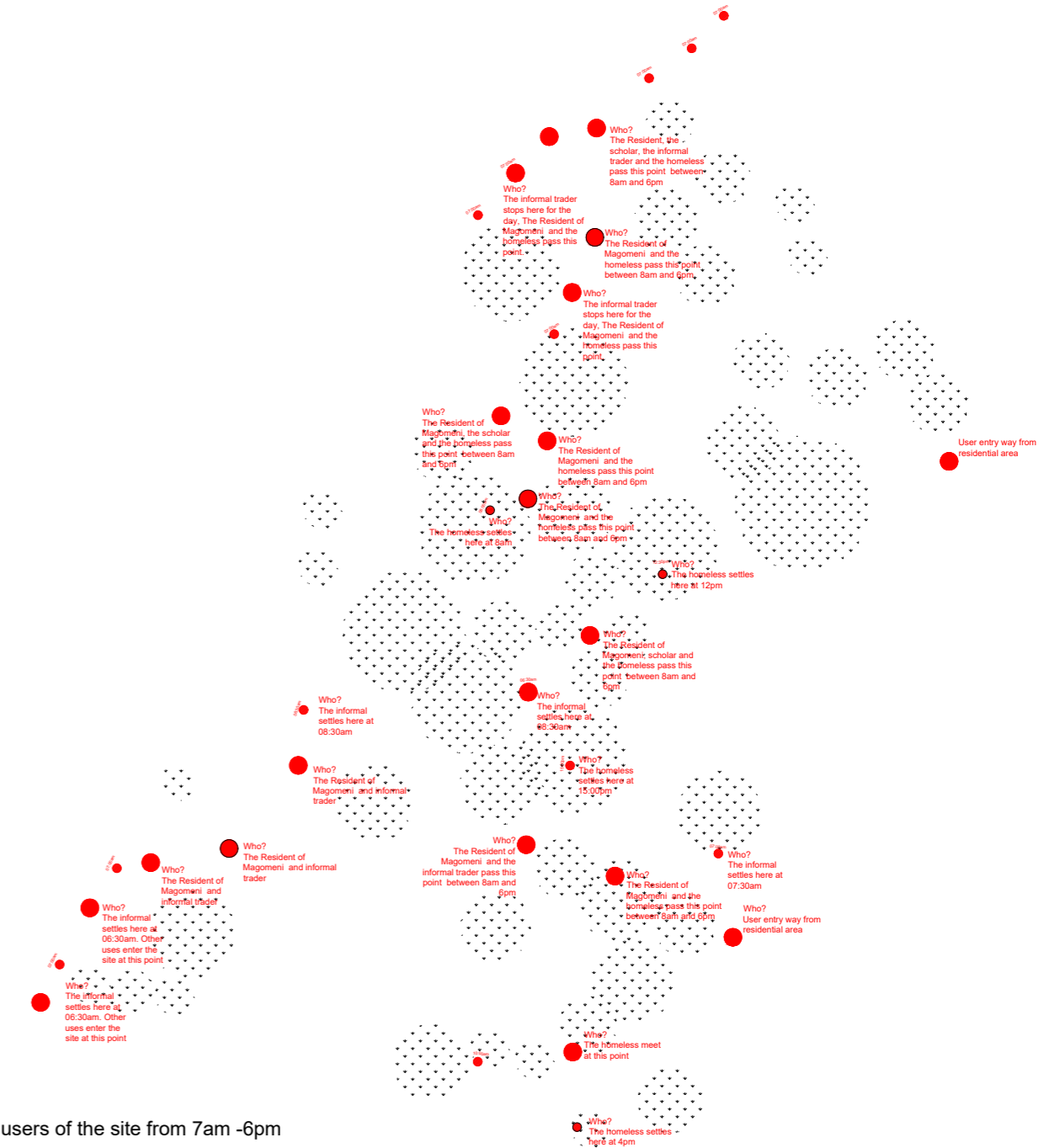
Magomeni park is generally a quiet site, it has borrowed itself informal traders, the homeless, residents of Magomeni using it as a thoroughfare between the residential area and BRT, hospital, school or church. All these people are at the park at some point or another during the day. The illustration on the right speaks to how they move between the park and at what time. This study was done with hopes of gaining a greater understanding of who, why, what and when inhabitants/user migrate in and out of the site. Furthermore to understand the users as people solely in transit in order to understand their “journey”.



Who, why, when?

Mapping connecting nodes of the users of the site from 7am -6pm

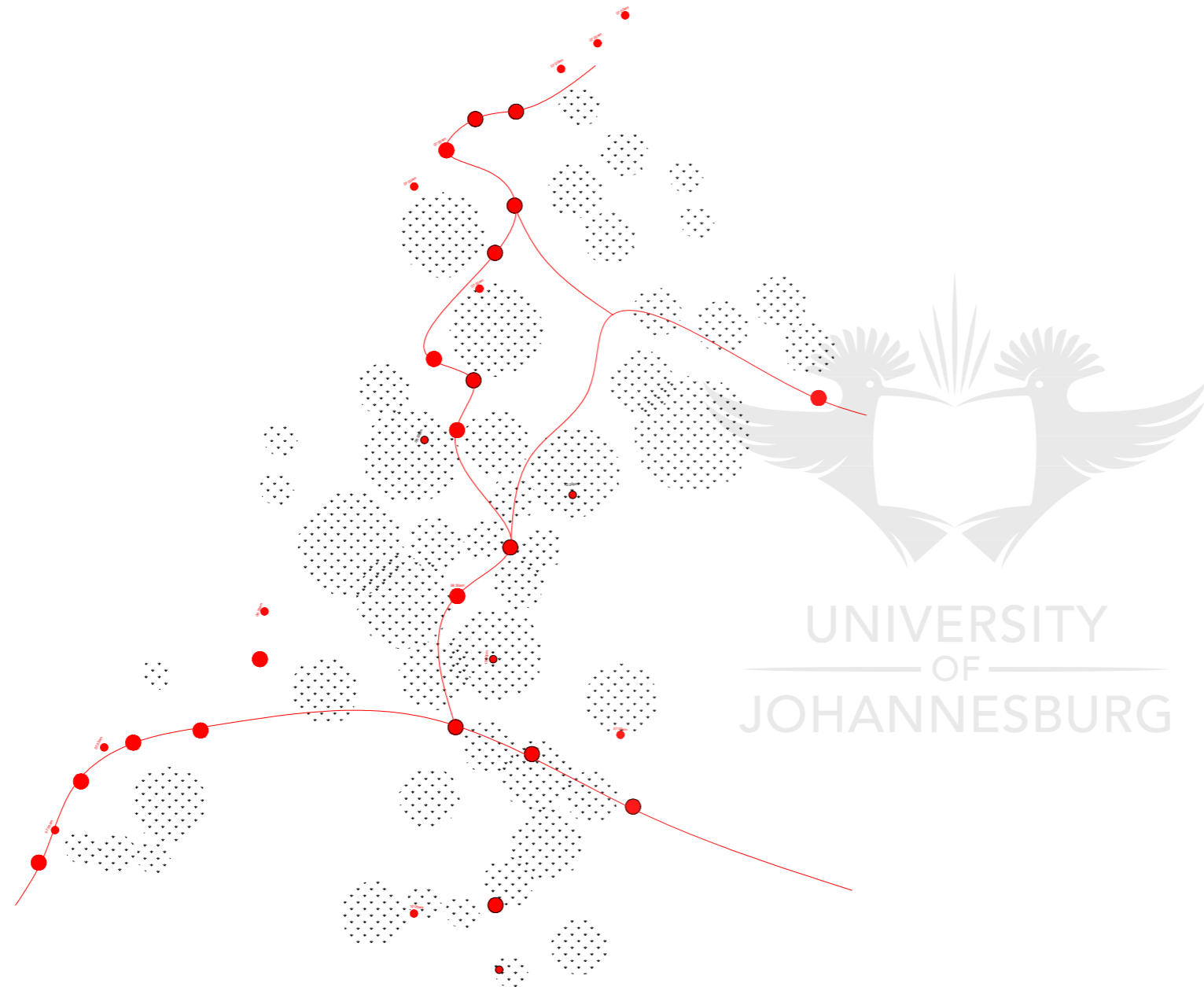
- The Scholar (child)
- The Informal Trader
- The Homeless
- The Residents



Movement Pattern: By Author

Mapping Migration patterns of the users of

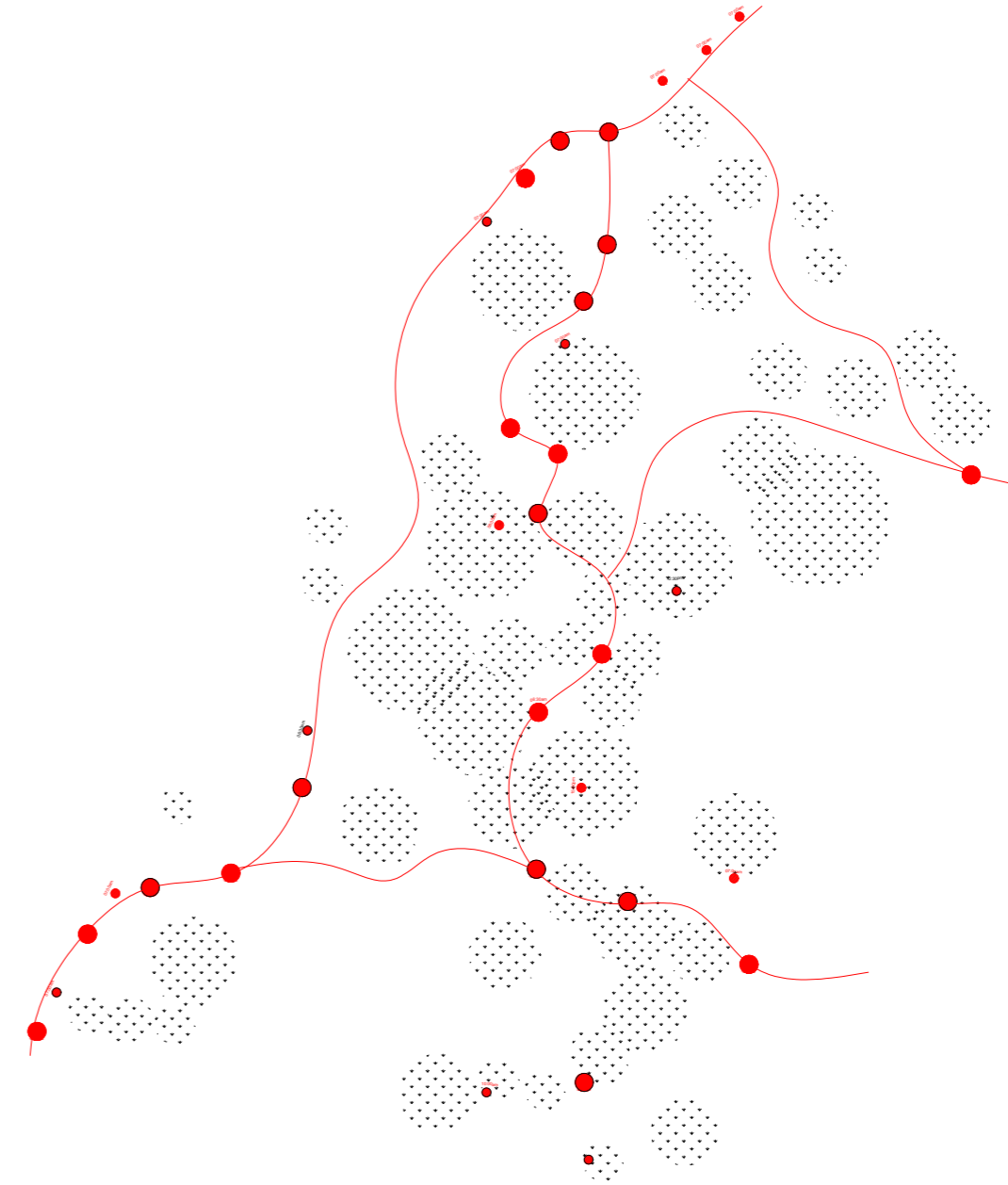
After the activity points were connected, a new form of pattern was started showing itself. This has been furthered into determining the new paths on site that will act as a part of the design proposal. The thoroughfare has not been ignored, the park will still act as a transitory space.



1a new connections lines of the users of the site

Movement Pattern: By Author

After a few trails, this layout was than agreed on, it speaks the old connection lines but also new ones that have been created. This will further influence where the installations will be placed and why.



Mapping new connections lines of the users of the site

Light, Sun, Shade and Shadows

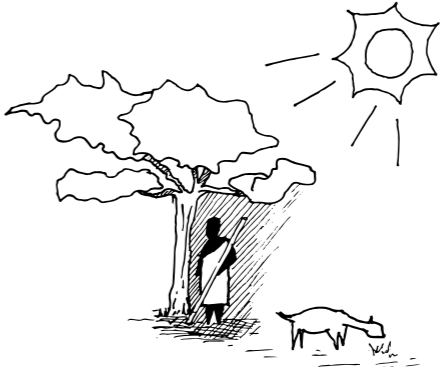


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The architecture itself creates a pattern of shade and shadow. Daily activities respond to this pattern.

~L. Prussin~

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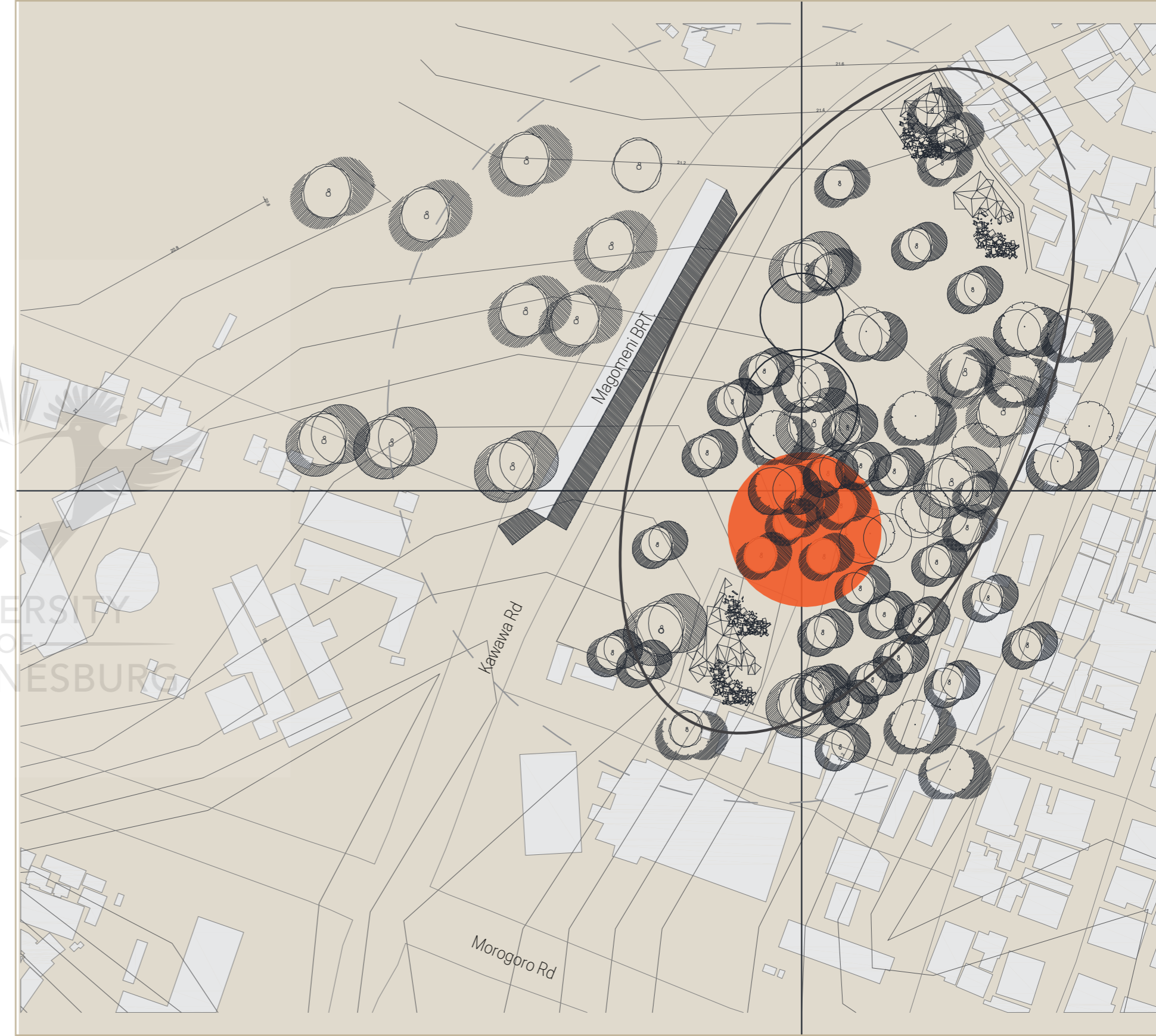
Shade and Shadows

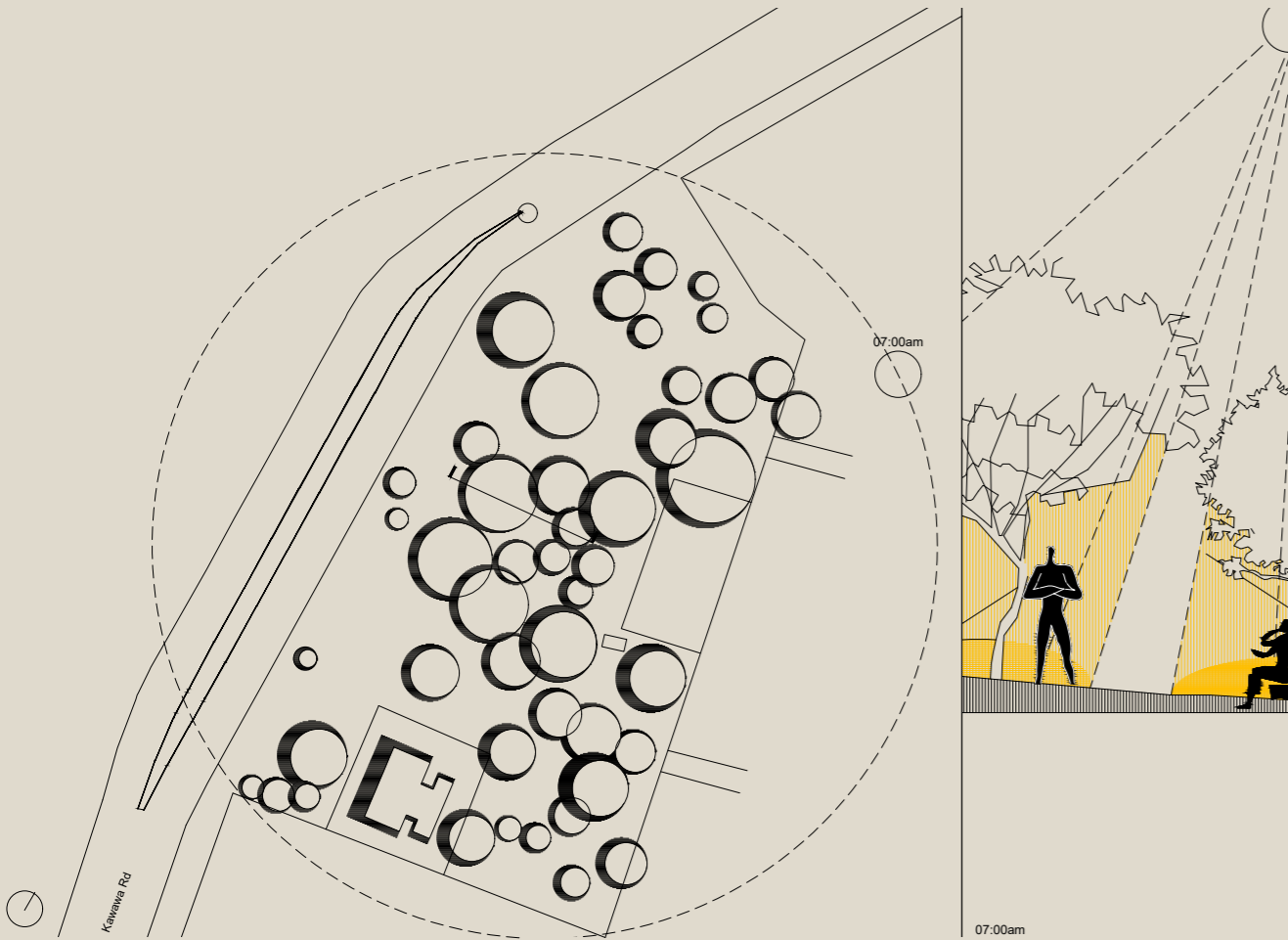
“The architecture itself creates a pattern of shade and shadow. Daily activities respond to this pattern. This also influences their settlement and territorial organization. Hierarchies of location are organized along a north-south linear axis.”

The architecture itself creates a pattern of shade and shadow. In the morning, the longest and deepest shadows are cast towards the west by the tents themselves; at midday, there is almost no shade or shadow; in the afternoon, the pattern is reversed, and longest shadows are on the east side. Daily activities respond to this pattern. This also influences their settlement and territorial organization. Hierarchies of location are organized along a north-south linear axis. House entrances always face the west so that the morning activities that unfold in-front of them are in the shade and protected from the winds.

The focal point of the transient camp is generally based where nature has provided scanty-leaved but spreading branches of an umbrella-type acacia. This in turn becomes the gathering and meeting place for men and central point which their lives are and houses are organised. (Prussin:24)

This has aided in the organization of spaces based on order of importance with the main entrance on the west-axis along the main road. Through this study I also found that the users of the site are very dependent on the sun, light, shade and shadows. They have placed themselves mainly under the protection of the abundantly-leaved site due to the high temperatures found in Dar-es-Salaam. The people that visit the park as from of resting space move with the direction of the shade cast by the plentiful trees of the site. This has helped me identify the different users of my site and how this affects their daily activities in the park.



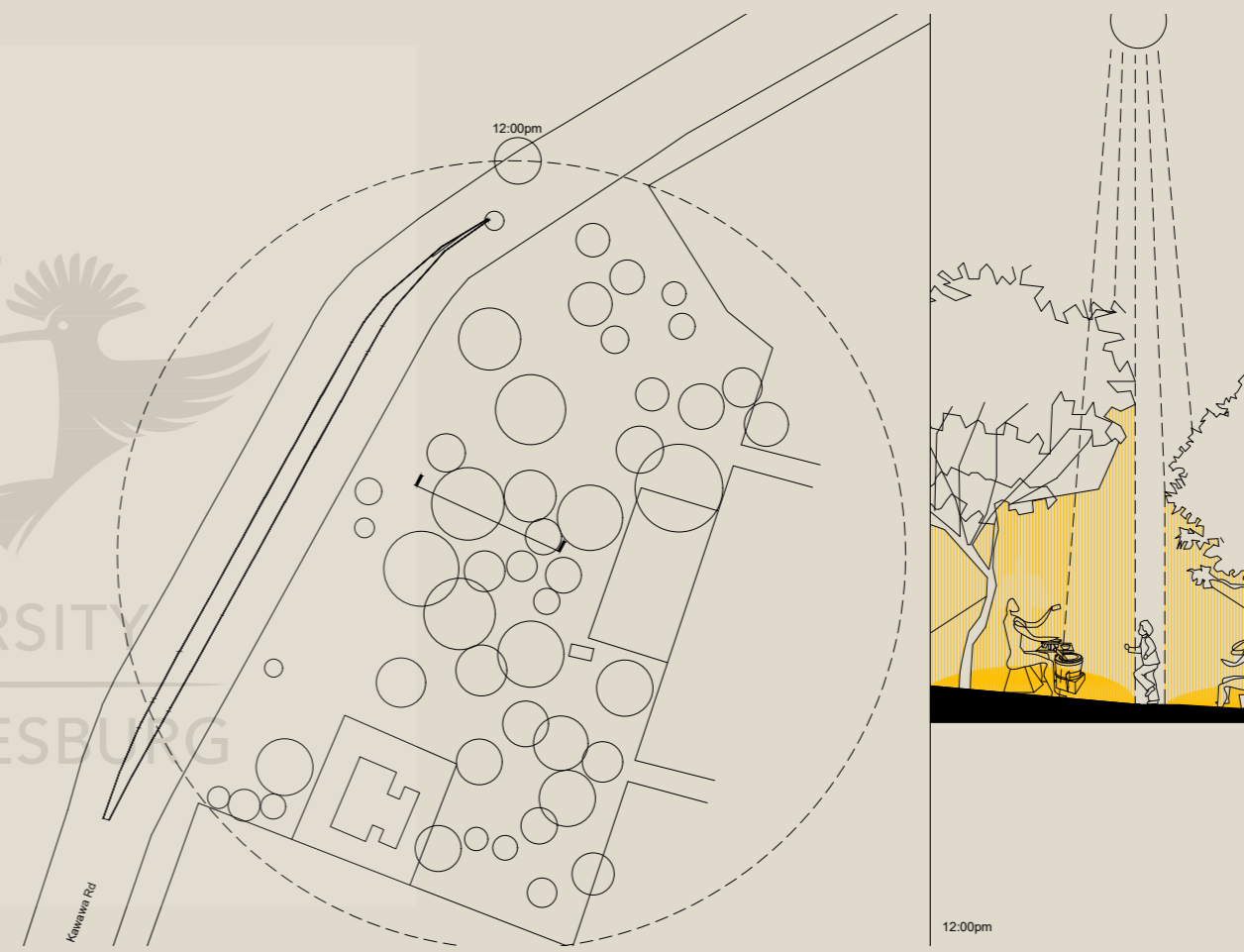


07:00am

At this time of the day the traders have arrived and set up their stalls, the homeless are already resting under the trees and the school kids are going to school. The site is fairly busy at this time with residents using it as a thoroughfare moving from home to their place of work. The people mostly affected by the sun and shade are the traders and homeless.

Most of the informal traders do not go to site on Saturdays, how can we bring them back during weekends? or use their space for a different function during the weekend?

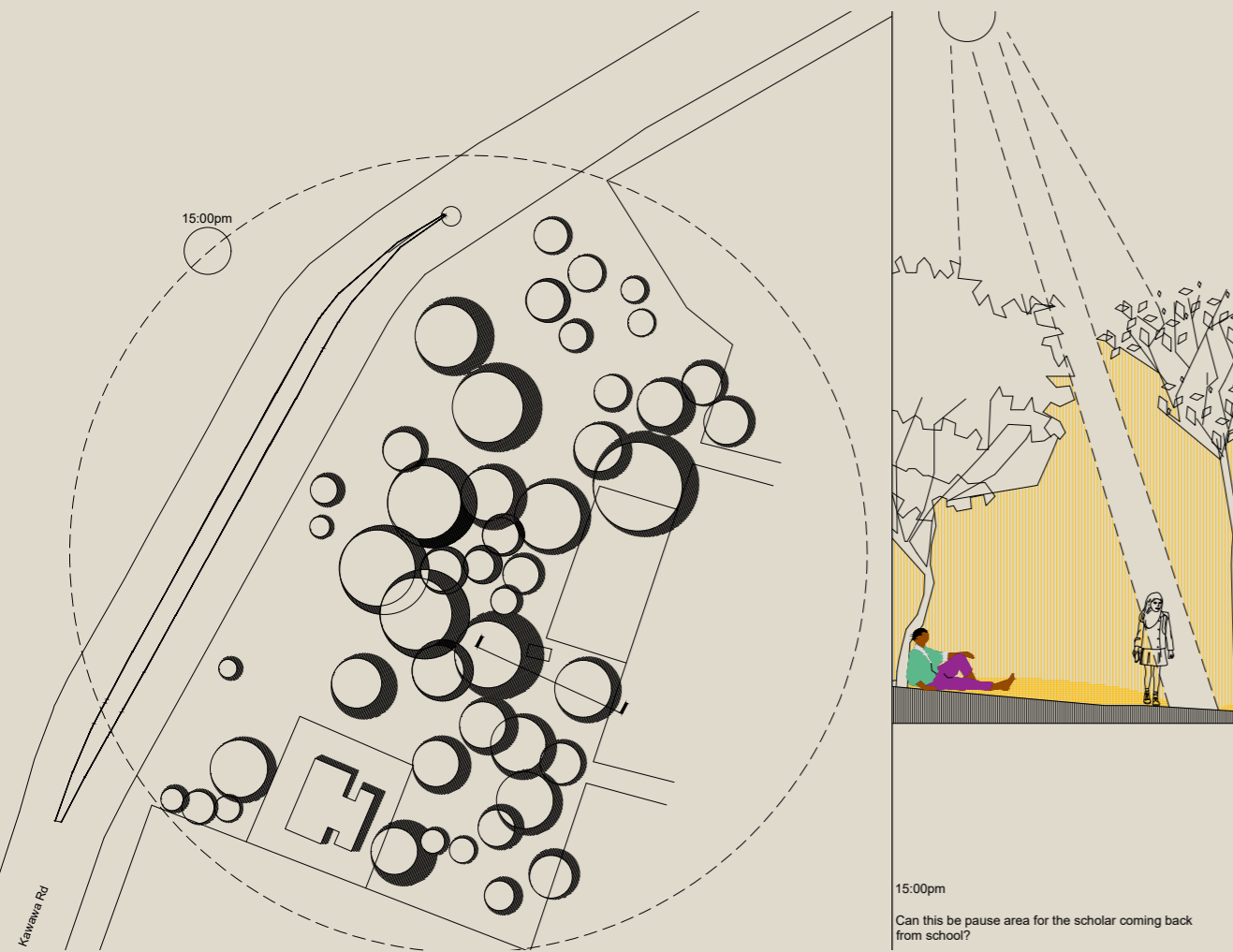
The shaded: By Author



12:00pm

The Sun is directly above the site at this point. Workers around the park are out basking in the sun and in the shade. The informal trader is serving lunch to the people on break. Some of the traders have their children playing around the area at this time. The Maasai selling beaded jewellery and herbal medicine are beading their next stock to trade under this shelter as well.

The shaded: By Author

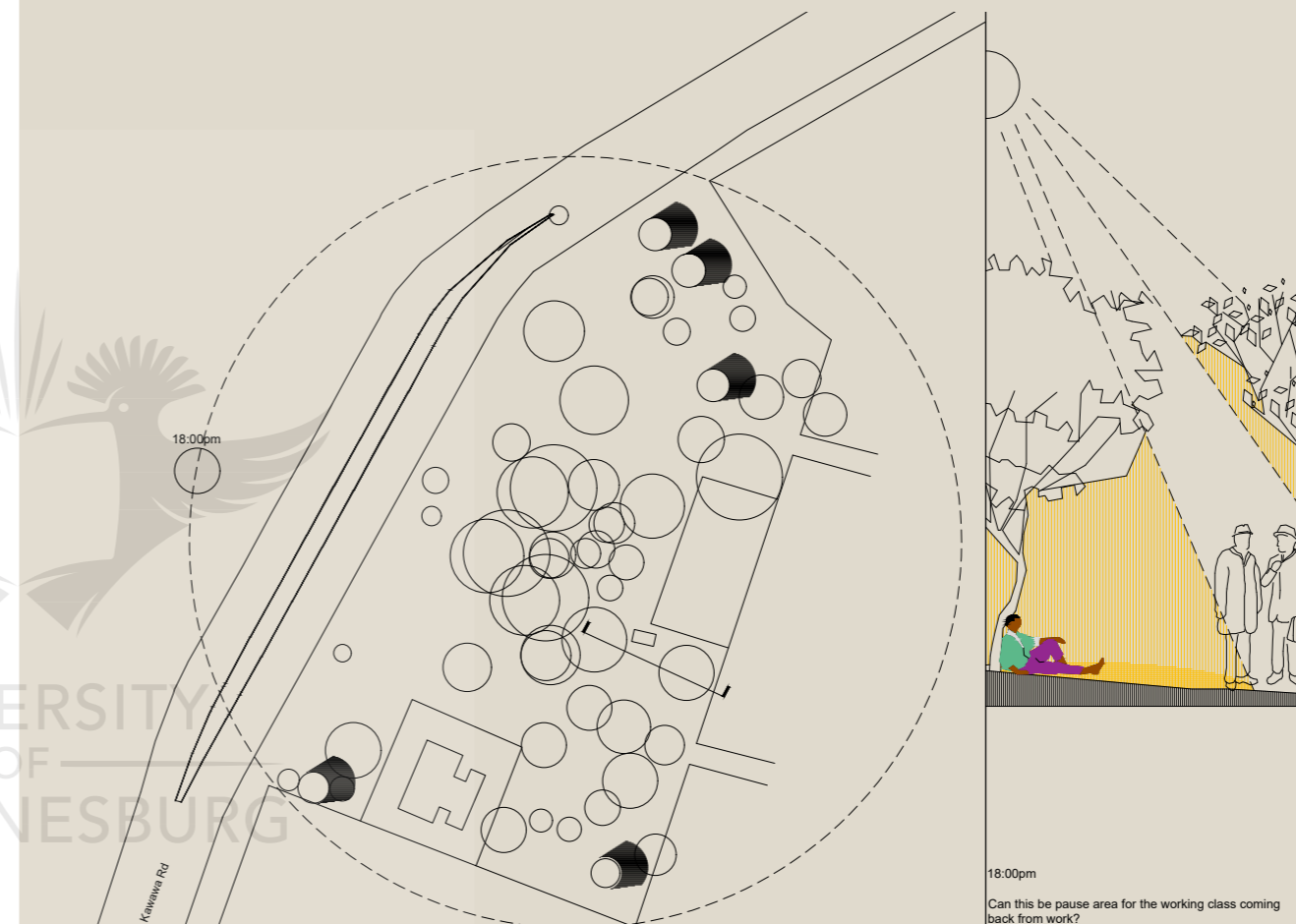


15:00pm

The school child is making her way back from school. She doesn't sit or find any sanctuary in this space, she merely uses the park as a transient space. We barely came across any school kids using this space, they were all passing by in their school uniform.

What can I propose to keep the school child there? To make the space more than just a transient space for her. Does she feel safe? Why does she not use this park?

The shaded: By Author



18:00pm

The homeless person has been moving from tree to tree following the shade cast by the trees. At 6pm the working class is making his way back home. He also uses the space only as a transient space. What can be introduced to keep him here for longer? or how can we get him to come back during the weekend with his family?

The shaded: By Author

Vegetation

“

“The essence of nomadic philosophy of nature lies in what could be characterized as a cultural ecology. There is a feeling that something must be continuously returned to the natural cycle in the process of exchange in such a way as to preserve the balance of life”.

~Labella Prussin~

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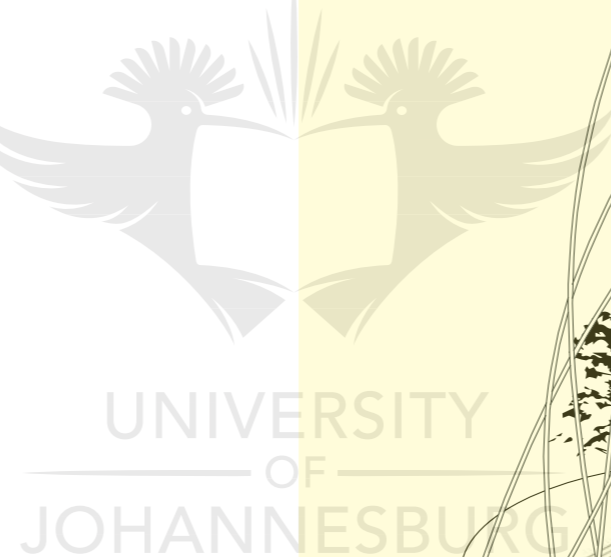
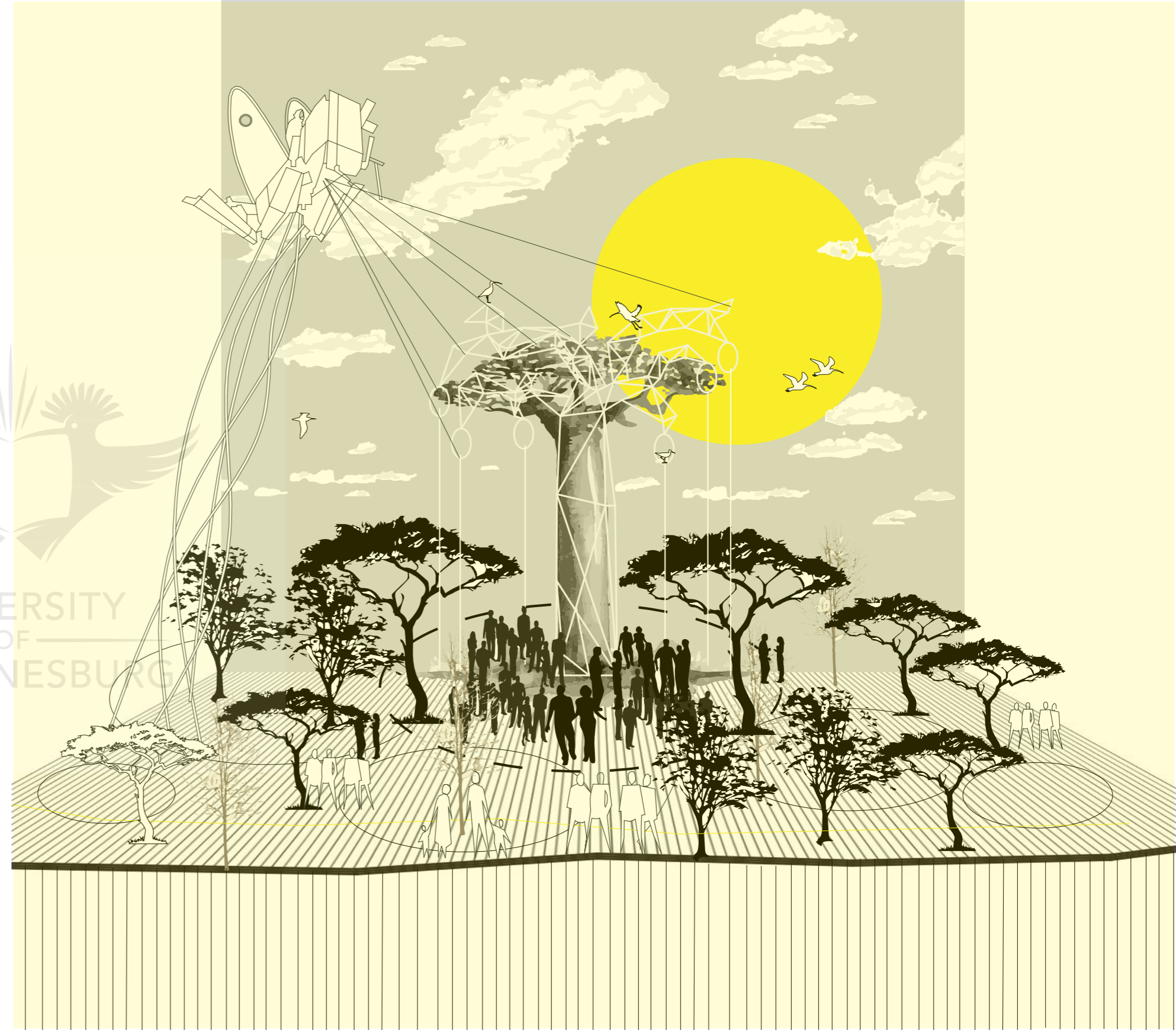
Vegetation

“The essence of nomadic philosophy of nature lies in what could be characterized as a cultural ecology. There is a feeling that something must be continuously returned to the natural cycle in the process of exchange in such a way as to preserve the balance of life”.
(L. Prussin)

In its cultural context, vegetation is the very foundation of every part of an African nomad's existence. As mention in the previous principle, where nature provides the scanty -leafed but spreading branches of an umbrella-type acacia, it becomes the focal point of the transient camp, the men's gathering and meeting place, around which daily life and houses are organized (see illustration on the right). Vegetation not only affects the way light is reflected off a surface on earth, but it is also the means of their architecture and food. It plays an important role in the sustainability of their entire existence, from their lively hood to the lively hood of their livestock. This is a part of the reason they move from place to place as well, it provides continuity of their culture, their strength in self-sustainability and their strong connection to nature.

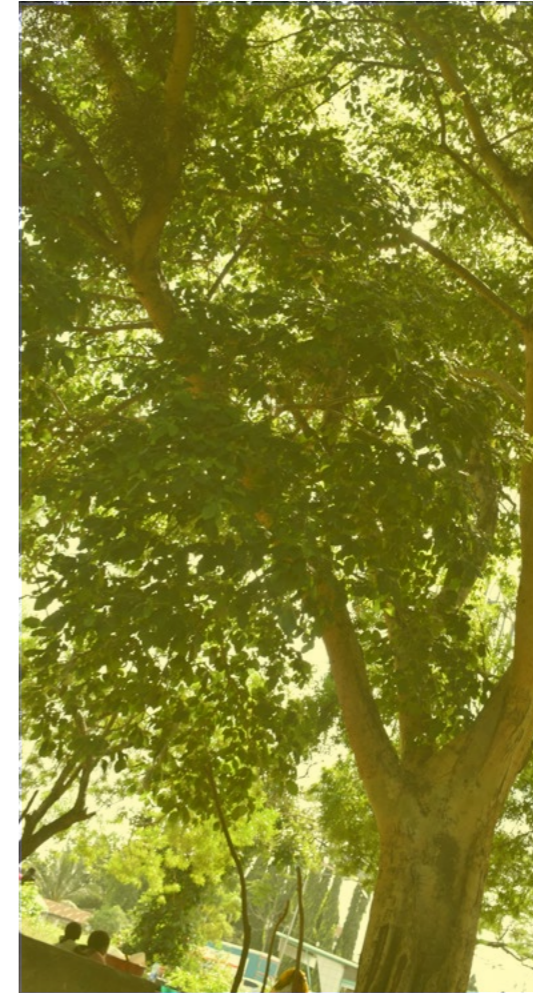
This lead me in the direction of having to understand the different types of vegetation that exist in Magomeni park and if/how some of these plants can be used for the betterment of the community moreover how I can start introducing more plants to the park to create communal self-sustainability. Dar-es-Salaam is a very tropical and humid area so I researched plants that can thrive in such conditions. As mentioned earlier there are women selling herbal medicines, but they do not get these herbs from the park, these herbs are gathered in Arusha, a city 631km away from Dar-es-Salaam (ref). Through this study of vegetation, I aimed to explore possibilities of creating a herbal garden. This will be temporary, it will last for as long as it is needed by the community.

Picture and Illustration: By Author



Vegetation

Trees in Magomeni Park, A study of the existing tree life on site.



Neem Tree

Scientific name: *Azadirachta indica*
Description: a fast-growing tree that can reach a height of 15–20 meters, it is evergreen.

Acacia albida

Scientific name: *Faidherbia albida*
Description: One of the fastest growing indigenous trees. It is deciduous and can grow up to 30 m tall. It has branching stems and an erect to

East African Mahogany

Scientific name: *Khaya anthotheca*
Description: Large evergreen tree up to 60 m tall

Pod Mahogany

Scientific name: *Afzelia quanzensis*
Description: deep-rooted tree, that may grow up to 35 m high, with a large spreading crown.

Fig Tree (Mkuyu)

Scientific name: *Ficus carica*
Description: Deciduous tree or large shrub, growing to a height of 7–10 meters

Ashoka Tree

Scientific name: *Saraca asoca*
Description: It is a small, erect evergreen tree. Its flowering season is around February to April.

Food | Herbal Plants

Possible addition plants for either nutrition or herbal purposes



Jack-fruits

Tanzania jack-fruits or 'wonder fruit' are the largest fruit available in the export market. The tree itself is tall and heavy-duty in production terms as it bears up to 200 fruits annually.



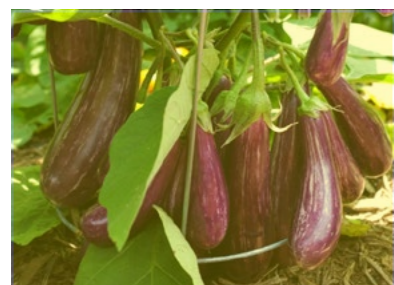
Amaranth

Tanzania amaranth (Amaranthus) or mchicha in Swahili is among the most beloved traditional vegetables in this East African nation. This is due to its abundance and high nutrition. I.



Plantain

Tanzania plantains (Musa paradisiaca) are hybrid cooking bananas that though sometimes turn yellow, are mostly green even at the ripeness stage. Their Swahili name depends on the purpose of use such that there are ndizi kaanga.



Eggplant

Tanzania eggplant (Solanum melongena) or bilingani in Swahili, belongs to the same family as the potato as well as the tomato. It bears a long, shiny indigo or purple-colored fruit

CASSIA AFROFISTULA

This small tree or large shrub would be perfect for a small yard. The erect yellow flowers bloom spring and summer. The root of the cassia tree is a tonic and useful in reducing fever..



Abrus precatorius

Controls inflammation: When inflammation spreads to the face and neck due to infection, the patient develops pain. You can control this by the use of the powder of the Abrus precatorius.



Kigelia africana

The powdered leaves are used for their wound healing and cleansing properties and it is used for malaria and a whole range of diseases including gynaecological ones.



Suregada zanzibariensis

A root and stem bark extract is drunk to cure ankylostomiasis, a disease caused by parasitic hookworms



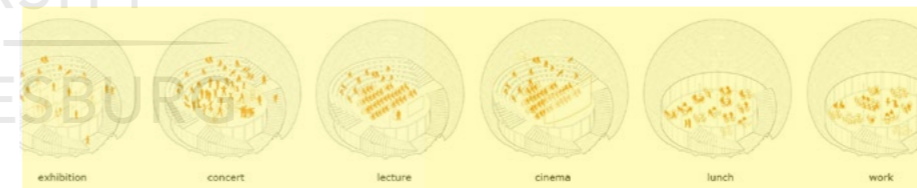
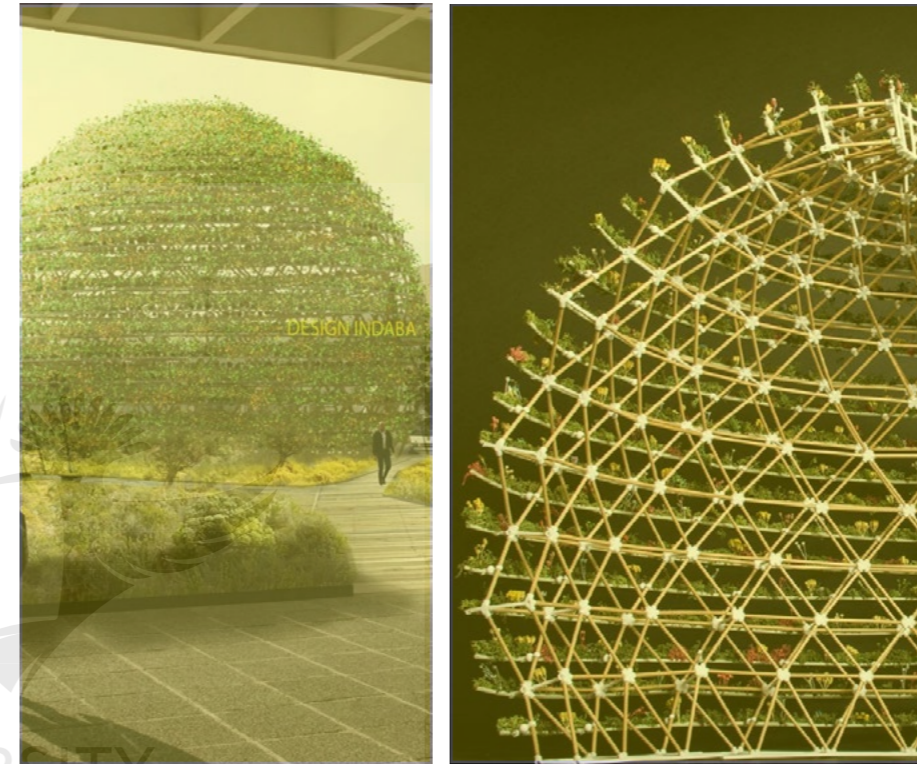
Precedent | Dome of Plants

Design Architects | Nomadic Resorts
 Location | Dome of Plants, CapeTown, RSA
 Project Size | 20m width and 15m height
 Client | Design Indaba
 Landscape Architects | LOLA landscape architects

The dome is a temporary structure meant to become a hotspot in a now largely stagnant and grey part of town. Dealing with the water crisis, the spekboom plants in the dome are to be watered with purified urine. The Dome of Plants was presented in Cape Town during Design Indaba 2018 in front of 4500 attendees. Centrally positioned on Luthuli Plaza in Cape Town, a green dome of 20m width and 15m height will offer an inviting garden-like space for urban encounters.

The dome is an open shell covered with plants, forming a sphere-shaped botanical garden, hosting Cape Town's most exquisite local vegetation as well as air purifying plants. Underneath this vegetated shelter there is 175 m2 of indoor space and 175 m2 of stage and podium. Together they offer space for discussions, events, workshops, exhibitions, meetings, lunch and a quick coffee outside the big institutions, accessible for everyone. It is an attractive third place, and can become a hotspot in the cultural life of Cape Town.

The dome will be constructed of mainly biological materials (bamboo, wood and plants) and fed by purified waste water, with a minimal ecological footprint. The position in the city, its bold and lush appearance and the innovative construction and application of technology will make sure it will become a sustainable icon for the city. All over the world architects and enthusiasts are building domes, from tiny houses to airport-sized biodomes.



Dome of Plants: NOMADIC RESORTS



Ritual and Celebration

“

Rituals take place in the focal point of the settlement, which is usually under the biggest tree of the chosen settlement area. Among most nomads the tent comes into being with the marriage ceremony.

~Labella Prussin~

”



Ritual and Celebration

“Rituals take place in the focal point of the settlement, which is usually under the biggest tree of the chosen settlement area. Among most nomads the tent comes into being with the marriage ceremony.”
(L. Prussin)

In the previous principles it was mentioned that the settlement is set around a tree that becomes its focal point for gatherings. Rituals and celebrations take place in the focal point of the community. In the case of a wedding celebration tent becomes the newlywed's home from that point onwards. Tents are constructed as when they are needed. The idea of architecture of time and necessity is evident in their public spaces and rituals. African nomadic architecture really comes into being in the context of the marriage ritual. The architecture is experienced by society of women. Men only look on. The building processes is a sacred ritual process for female only. Most importantly, it is this exact component of the nomadic marriage ceremony that grants women power. Another fascinating fact about nomadic marriages is that they do not occur as a single, ceremonial, climatic event, the marriage is enacted in a slow, progressive stages over various places and spaces.

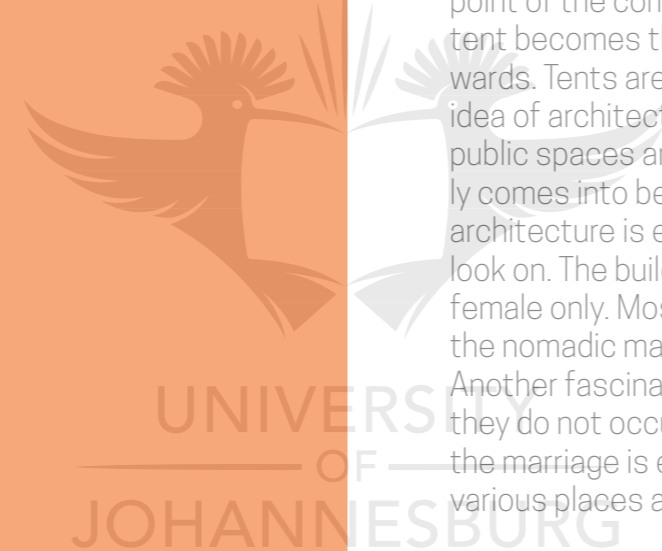
Another aspect of ritual behavior that has bearing and is dependent on its architectural quality is that it persists over time in ways that other customs and behaviors do not. Prussin wrote (1995) that this “resistance to change adds a dimension of “permanence” to what would normally be an easily disassembled structure, more responsive to altering conditions by virtue of its processual quality. The architectural permanence achieved through ritual behavior enhances and reifies the abstract process of renewal,

birth and rebirth that a woman experiences with each move.” It is this knowledge that I was lead to an event based in India called the Kumbh Mela. Kumbh Mela or Kumbha Mela is a major pilgrimage and festival in Hinduism. It is celebrated in a cycle of approximately 12 years at four river-bank pilgrimage sites.

This precedent plays a big role in this project because it helps put emphasis on the fact that architecture can exist outside the norm, specifically the norm of “permanence” and monumentalisation. That an entire city can be built and disassembled for a specific purpose. The transitory nature of the Kumbh Mela makes it easier for the formal and informal to work simultaneously, but smoothly. And when they work together, says Mehrotra (2008), it in-turn challenges notions of permanence at a more universal level.

Architecture can be a ritual passed down from generation to generation, without it having to be a physical permanent form striving for immortality with no space for change and development. The follow clay model explorations represent the idea of the above.

These clay patterns are some of the methods of weaving, \ Clay was used for this because of its nature of changeability, if a new ritual needs to be passed on, this clay can placed in water and remodelled into a new pattern that would speak their needs at that current moment in time.





The clay was sprayed with water to soften it.



Pattern 1: Diamond shaped pattens



Masaage the clay to prepare for flattening and modelling.



Pattern 2. Horizontal bamboo slits. with verital frame



The clay is modelled and flattened in preperations for flattening.



Pattern 3. Horizontal bamboo pattern.

Precedent | Kumbh Mela

Project Name | Kumbh Mela
Location | Allahabad, India
Project Size | 24-sq km (2013)
When | Occurs every 6-12 years

Once every 12 winters, as the waters at the confluence of the Ganga and Yamuna retreat, the Allahabad district authorities take over the river banks and set about marking large grids in the sand. In a span of just three months, government and municipal officials build an entire city on the 24-sq km expanse, complete with various styles of tent housing, 150 kms of roads, toilets and drainage systems, electricity grids, bridges across the rivers, new bus and train stations and even hospitals.

From January to March, this “pop-up mega-city” of the Kumbh Mela is inhabited by a floating population of more than 35 million people, and then quickly dismantled. By the time the next monsoon arrives, all traces of the massive city disappear and the river banks are once more submerged.

Kumbh means pot or pitcher, while mela means festival or fair. According to ancient Hindu mythology, Lord Vishnu released drops of an immortality nectar (carried in a kumbh) in four places where the holiday is now celebrated — Nashik, Prayagraj, Ujjain and Haridwar. The festival rotates approximately every three years through these cities, with the exact dates, places and length largely determined by astrology. In 2017, UNESCO added the festival to the List of Intangible Cultural Heritage, citing the event’s “central spiritual role in the country.” The main ritual of Kumbh Mela is bathing in the rivers. Washing in holy waters is believed to deliver worshipers from their past sins and lead them to moksha,



or liberation from the cycle of birth and death. A vast tent city dubbed a “pop-up megacity” has been built around the delta in Paragraph to accommodate the millions that will come to submerge themselves in the sacred rivers.

There are scores of workers are dismantling the vast “pop-up city” they helped build – a temporary megalopolis, containing more than 4,000 tents erected to house pilgrims, organizers, cultural programs and shrines.

“Every city has permanent and impermanent components that co-exist,” said Mehrotra, who had also explored these ideas in his 2008 essay *Negotiating Static and Kinetic Cities*. He describes the “static city” as one comprising the permanent elements it is built on – the concrete, steel and wood, for instance. The “kinetic city” is more three-dimensional and temporary, one that constantly modifies and reinvents itself. “The processions, weddings, festivals, hawkers, street vendors and slum dwellers all create an ever-transforming streetscape,” the essay says.

“
We need to think of reversibility more strategically when designing our cities for the future.”

“
“But when we design cities, we do it mainly for permanence,” said Mehrotra. “My question is, can one make the temporary more deliberate? Can we build cities where temporary elements are given as much importance as the permanent ones? We need to think of reversibility more strategically when designing our cities for the future.”

Article main source: Scroll.in

Top-Down : Ashish Malhotra, Dinesh Mehta

Top-Down : kumbh.gov.in

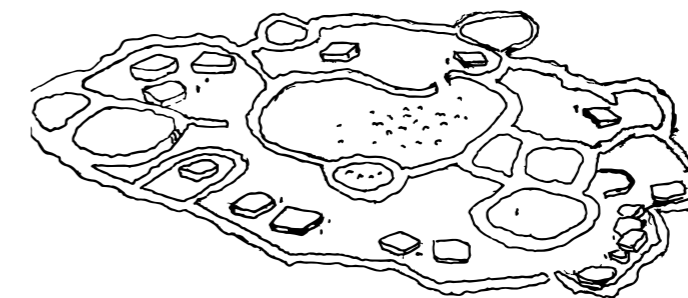
Boundary

“

Boundaries invisible to western eye are clearly recognized; There are no fences, no doors, no marked thresholds in the physical sense, but only in behavioral sense. Behavioral boundaries provide a substitute or act as a surrogate for fixed features of both the natural and the built environment. This spatial awareness itself also lies at the basis of nomadic aesthetic.

~Labella Prussin~

“



Boundary

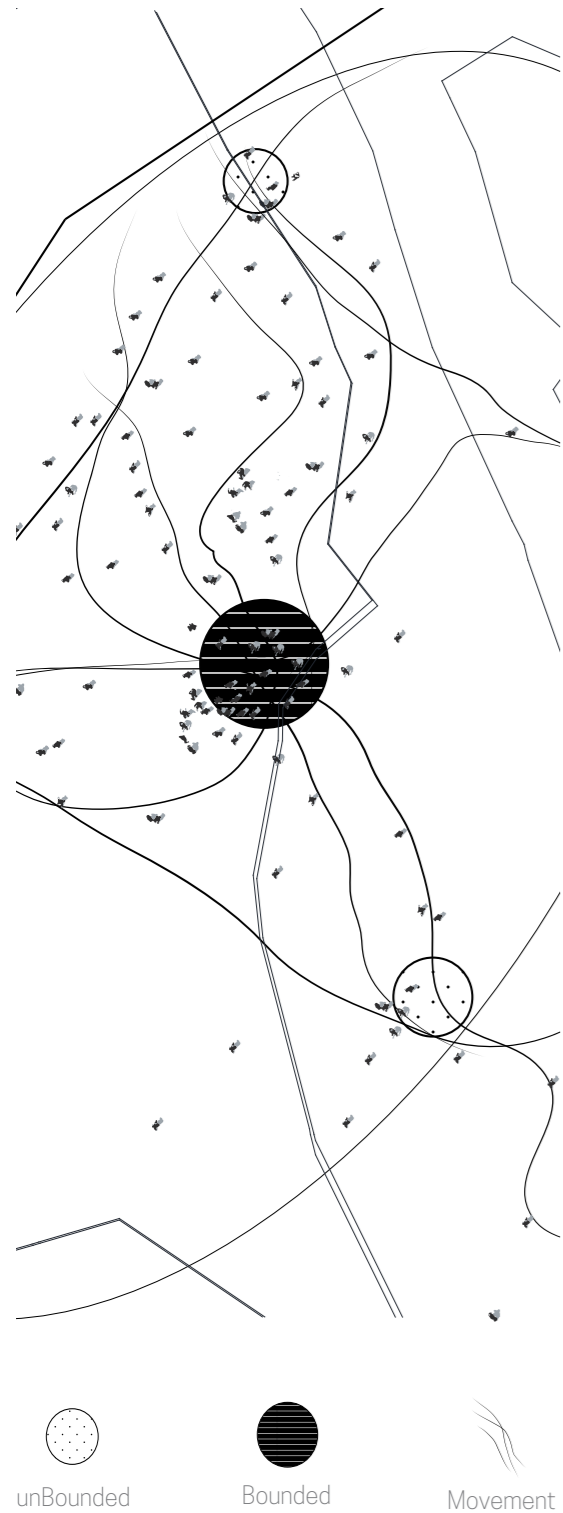
In the previous principles I hinted towards the meaning of boundaries in the nomadic context, to understand nomadic boundaries, we need to think of the built environment and its space in the context of movement: the movement of people, the movement of one's world of material culture as stated by Prussin (1995:188). She also states that:

“Boundaries invisible to western eye are clearly recognized; There are no fences, no doors, no marked thresholds in the physical sense, but only in behavioral sense. Behavioral boundaries provide a substitute or act as a surrogate for fixed features of both the natural and the built environment. This spatial awareness itself also lies at the basis of nomadic aesthetic.”

Built boundaries in this context only consist of a minimal habitat that unfolds in a range of repetitive reconstruction and movement primarily through the natural environment devoid, for the most part, of built markers and borders. Therefore, built boundaries of enclosed spaces on exist within narrow confines of the transient, oft-ephemeral “temporary” camp and its transport system. But the nomad's boundary is not always physical, their boundaries can be explored in three categories:
 Behavioral/Social boundary
 Transient territory
 Temporary encampment,

Through the study and exploration of the above boundaries, I hoped to create my own behavioral boundaries on site to avoid fencing the park as required by the Dar municipality. This is a regulation stated in their public space by laws.

Illustration: By Author



Behavioral/Social Boundary

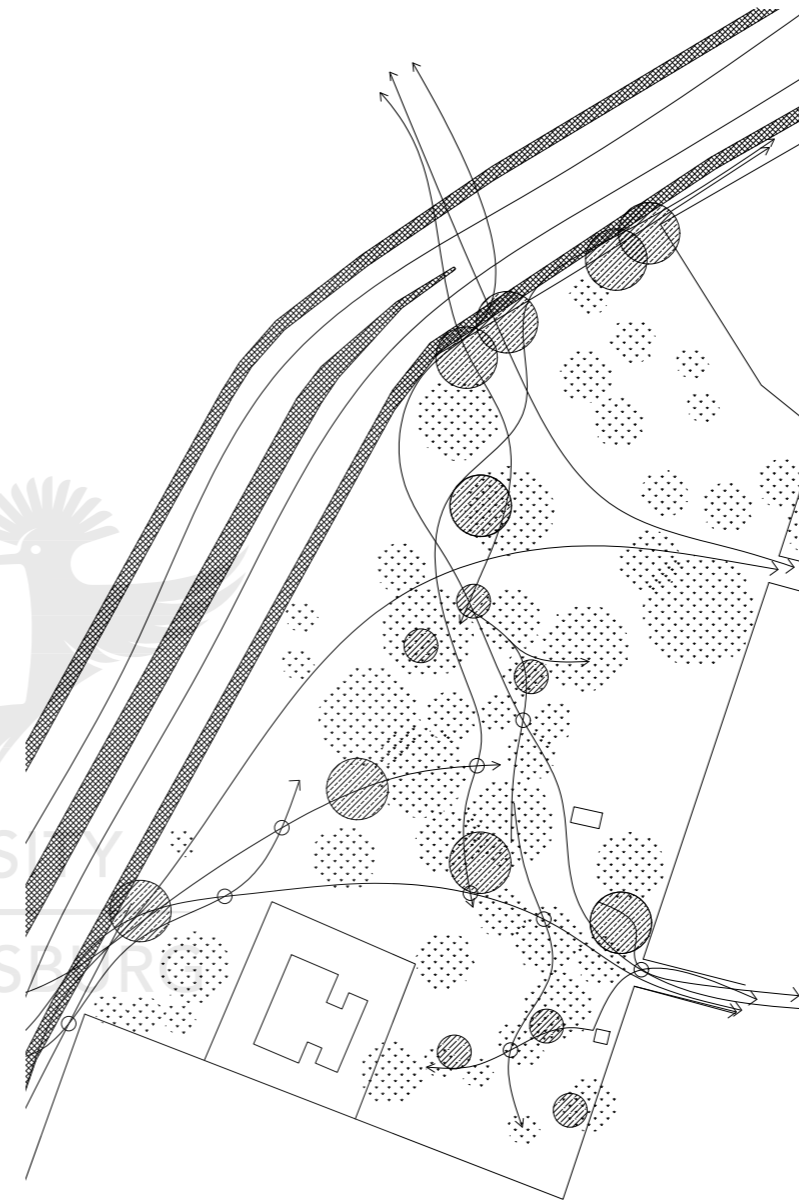
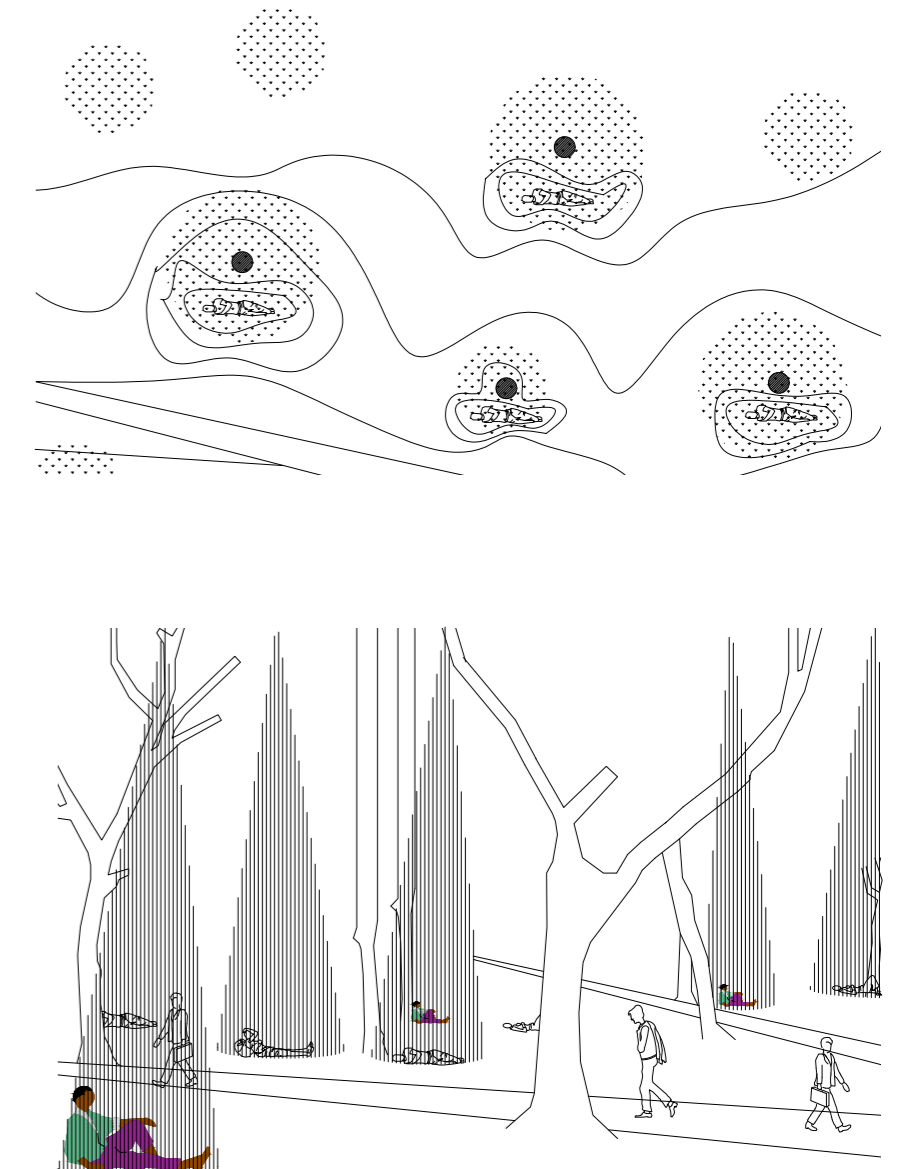


Illustration: By Author



Adaptability

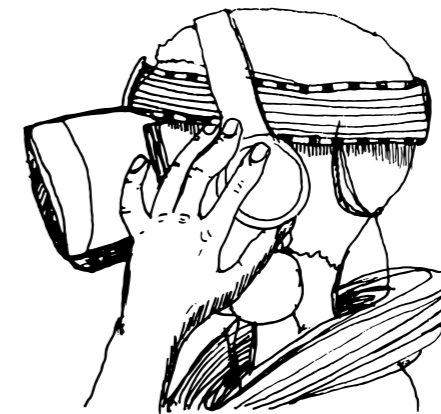


“

“All fixed set patterns are incapable of adaptability or pliability. The truth is outside of all fixed patterns.

~Bruce Lee~

”



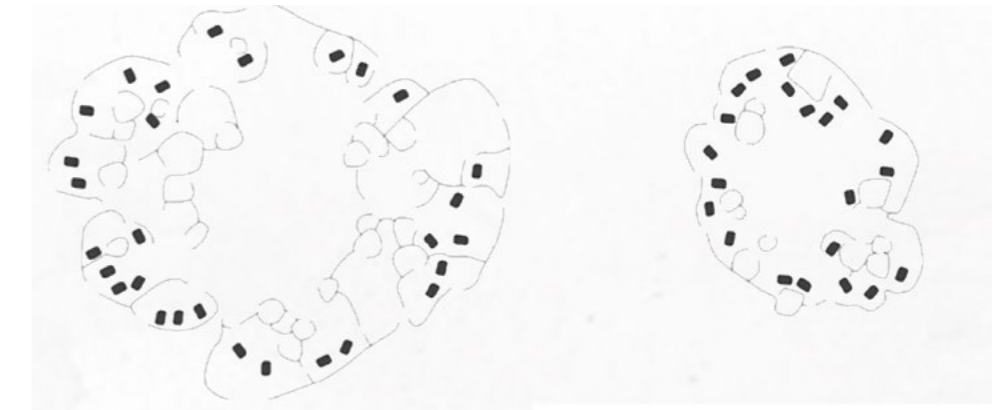
Adaptability

East African nomadic settlements are certainly not static constructs. These examples showcase their ability to morph and transform overtime to adapt to new activities, increases and decreases in livestock sizes, and additions and subtractions of families.

The same way nomads are not bound to a space, their architectural form is the same in the sense that it can change and reflect the settlements needs at a specific point in time. It can morph itself to the amount of family members inhabiting it at that point in time. and It adapts to the amount of herd they have as well.

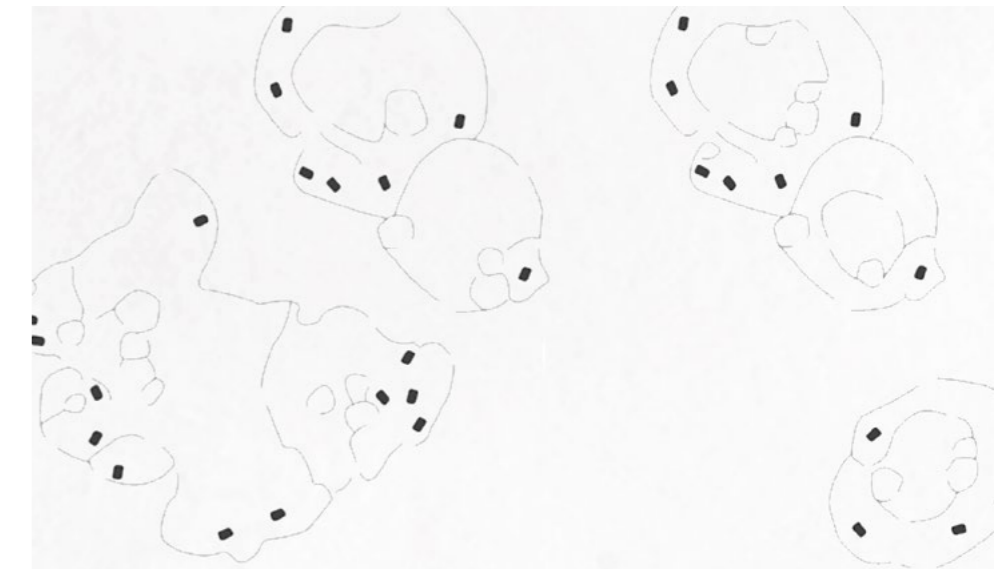
One of the biggest challenges Dar-es-Salaam is facing is keeping up with technology changes and advancements. Because of how the buildings were set up in the city, there are cables everywhere, from telecommunication wiring to electric wires above and in-between buildings. I believe if we can replicate the nomads way of adaptability we can design spaces that are more ready for any technological advancements, economic changes and population increase and decrease.

Buildings should be designed with adaptability in mind to anticipate the accelerating rhythm of change, and absorb its consequent effects. Adaptability plays a major role to improve the sustainable attributes of the building in order to keep harmony with the natural environment and lie within the new imperatives of sustainable development. (Nakib:284)



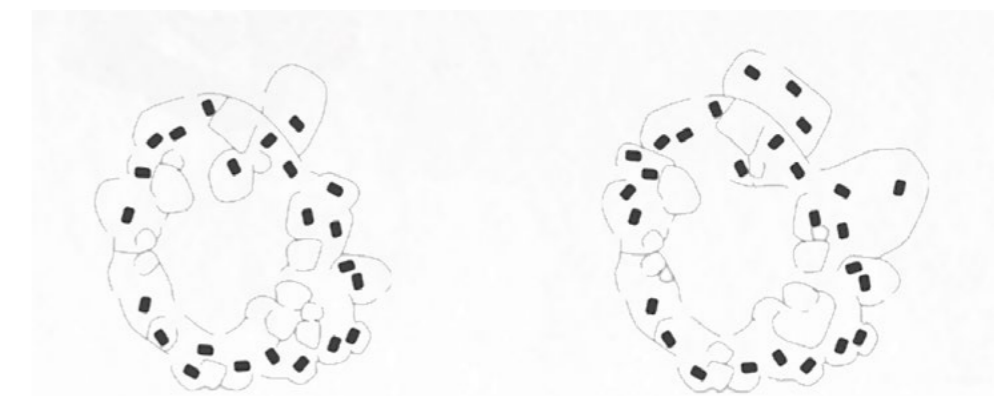
2007

2009



2010

2011



2013

2014



Illustrations: By Michael Hasey

Anthropometry



“

The language of Nomadic architecture continues to express itself through anthropometry eg. The judgment of the length of straw mats that surround the skin tent. The centricity of human body, and by extension its symmetries and asymmetries are essential to Physiological well-being and self-identity. Centricity is also built into the nomadic schemata that organize and its boundary system.

~Labella Prussin~

”



Anthropometry

Anthropometry deals with the measurements and proportions of the human body, and anthropometrics is the comparative study of these measurements. The use of these practices in architecture means that the designs must fit the human body, rather than the people fitting the building. Human dimensions inspire the dimensions of the building.

“

fit the human body, rather than the people fitting the building. Human dimensions inspire the dimensions of the building.

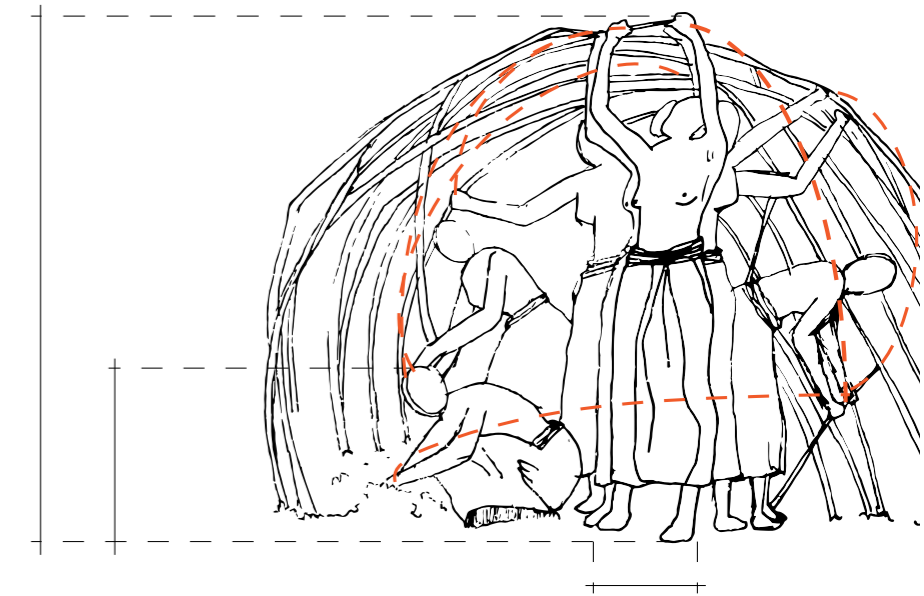
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The nomadic women uses their bodies as a primary and every important measure for the creation of its bounded and enclosed space. The language of Nomadic architecture continues to express itself through anthropometry eg. The judgment of the length of straw mats that surround the skin tent. The centrality of human body, and by extension its symmetries and asymmetries are essential to physiological well-being and self-identity. Centricity is also built into the nomadic schemata that organize and its boundary system.(Prussin)

The scientific study of the measurements and proportions of the human body. The language of Nomadic architecture continues to express itself through anthropometry eg.. The judgment of the length of straw mats that surround the skin tent is based on their body measurement.



The body is used as a measuring instrument in the nomadic culture, the female being the architect and builder is the main tool. From the gathering of materials to the putting together of the settlement. This speaks to how much her body can carry, how much space she needs to comfortably move around with her family in the temporary house.



The closed circle provides the only consistency, its tight geometry establishes the controllable dimensions of space so essential to mental health. It is an anthropomorphic framework encoded in the built environment of contained space. (Prussin)

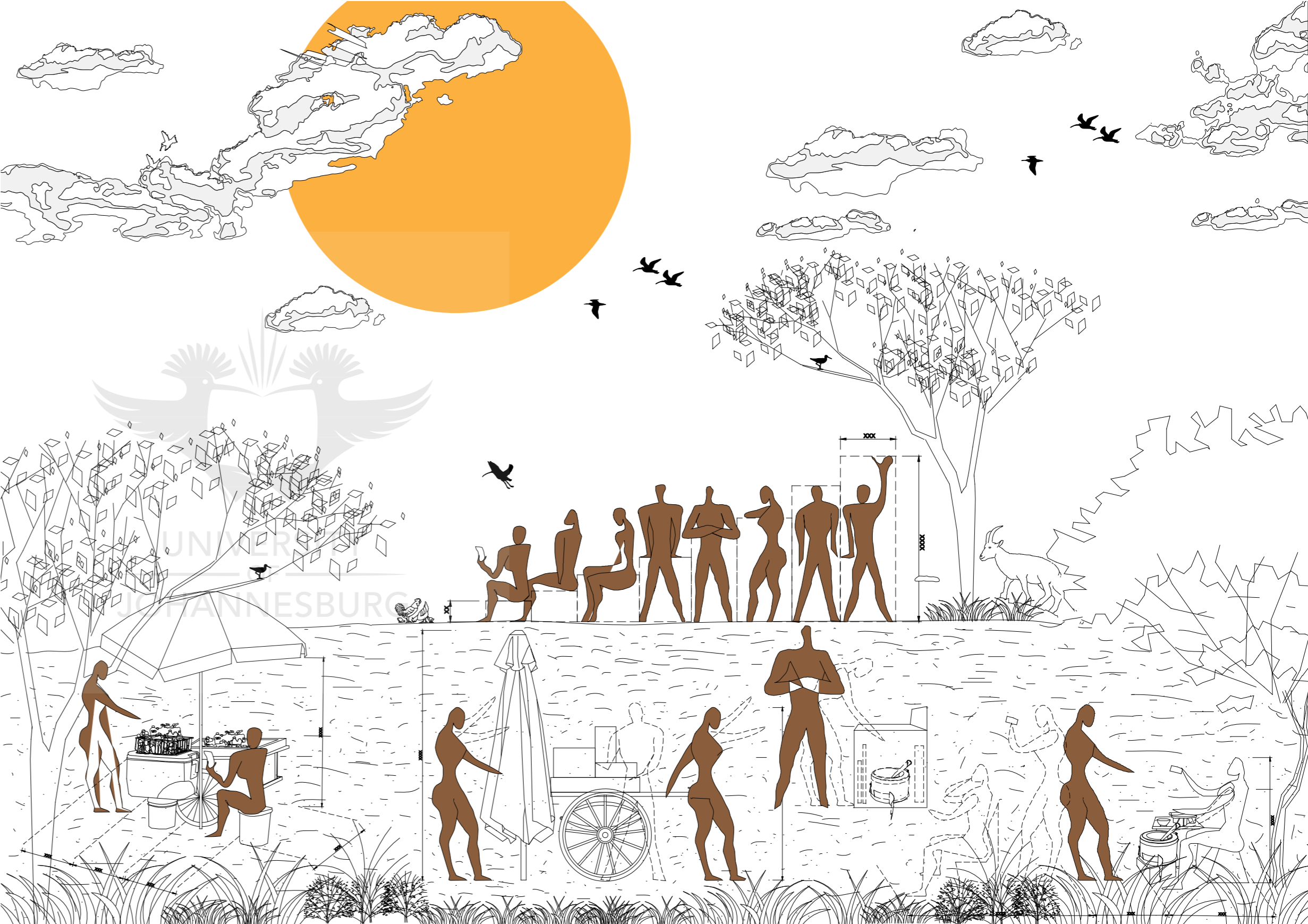
Body of activities on site

Anthropometry

there are various activities happening in the site on a daily base. This illustration is a study of the various activities that take place on site . From the informal trader under an umbrella to the in informal trader using the trees as a shelter. I analyses how the make these spaces and how they unmake the spaces at the end of business day.

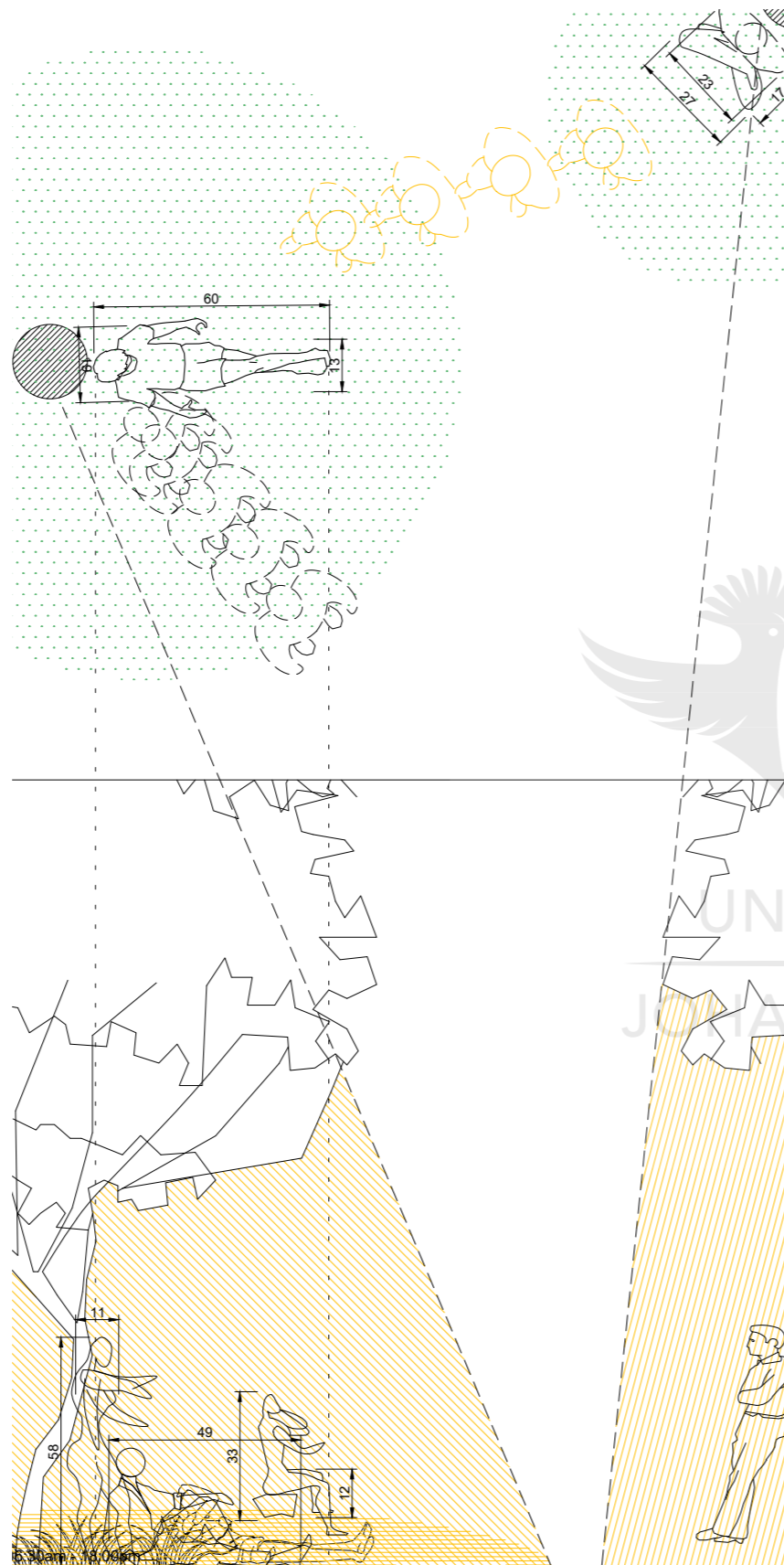
The difficulties of using anthropometry in architectural design are that you have to incorporate a lot of different elements. According to The Hindu, "The size of human body varies based on age, sex, race and even socio-economic factors. Any direct attempt to apply the standardized dimensions may not reflect the true need of the space requirements. At the same time, very minute details on human dimensions may be useful only for the likes of fashion designers, make-up artists, hairdressers and so on and not for architects and interior designers." Architects must think about human dimensions while an individual is in motion and participating in different activities. (Bowers:2018)

Provide more than the minimum spatial areas and floor heights to facilitate space adaptation to others functions and conditions.



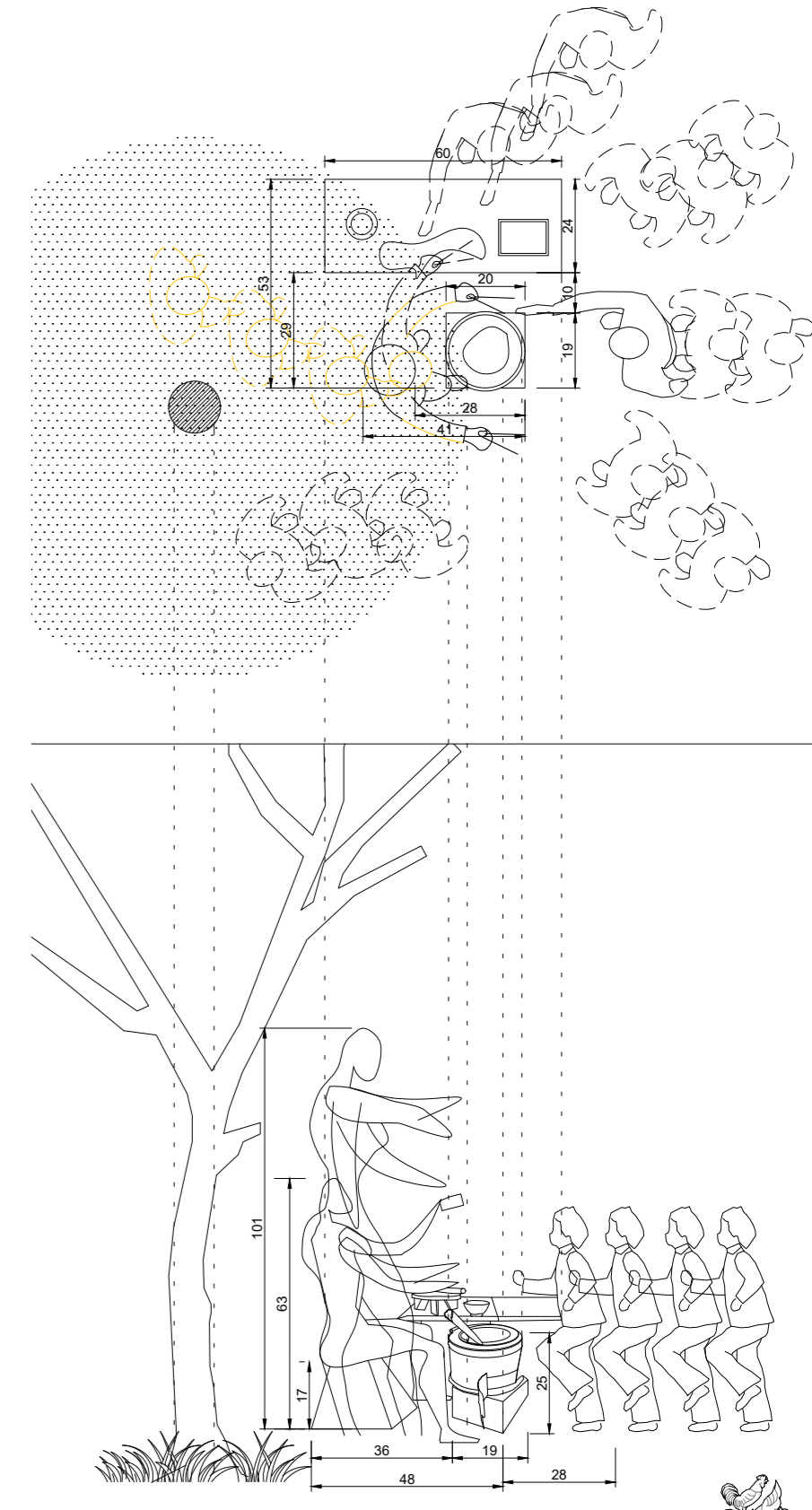
The Residents

The residents not only use the space as a thoroughfare but sometimes it is a leisure space. This is uncommon though. When they are utilizing the park they all place themselves under the protection of the trees.



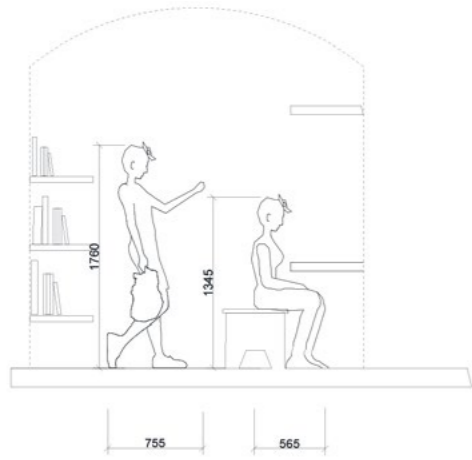
The Trader (cook)

For the cook, this is a place of business for her. She has a makeshift stove and serves lunch and breakfast to the locals working around the area. She also uses the trees as the only form of shelter. At the end of business day she packs up her items and keeps them in storage around the site.



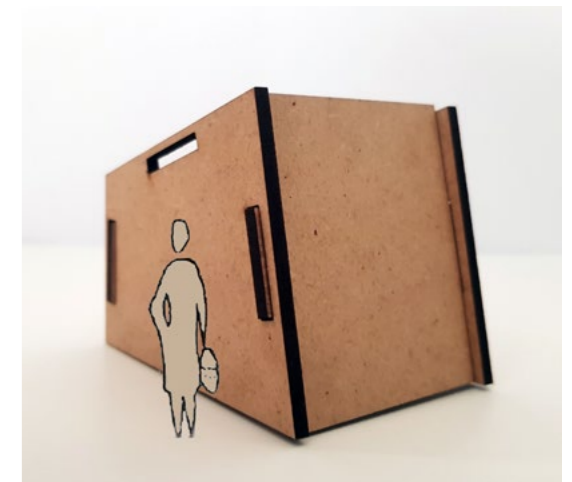
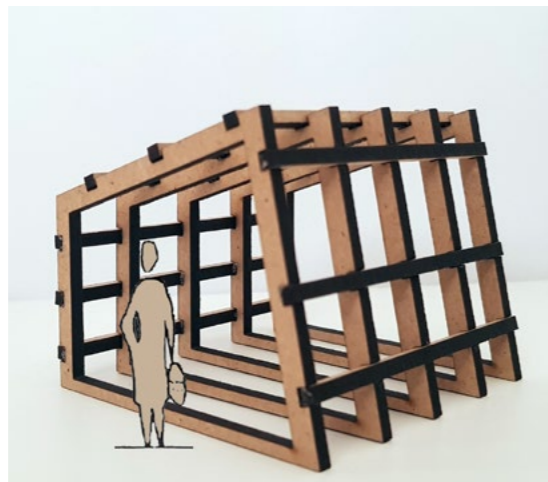
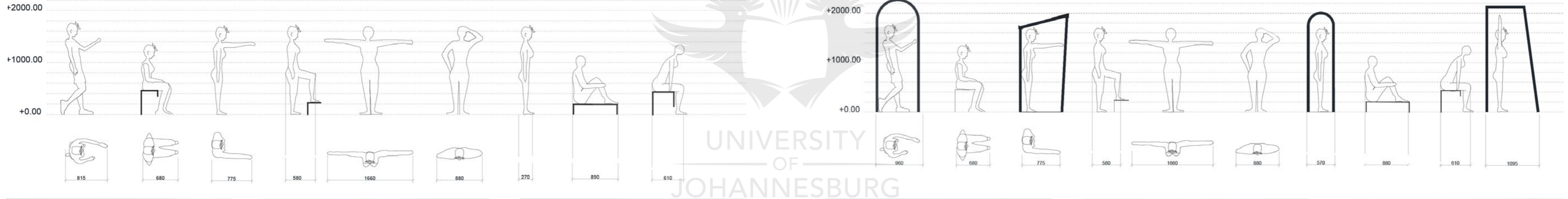
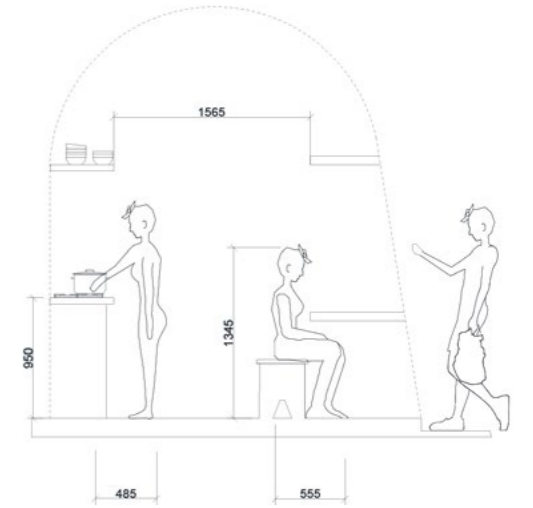
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Bodies in space



There are two basic areas in anthropometry: 1 Static anthropometry and 2. Functional anthropometry. Static anthropometry is a body size measurement carried out when the condition of one's body is at rest or in a static state. In contrast to static anthropometry, functional anthropometry is a measurement of human motion related to the completion of tasks, moves, and matters related to the use of space and equipment. However, this only matters if these spaces are in use because as Prussin puts it, "Architecture exists for people only when they occupy a space". Hence, it is important to build these spaces to move and change as needed by the current and future use and also leaving space for technological growth. The illustrations below look at the different anthropometries mentioned above, the models are an exploration of how the nomads' home works and how some of these ideals can be abstracted.

“ Architecture exists for people only when they occupy a space. ”



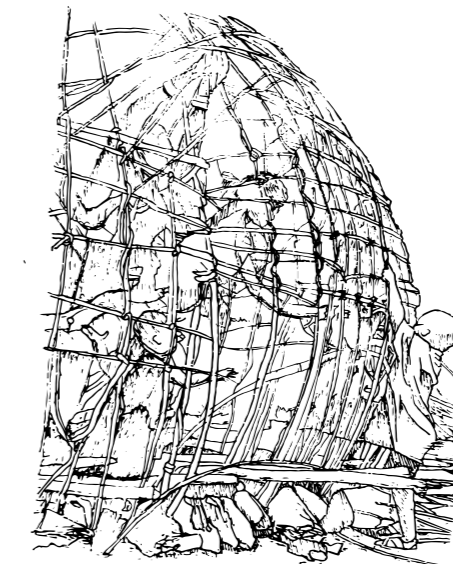
Making and unMaking

“

the nomad's home is not temporary. The space it contains is permanent even though, as a moving volume, it is not fixed permanently in space. Its permanence is in the minds and behavior of those who build it from the repetitive re-assembly and reconstruction of the architectural elements...

~Labella Prussin~

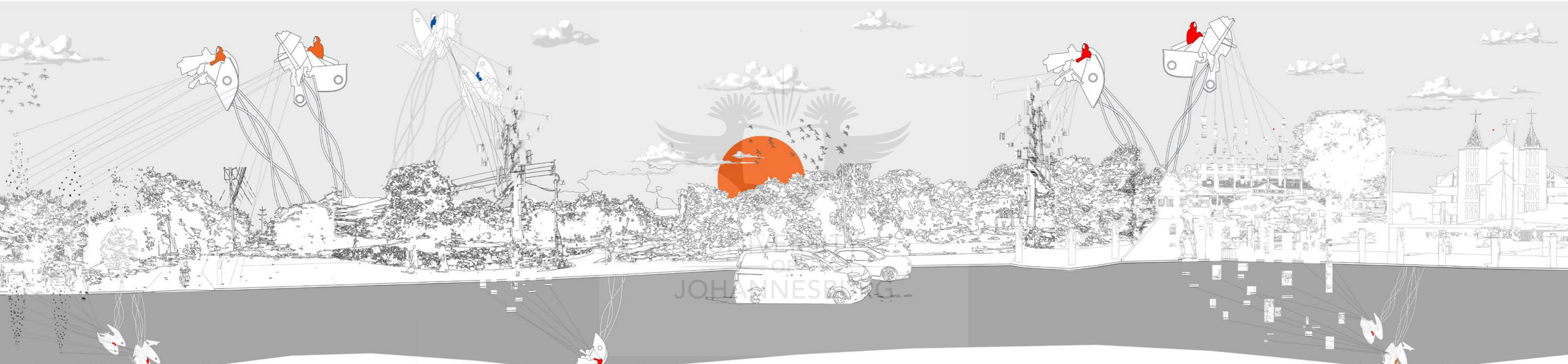
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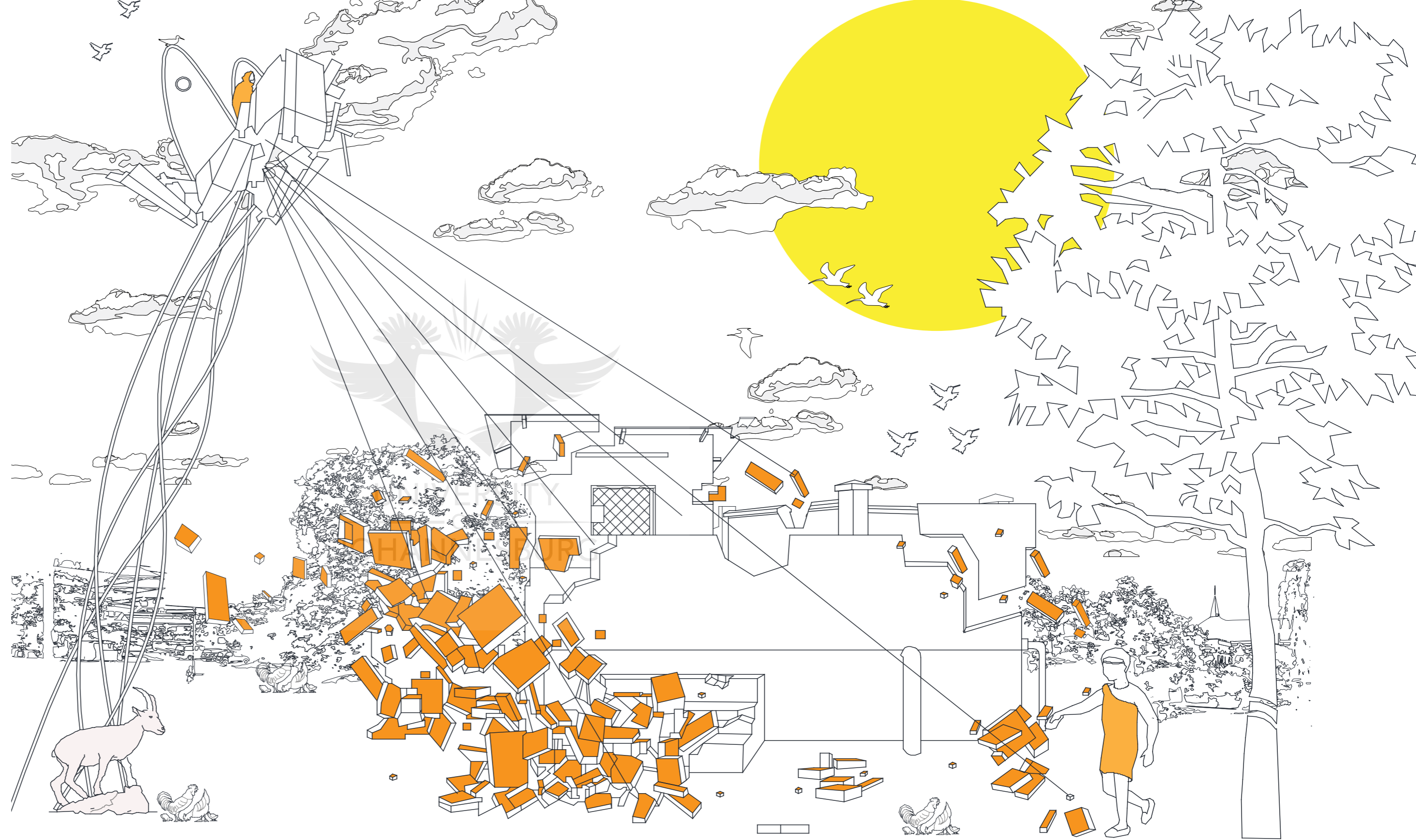
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Making and unMaking

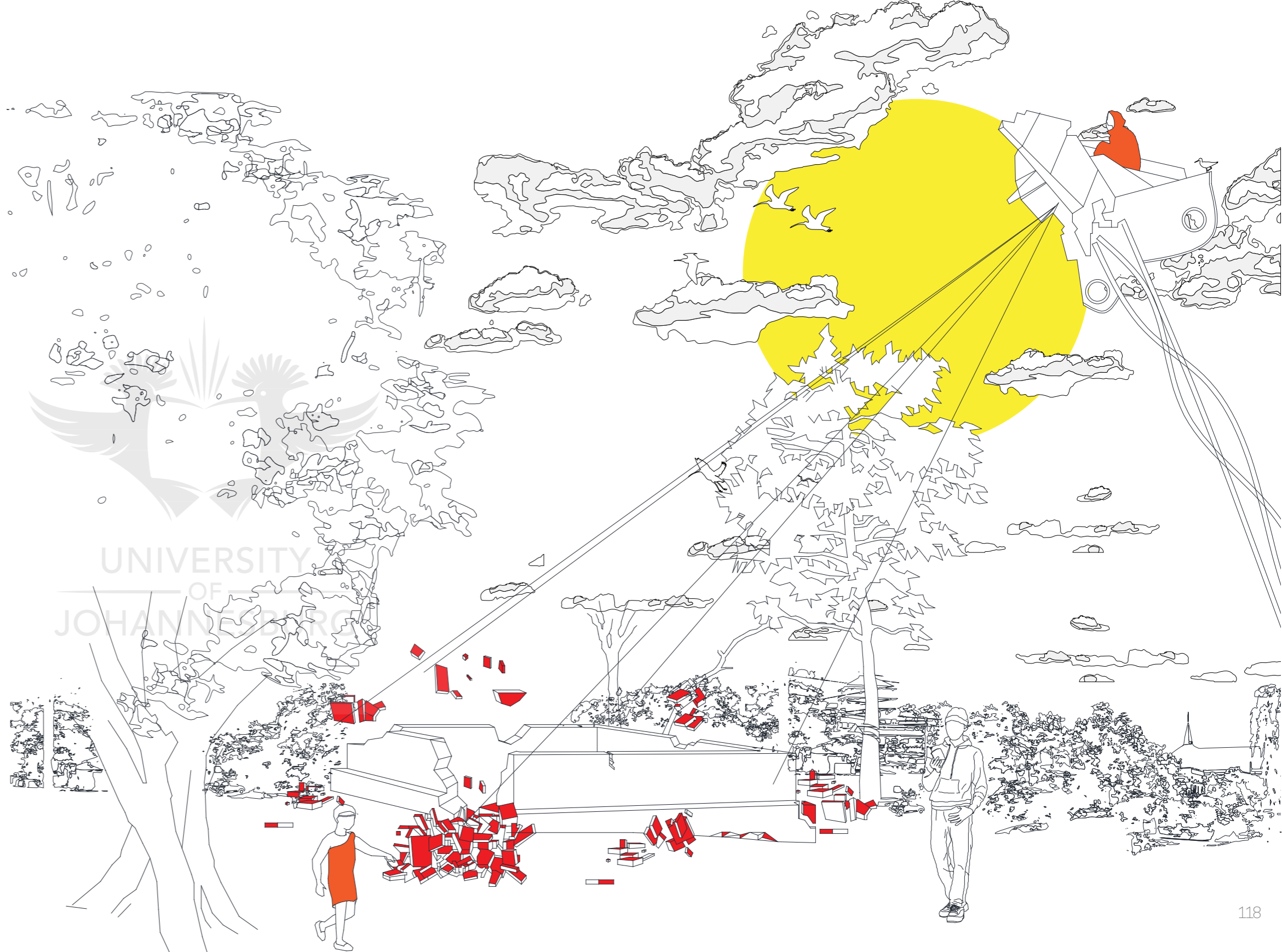
The unsettlement and deconstruction of the artifacts.



The unsettlement and deconstruction of the artifacts:
Water-house



The unsettlement and deconstruction of the artifacts:
Pond





Weaving

Pattern 1.
Diamond Pattern



Pattern 2.
Horizontal flat mat



Pattern 3.
Mat pattern

Making and unMaking Conclusion

The nomadic building process is also analogous to weaving : the duplication of intricate structural requirements also involves the integration of individual patterns into a total design. This kind of design speaks to their individuality and personalisation of their homes.

Labelle Prussin defines says “the nomad’s home is not temporary. The space it contains is permanent even though, as a moving volume, it is not fixed permanently in space. Its permanence is in the minds and behavior of those who build it from the repetitive re-assembly and reconstruction of the architectural elements... (1998)

The weaving on the left are examples of the” repetitive re-assembly and reconstruction” of the nomads home. These weaving patterns not only work for aesthetics, but also reinforcing the frame and allowing for optimal air and light circulation.

Some of the reasons they are able to transform their homes so easily is because the framework of the home and the skin, are always two separate things. This allows for optimum flexibility. This generation method of building changes and also adapts to different climates and seasons and times as well.

“Nomadic architecture plays a far greater role in the transmission of the culture and in the maintenance of well-being than much of our sedentary architecture because it is so integrated with rituals endowed with meaning and emotional content. This architecture, so responsive to underlying needs of the human psyche, entails a hands-on process of creativity. The inherent involvement over-time is what allows it to serve as a cultural mnemonic, reinforcing the existing value system, yet responding to the inevitable change.”



Precedent | The Plug-in City

Project Name | Plug-in City
 Architects | Peter Cook (Archigram)
 Location | Europe (Conceptual Project)
 When | 1964

Between 1960 and 1974 Archigram created over 900 drawings, among them the plan for the "Plug-in City" by Peter Cook. This provocative project suggests a hypothetical fantasy city, containing modular residential units that "plug in" to a central infrastructural mega machine. The Plug-in City is in fact not a city, but a constantly evolving mega-structure that incorporates residences, transportation and other essential services--all movable by giant cranes.

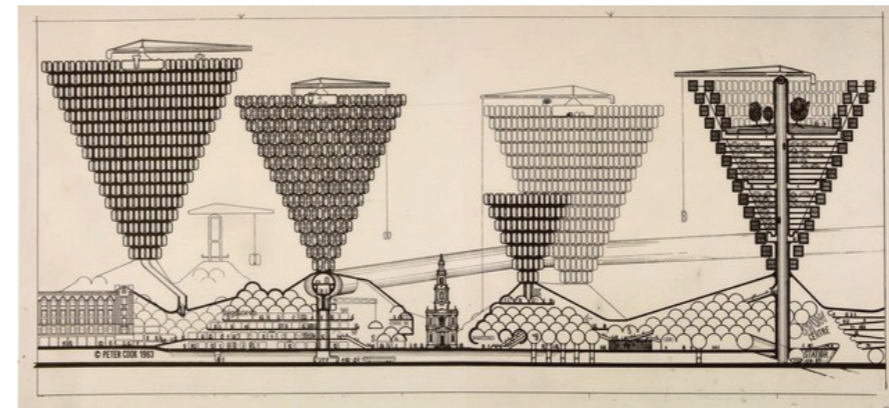
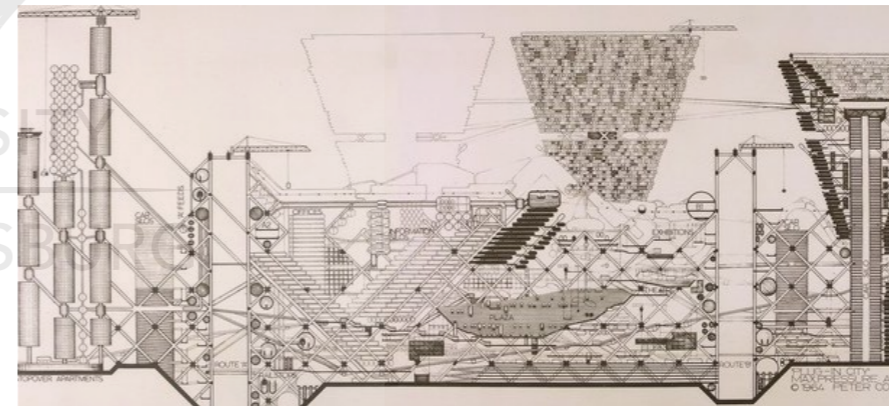
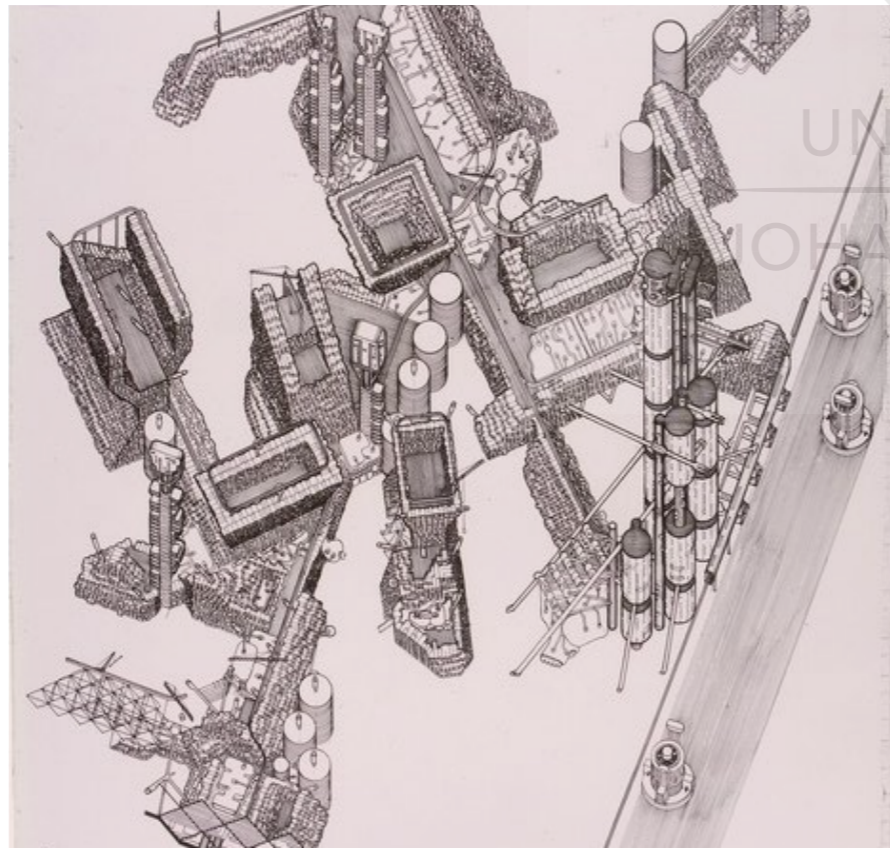
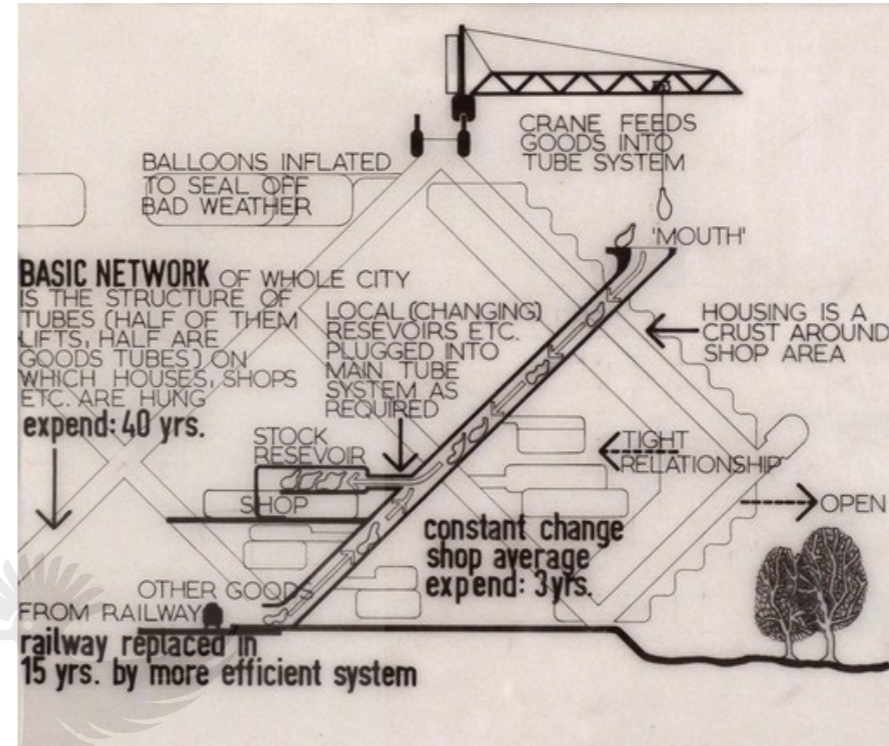
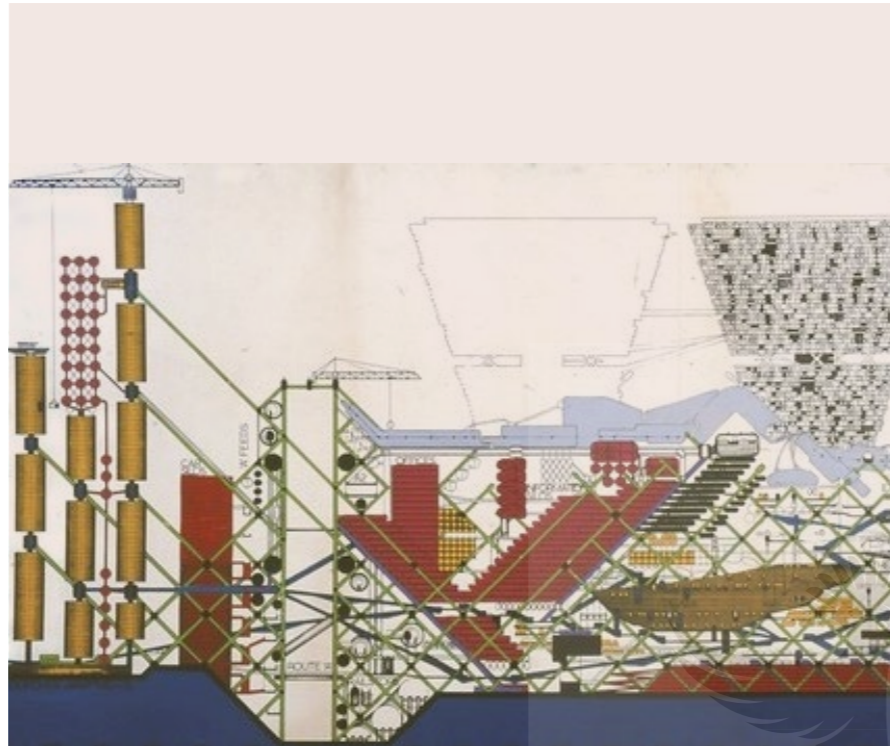
“

...the accommodation of rapid change in the urban environment...

“

Persistent precedents and concerns of modernism lay at the heart of Plug-In City's theoretical impulse, not limited to the concept of collective living, integration of transportation and the accommodation of rapid change in the urban environment. In his book Archigram: Architecture without Architecture, Simon Sadler suggests that "The aesthetic of incompleteness, apparent throughout the Plug-In scheme and more marked than in mega-structural precedents, may have derived from the construction sites of the building boom that followed the economic reconstruction of Europe."

Illustrations: Peter Cook via Archigram Archives



Dissatisfaction with this status quo pushed the experimental architectural collective to dream of alternative urban scenarios that flied in the face of the superficial formalism and dull suburban tendencies common to British modernism of the time. The Plug-In City, along with other projects such as The Walking City or The Instant City, suggested a nomadic way of life and, more importantly, a liberation from the modernist answer of suburbia.

“

...a nomadic way of life and, more importantly, a liberation from the modernist answer of suburbia...

“

Archigram was formed in 1960 at the Architecture Association in London by six architects and designers, Peter Cook, Warren Chalk, Ron Herron, Dennis Crompton, Michael Webb and David Greene. In 1961, Archigram (an eponymous publication whose name was derived from the combination of the words "architecture" + "telegram") was born as a single sheet magazine filled with poems and sketches.

Archigram's visions did in fact succeed in inspiring a new generation of architects and architecture. Most obviously, their radical suggestion to reveal infrastructural elements and reverse traditional building hierarchies inspired the famous Pompidou Center by Richard Rogers and Renzo Piano, and their drawings and visions continue to be invoked in urban thinking today.

Article main source: ArchDaily

Part One

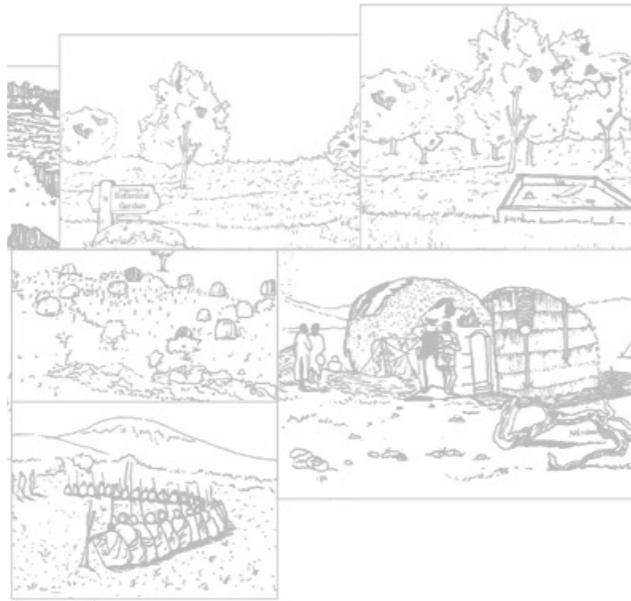


Johannesburg
Public Space as Territory

Dar-es-Salaam
Unit Framing Statement
Problem Statement

Part Two

Theoretical Discourse



Is permanence necessary?
Dar-es-Salaam
Magomeni
Problem Statement

Part Three

An Ephemeral Existence

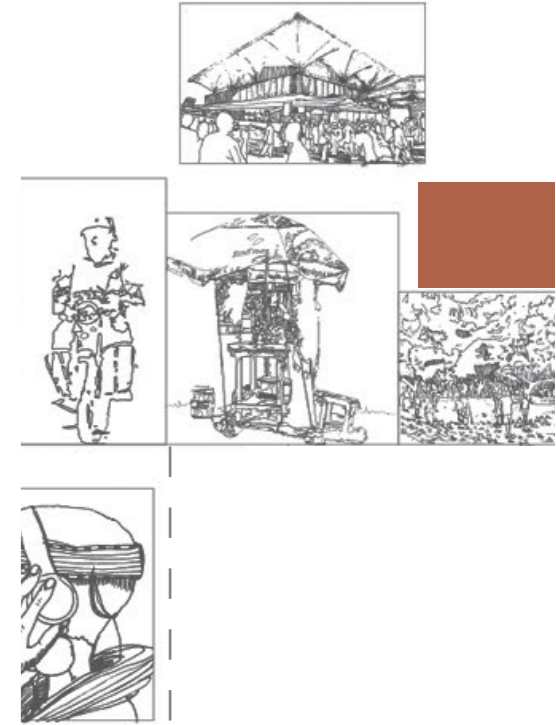


East African Nomads
Maasia
Rendile
Samburu

Nine Nomadic Principals
(Method of Design)

Part Four

Design Realization



Architecture
References



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Part Four

Design Realization

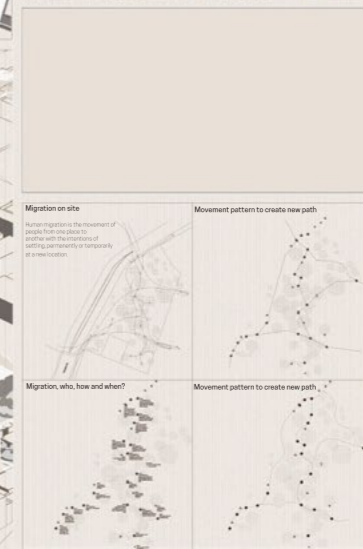
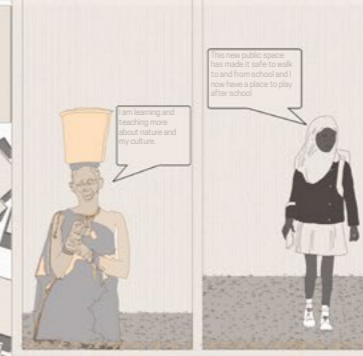
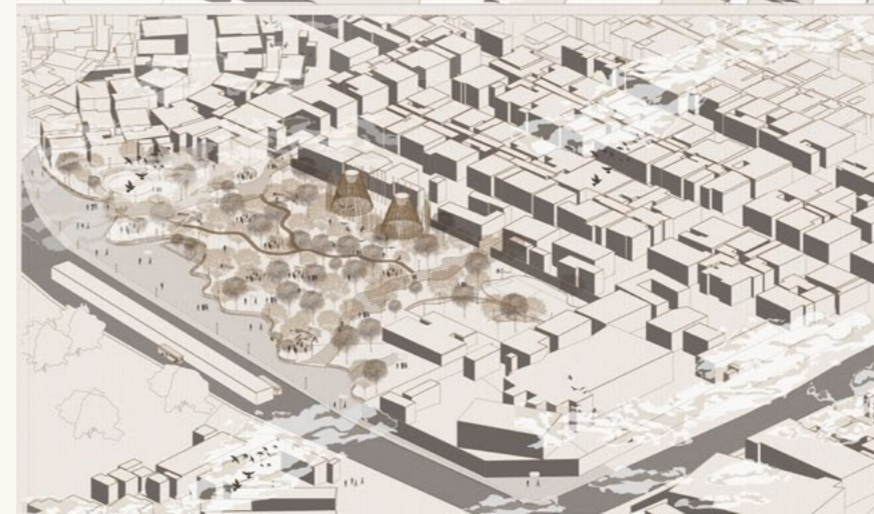
The Catalyst



“
Is there an architecture that is materially liquid, that configures and is attentive not to stability but to change and is thus at one with the fluid and shifting nature of all reality? Is it possible to think an architecture that is more of time than of space? An architecture whose objective would be not the ordering of dimensional extension but movement and duration?
”

-Ignasi de Sola-Morales, Liquid Architecture

”

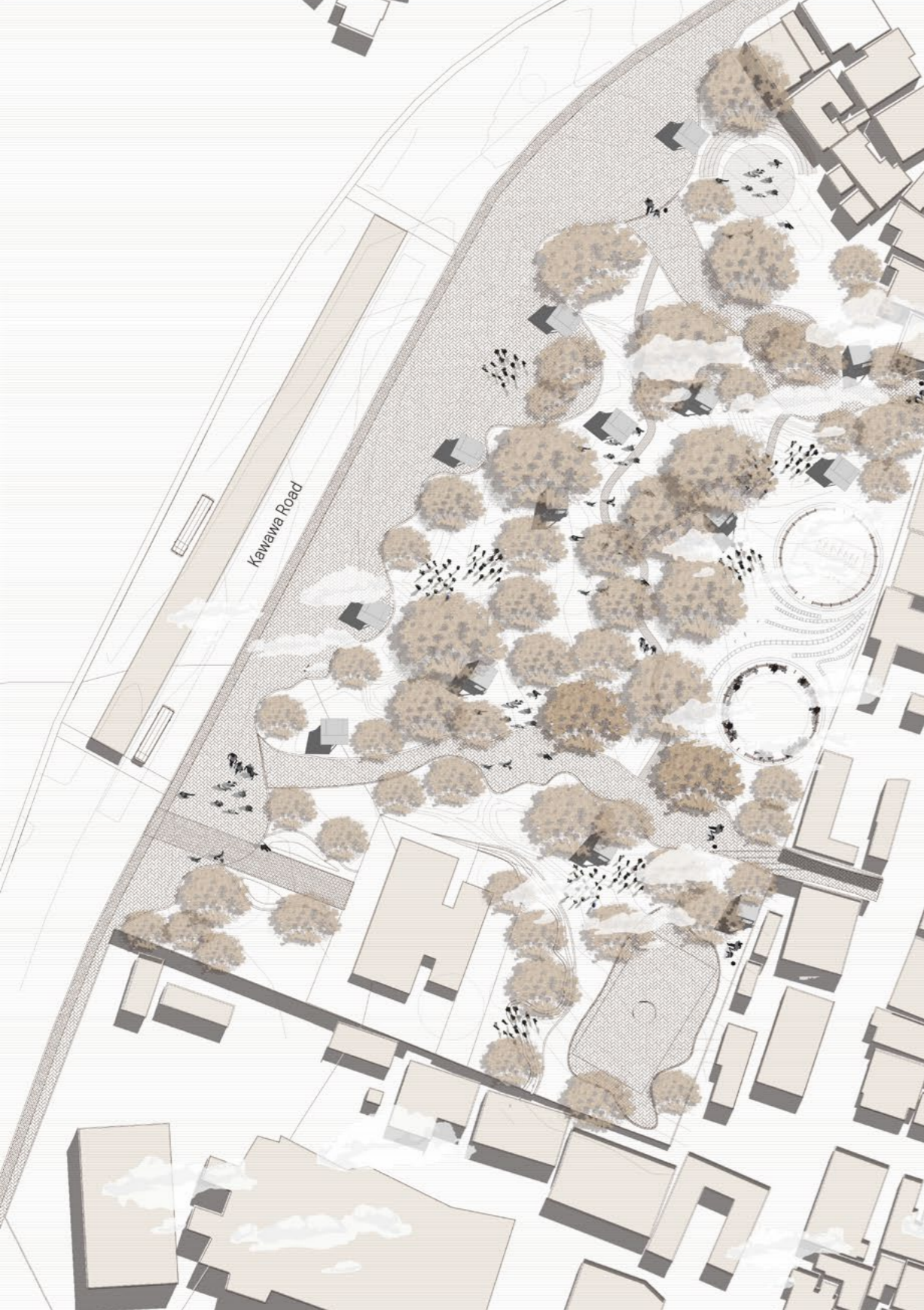


Design Proposal

My design proposal aims to create an architecture that can be collapsed into minimum volume in order to package/store/ transport and then expand to maximum size for use. The flexibility and temporality I am proposing intendeds to respond to changing situations in their use, operation and location.

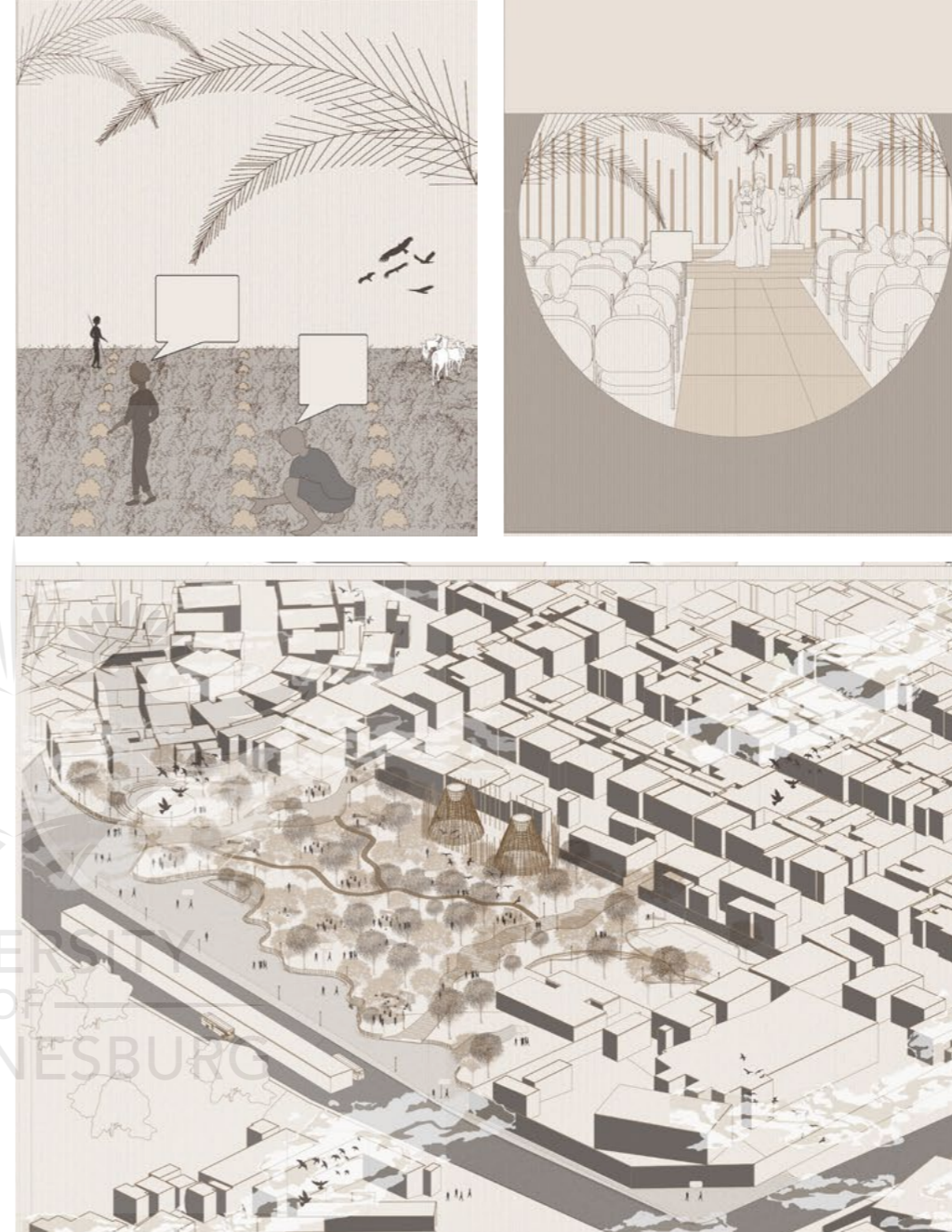
This architecture that adapts, rather than stagnates; transform, rather than restrict, is motive, rather than static; interacts with its users, rather than inhibits. It will take advantage of technical innovation more readily. It is a design form that is, by its very essence, multi-functional; innovative and expressive of contemporary and social design issues, that will take advantage of technical innovations, population increase/decrease and economic fluctuations more readily in the community of Magomeni and will spread into the rest of the city.

The open public space consists of temporary stalls that accommodate a food store, a coffee shop, a library and much more. all dependent on the user. There is a living garden that houses various plants found in Tanzania that is open for education purposes and create a open food supply for the community. The play grounds are demountable and the amphitheatre can house various activities from open cinema nights to community gatherings.



The site plan

The path ways are based on the users migration patterns in and out of the site, The paths you see are ankered around who, when and why . This helped dictate the navigation routes on site.



The site plan

The open public space can accommodate various activities such as weddings, community gatherings. It will also open up spaces for gardening and trading.



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The Living Wall

The living wall is inspired by the Vegetation, Making and Light/shade principle which speaks to how a nomadic settlement is set according to vegetation, sun, light and shadows. This is the heart of the public spaces, where the water and solar energy is preserved and distributed.

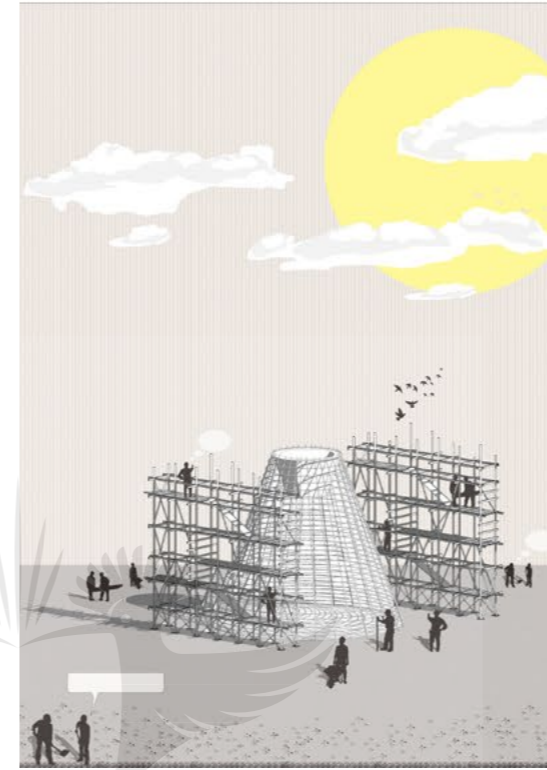
Made from bamboo found locally, the living garden can be assembled and disassembled as and when required by the user. It can also house various activities.

Illustration: By Author



The Living wall

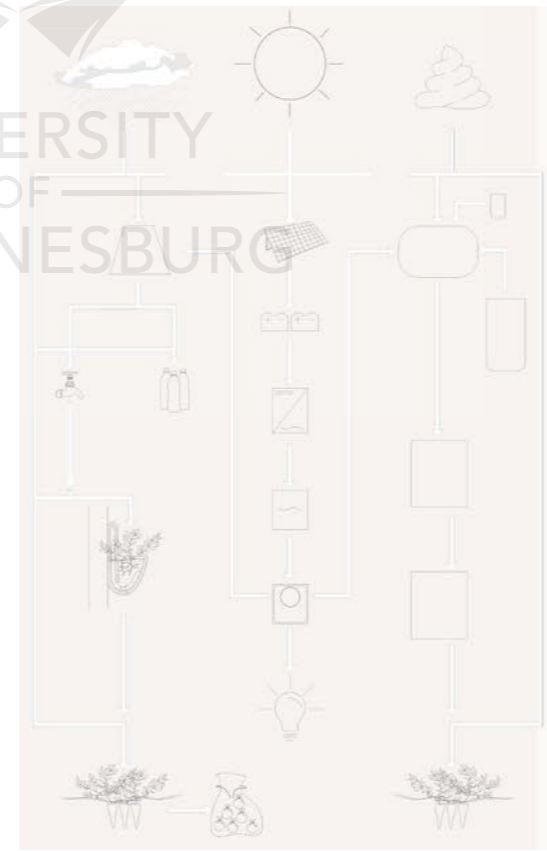
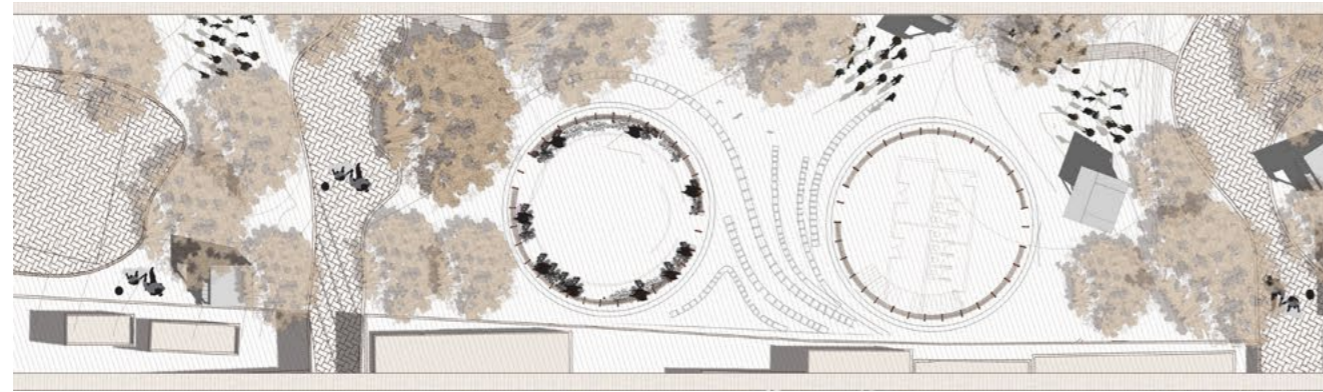
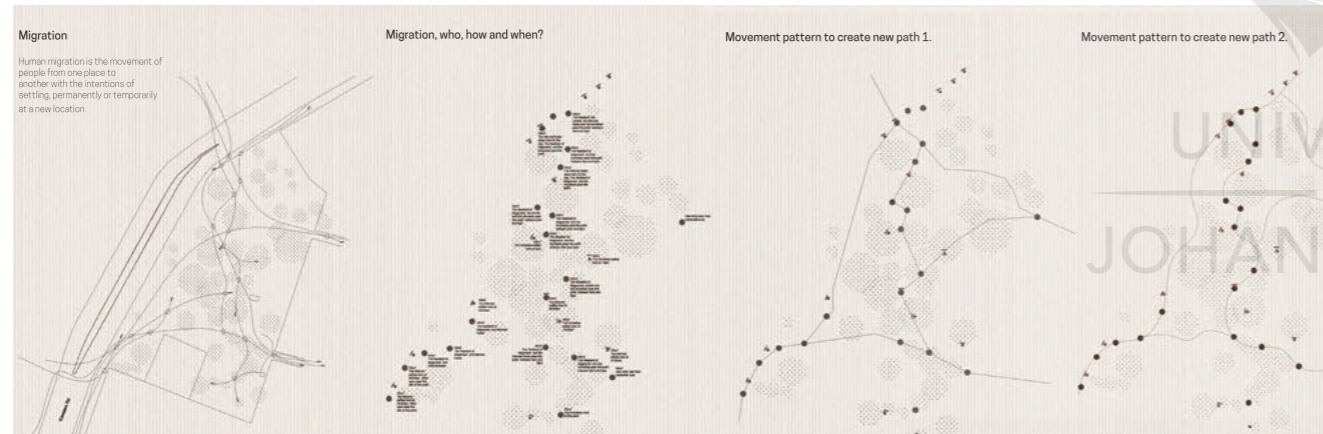
Inspired by the Dome of Plants, CapeTown, RSA,(refer to p.84) the living wall is located at the far east end of the public space due to the fall of the site, this is the best space for water collection and doesnt intrude the space occupied by the trees.



The Making

Interactive design is a big part of this design proposal because this will allow the user the ability to change this intervention as when they use it. Constructing it is meant to be as easy as possible and still achieve structural integrity.

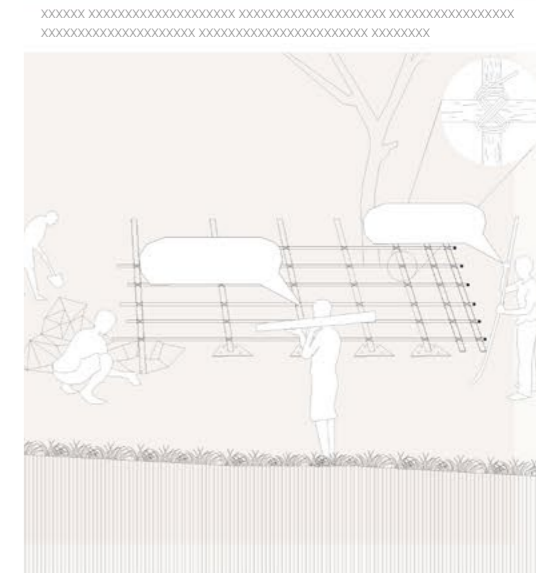
The living wall can change size, from height to diameter, dependent on the location and area available.

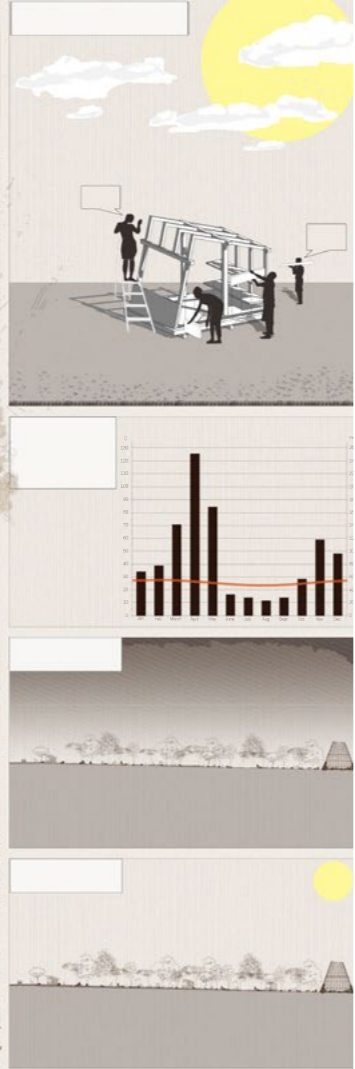


Self Sustainability

The living wall cone will harvest water, solar energy and waste. The water- The site floods constantly under heavy rainfalls due to lack of drainage, the cone will store direct rainwater and rainwater from the water that comes from the west of the site. This will be used for gardening and the public toilets.

Illustration: By Author





Temporary Stalls

Similar in design principles as the nomads home, it can be assembled and disassembled by user. The stalls can be placed together to create a larger space. The skin and fram work are kept as two separate entities for ease in making and unmaking them. Also to allow for optimum reconfigurations.



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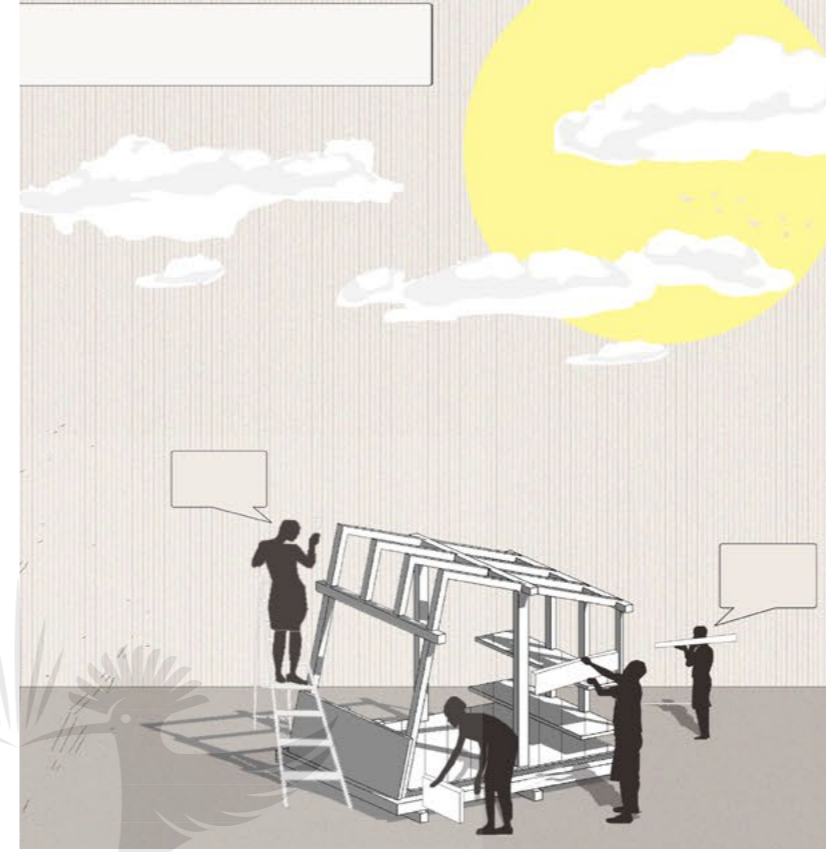
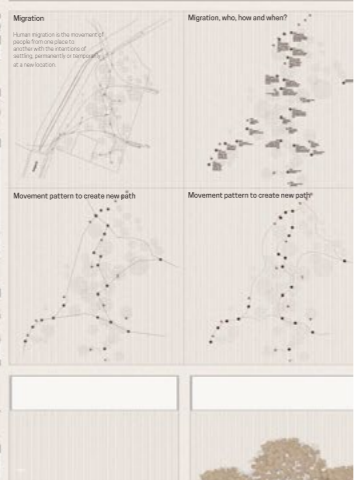


Illustration of the construction of the temporary stalls



Temporary stalls placed outside the shade of the trees on site vs. stall placed under shade of the trees on site.
Stall 1 has its own shading device to cover the customer and the owner.
Stall 2. This stall is under the scanty leaves of the site, so it does not require extra shading devices.

Illustration: By Author and

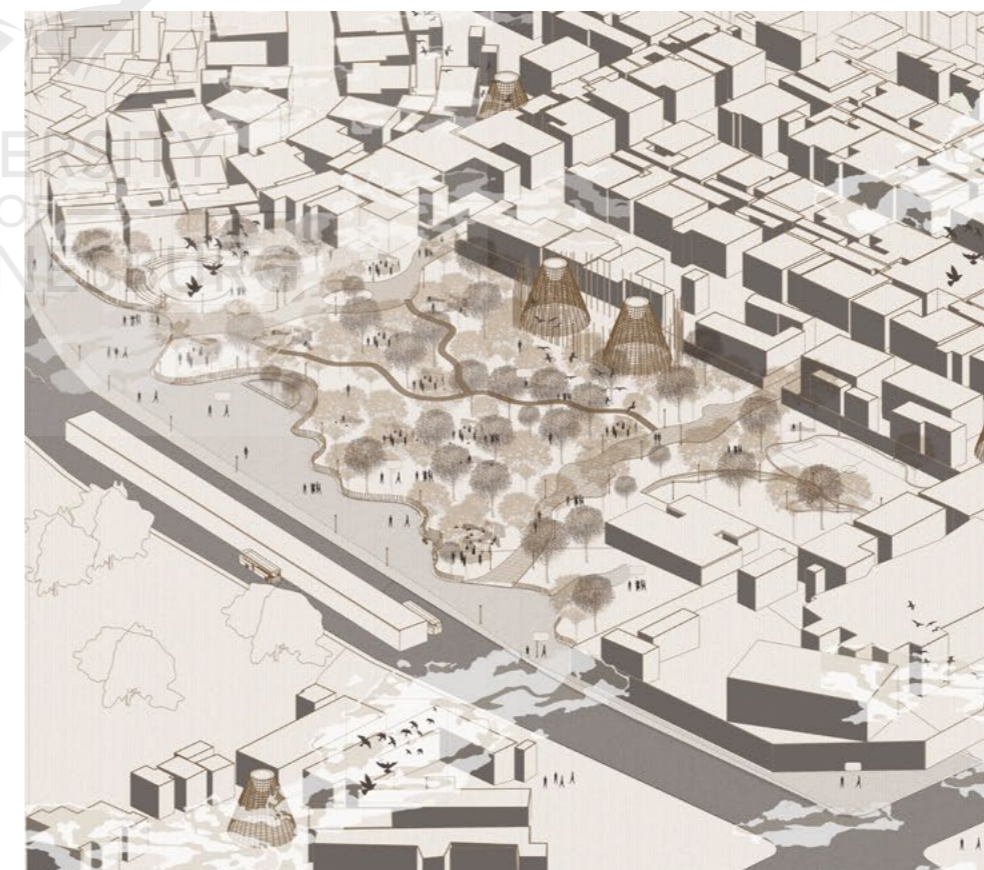


Future Possibilities

This image is based in the near future, in times where the living has sprouted into the rest of the community, in some places located at the existing market for additional space, at schools it could be an extension of the playground and in the residential area it could be again be a public space for people furthest from the Magomeni public space.



Site plan of areas that can possibly use these interventions.-
 Market Area
 Schools
 Residential Area

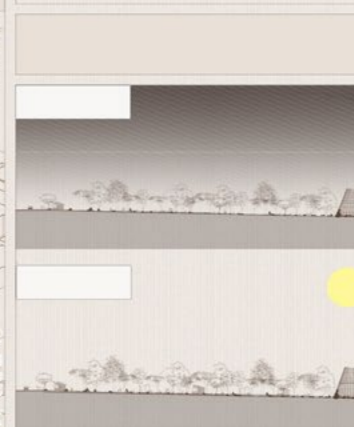
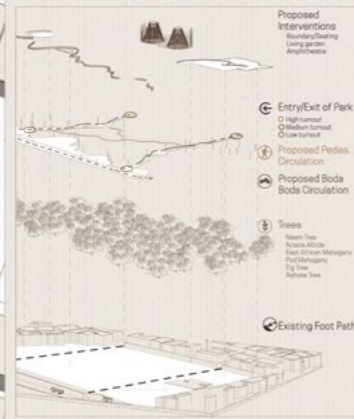
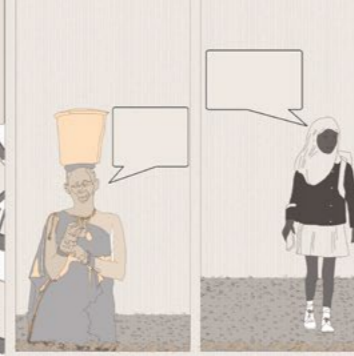


3d of areas that can possibly use these interventions.



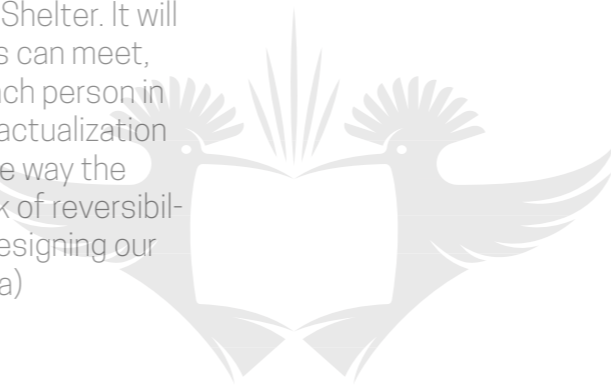
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Illustration: By Author



Reversibility

At the end of it all these interventions would only last for as long as they are still needed. This form of approach to architecture will enable the community of Magome-ni to meet varying requirements as defined by Maslows Pyramid of Needs, jobs to create economic opportunities and to cover the basic needs. Food. Shelter. It will also be a space where friends can meet, families can celebrate and each person in the community can find self-actualization in different seasons the same way the nomads do. "We need to think of reversibility more strategically when designing our cities for the future" (Mehotra)



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Illustration: By Author

Conclusion

Is permanence necessary? When I began with this project my answer was a definite no. But through this research I have realized there are so many layers to this question and yes many can and have been answered through my study of the East African nomads. Their distinction between what is “permanence” and what is temporary has changed my understanding of the role of architecture especially in the African context. These ethnic groups have a lot of potential to answer a great deal of design questions, from sustainability, to identity, individuality, economic change, urbanization and most importantly adaptability. And yes, East African nomadic practice is an extreme comparison to the fast pace urban environment we find ourselves in, but I believe looking at the extreme and different may be a productive way to pave a different future. Especially in Dar-es-Salaam, a city with a high urban population increase expectancy.

I initially had a problem with the idea of having my thesis based in another country, but this experience presented by the GSA has given me an opportunity to not only get a better understanding of what’s happening in the broader context of Africa but also the common challenges we are all still facing as a continent. This learning process has made me question the stance I need to take after I complete my studies.

With more time I would have been keen on exploring and experimenting the nine nomadic principles that have anchored this project in more depth. I truly believe more can be abstracted from them. These principles were initially meant to be a guide for myself, though through more research, I realized that there’s more potential in them. The principles can be the entire project, as a proposal to a method of design rather than focusing on proposing a form. I would also have liked to test it on more than one site because I realized late that the project was not site based but that Magomeni open public space was

an acupuncture and my project a catalyst for change. My project is not meant to be completed because the essence of nomadic architecture lies in the process of creation not the end product, it is “always complete but never finished”. This opens room for as much future change and transformation as possible.

I conclude my argument with a quote from an architect that’s been a great influence in my thesis Rahul Mehrotra:

“Every city has permanent and impermanent components that co-exist... But when we design cities, we do it mainly for permanence... My question is, can one make the temporary more deliberate? Can we build cities where temporary elements are given as much importance as the permanent ones? We need to think of reversibility more strategically when designing our cities for the future

~Rahul Mehrotra~



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