

Echoes of the land:

developing a lexicon of landscape patterns for an agri-tourism farm in the
Waterberg region.

DIT 802 Report

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28 June 2024

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Declaration of originality

I, Miré Pelser, declare that the mini-dissertation *Echoes of the land: developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region*, which has been submitted in fulfilment of part of the requirements for the module of DIT 802, at the University of Pretoria, is my own work and has not previously been submitted by me for any degree at the University of Pretoria or any other tertiary institution.

I declare that I have observed the ethical standards required in terms of the University of Pretoria's ethics code for researchers and have followed the policy guidelines for responsible research.

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Abstract

This project addresses the impact of landscape architecture on the aesthetics of rural environments, drawing on the critiques and design theories of Christopher Alexander. The modernisation of our food systems led to a shift towards large-scale commercial farms, which often prioritise efficiency and production over ecological sustainability, resilience, and aesthetics. There is a growing recognition of the importance of incorporating landscape architecture interventions in productive landscapes. The study uses research by design approach, gathering qualitative and quantitative data by methods of mapping and sketching. The goal of the research is to develop a regional landscape lexicon that could aid the design of a food farm in the Waterberg region of Limpopo, South Africa.

Keywords: landscape syntax, composition, mechanised agriculture, Christopher Alexander, food farm, regional lexicon.

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1 Introduction

“Food glorious food,
Canned, packaged, and frozen,
Food, glorious food,
Which have you chosen?
Soups powdered in plastic bags,
Steaks polished and wooden,
Fish cutlets like arctic crags
Air-tight pudden?
Food, glorious food,
Pre-cooked and pre-grated,
Food, glorious food,
De-bloody hydrated...”

-J.B Boothroyd (in Fefnandez-Armesto, 2002:187)

1.1.1 Process of de-sanctification

Hunter-gatherer societies were never certain where their next meal would come from. The challenging conditions under which they obtained food meant that food was always valued and never taken for granted. Every bite was hard-earned and extremely precious (Toussaint-Samat, 2009:9-13). These societies relied on the benevolence of nature for essential elements like sunshine and rain to grow food. Many earth-based spiritualities emerged from the direct connection humans felt between agricultural harvests and deities relating to these agricultural processes (Bakier et al., 2020:319). Offerings of food from people to gods associated with nature such as Osiris and Ceres were a sign of gratitude for the deity providing a bountiful harvest. The term ‘sacred’, in this context does not necessarily pertain to religion. Rather, it signifies that food is regarded as extraordinary and set apart from the mundane. This notion of sacredness is closely tied to the concept of sacrifice; something is considered sacred because it originates from a sacrifice. Traditional societies recognized that food embodies life-force energy, and obtaining it required significant effort, whether through hunting or farming. Their survival often depended on this labour-intensive process, giving food a sacred quality in their cultures. As society transitioned from a nomadic lifestyle of hunting and gathering to a more settled existence focused on agriculture, the act of eating became more predictable (Ikerd, 2016). However, in contemporary times, the sanctity of food has been overshadowed by a fascination with artificial, synthetic, and technologically produced food. The necessity of hunting or growing food has diminished, as food can now be conveniently delivered from various distances to nearby markets. This shift has led to a decrease in the perceived sacredness of food, reflecting the reduced effort required to obtain it. Less energy goes into obtaining food or nourishment, thus de-sanctifying food. Mechanised

agriculture provided our society with food availability, stability, and variety. Extensive selections at supermarkets have led to overconsumption and underappreciation of food.

1.1.2 Project background

This project addresses the impact of the mechanistic worldview on agriculture in rural landscape aesthetics of natural environments, drawing on the critiques and design theories of Christopher Alexander (1936-2022). He advocated for an architectural education that emphasises creating beautiful, harmonious settings for daily life, learning from historical examples of places where people feel at home. Alexander's work, particularly *The Nature of Order*, provides a framework for designing meaningful, vital spaces, which has been underutilised in the design of productive landscapes in South Africa. The project aims to apply these ideas locally, acknowledging the prevalence of hostility and fragmentation in the agricultural landscape brought on by Apartheid laws and regulations (Sihlobo, 2023:27). Alexander posited a connection between architectural beauty and a sense of the divine, suggesting that the absence of such a connection led to placelessness and ugliness. This echoes the broader theme of disenchantment in the modern world, as discussed by sociologists and philosophers who saw mechanistic rationalism as stripping away mystery (Alexander, 2002:6-15). However, the project acknowledges that enchantment can still be found, even in scientific wonders, and that the mechanisation of agriculture has brought positive advancements. The research is based on three key propositions: First, the creation of aesthetic wholes should be the primary concern of spatial design, focusing on the morphology and syntax of places to inform beautiful designs. Second, beauty reveals the invisible in the visible, making aesthetic experiences essential for encountering the intangible. Third, objects evoking a sense of the intangible exhibit specific properties outlined by Alexander (2002:77), which include levels of scale, strong centres, boundaries, and simplicity, among others. The project seeks to explore the tangible and intangible aspects of place to create beauty, accepting these propositions as foundational.

1.2 Background and theoretical discourse

1.2.1 Mechanistic worldview of modernisation

With the arrival of the twentieth century, in Europe, the spiritual nature of things came into question. The philosopher Descartes (1596-1650) proposed a dualism, one where the world was divided into spirit and matter. This Cartesian view of the world argued for scientists to see matter as material and the spirit as immaterial, a divide between body and mind. In the ultimate pursuit of knowledge Descartes said that to understand how something works you could imagine it to be a machine. By isolating the object from the rest of the world you invent a type of mental model in which the object will conform to certain rules and replicate its behavior thereby understanding how the object works (Alexander, 2002:6-15). This led to the material world being seen as a machine made from a combination of objects. This became known as the mechanistic viewpoint. As the realm of the factual expanded the realm of the spiritual almost disappeared.

Viewing the world through a mechanistic lens meant that the inner experience of what it means to be human was removed from the big picture. The scientific world around us, built with our mental machines resulted in a world that sidelined any definite feeling of value. In terms of architecture, Descartes' dualism led to a shift in perspective towards the design and function of spaces. In the modern era we have placed more importance on the functionality of buildings and landscapes and have forgotten how it impacts the human spirit. Approaching life through the lens of mechanism left the twentieth century world decontextualized, disembodied, utilitarian and eventually lifeless (McGilchrist, 2021:156).

1.2.2 The idea of wholeness

In the twentieth century, the built environment has become ugly, overwhelming the world (Alexander, 2002:7-8). Christopher Alexander, a prominent critic of modern architecture, expresses a deep discontent with the placelessness often associated with modern and contemporary architectural designs. The built environment is more focused on what is beneficial for the developer and not what is beneficial to the human spirit. This trend accounts for the increasing importance of concepts and abstractions in architectural design. Place-making has become a fragmented series of tasks executed by various professionals at different times and locations. The architecture created through this process resulted in lifeless and fragmented environments (Ettlinger, 2023:186). Alexander spent the entirety of his career pursuing beauty in the built environment, creating beautiful environments including cities, streets, buildings, and artefacts. Among his works, the four-volume book *The Nature of Order* (Alexander 2002-2005) lays a foundation for the field of design and architecture. The concept of wholeness, developed by Alexander, characterises the level of order that exists everywhere around us. This concept of wholeness aims to understand, create, or re-make living structures (Jiang, 2019:2). A living structure provides a sense of environment that nourishes us emotionally. A living structure has a sense of place. According to Alexander (2002:77), everything possesses a certain degree of life, which can be observed in our surroundings, including cities, streets, buildings, and gardens. The idea of life can be understood as vitality, aliveness, and beauty. Life exists within the very essence of space itself. Life and beauty come from the same source: the concept of wholeness. Therefore, life, beauty, and wholeness form a trio that serves as a foundation for the nature of order. To create a living structure, something that has placeness, Alexander developed a new cosmology, an alternative to the mechanistic worldview. The fifteen properties include strong centres, levels of scale, boundaries, alternating repetition, positive space, good shape, local symmetries, deep interlock and ambiguity, contrast, gradient, roughness, echoes, the void, inner calm and simplicity, and not separateness. Each of these properties are often present in a living structure (Alexander, 2002:144). Alexander hypothesises that using these properties to design a space will result in a living structure. This quality of life or wholeness that he has observed in different objects seems to correlate with the recurring appearance of fifteen specific properties that appears throughout an object's composition. The fifteen properties include strong centres, levels of scale, boundaries, alternating repetition, positive space, good shape, local symmetries, deep interlock and ambiguity, contrast, gradient, roughness, echoes, the void, inner calm and

simplicity, and not separateness. Each of these properties are often present in a living structure (Alexander, 2002:144). The new cosmology comprises two interconnected parts: the external world and our internal experiences, where our inner experiences reflect external experiences, suggesting that humans are not separate from the world but deeply integrated into it. He argues that modern architecture, characterised by standardised, repetitive forms and a lack of cultural context, fails to create meaningful, human-scaled spaces that connect people to their surroundings, as opposed to vernacular architecture, which stood for human value and supported the spiritual and meaningful aspects of human existence. Alexander's critique can be extended to how placelessness impacts landscape architecture, which is intimately tied to the built environment. Landscape architects can play a pivotal role in shaping more meaningful and sustainable landscapes that resonate with the essence of their surroundings while simultaneously addressing the placelessness found in modern landscape architecture. An integral part of a person's identity is space (Gidado *et al.*, 2023:2). There have not been many attempts to translate Alexander's work into the profession of landscape architecture. However, some landscape architects, such as Catherine Dee, have a similar approach to design. Her book *Form & Fabric in Landscape Architecture* (Dee, 2001) deals with an aesthetic and a psychological approach to landscape design patterns, advocating for the incorporation of aesthetic patterns as a primary concern of spatial design, focusing on the composition of landscape to inform beautiful designs. Landscape architects play an important role in placemaking. Therefore, finding qualities that contribute to creating living structures is our inclination (Oberholzer, 2023). Elizabeth Meyer (2018:12) argues that beauty plays a vital role in landscape architecture's approach to sustainable design. She contends that aesthetic dimensions, particularly beauty, are essential for the discipline's capacity to create sustainable environments. Meyer suggests that an immersive, aesthetic experience of landscape architecture can lead to recognition, respect, and care for the environment. This has the potential to influence and even 'persuade' our ideas and values, thereby enhancing our concern for the environment (Abbott, 2018:11-14).

1.2.3 Productive landscapes in South Africa

Due to rapid urbanisation, the need for secure and highly productive landscapes has become crucial to the food systems within South Africa. Apartheid laws and regulations have left South Africa with a divide in landscape, not only is it present in our settlement and urbanisation patterns, but this problem has made its way into our food production systems (Sihlobo, 2023). Agriculture within South Africa has immense potential. However, the damage done during Apartheid land segregation is still evident in the agriculture sector. The divide between commercial farmers and non-commercial farmers is still evident. Provinces that include former homelands, such as KwaZulu-Natal, the Eastern Cape, and Limpopo, are on the margins of agricultural progress, in contrast to provinces that were dominated by commercial farming pre-1994 and benefited from governmental programmes, institutions, and policies that allowed these farms to thrive. The agriculture sector could be described in three words: segregation, suppression, and support (Sihlobo, 2023:16). The agricultural sector makes up almost three percent of South Africa's GDP (compared to six percent for mining). It is an important sector of South Africa's economy, and we should ensure that the

sector is utilised to its full potential so that we can build rural economies (Netshipale *et al.*, 2022:106-107). The modernisation of our food systems led to a shift towards large-scale commercial farms, which often prioritise efficiency and production over ecological sustainability, resilience, and aesthetics (Abbott, 2018:10). Through the mechanisation of agriculture, we have isolated the process of farming from the rest of the world, inventing a type of mental model in which agriculture will conform to certain rules and replicate its behaviour, thereby understanding how the object works and eliminating any possibility of uncertainty. Large-scale farms have become hard-cast machines that function flawlessly within highly controlled conditions (Roncken *et al.*, 2011:71). The ability to produce a large amount of food in highly controlled conditions is not inherently a bad thing. Agricultural mechanisation has led to an increase in food availability, stability, and variety (BFAP, 2021:141-154). However, this has turned some of South Africa's biodiverse landscapes a series of monoculture commercial farms. These large-scale agricultural farms no longer support the biodiversity and ecological functions that are vital for the long-term sustainability and resilience of the landscapes. There is a growing recognition of the importance of incorporating landscape architecture interventions in productive landscapes to address these issues and promote sustainability (Lickwar & Thoren, 2019:25-35). The discourse surrounding productive landscapes deals with important issues affecting climate change, food availability, and quality of life. The design of agricultural farms does not fall within the realm of landscape architecture. However, combining the productive landscape of an agriculture farm with a landscape architect's knowledge of placemaking could be the beginning of a new era of landscape machines (Roncken *et al.*, 2011:5). Landscape machines are defined as a productive landscape with two main characteristics: first, a landscape machine has a certain material input and output and is driven by a critical amount of energy; and second, the natural processes within the landscape constantly interfere with each other, effecting the type, shape, and size of landscape components. The difference between a hard cast agricultural machine and a landscape machine is that succession is not prevented within a landscape machine. This allows nature to intervene in the production of food.

1.2.4. Getting to know the Waterberg

One of the provinces that has the potential to develop agriculture (Sihlobo, 2023:9) is the Limpopo province, where we find the Waterberg region. The Waterberg region is a popular destination for eco-tourism and hunting. It is home to beautiful landscapes with a rich history, from the remarkable people who lived there to the trials and tribulations of land occupation, agricultural hardships, and governmental neglect (Wadley, 2019). Historically, the Waterberg region has been too dry for arable agricultural practices. However, there are still some successful commercial agricultural farms that contribute to the food production systems of South Africa. Successful farms found in the area typically grow and commercially produce crops such as cotton, tobacco, maize, and other crops such as flowers (Netshipale *et al.*, 2022:106). Myer and de Crom (2013:295) point out that many family farms that do not fall within the commercial agriculture categories struggle to compete with these commercial corporations. Due to rising production

costs, globalisation, industrialisation, and the loss of government-supported agriculture programmes, these families are forced to explore alternative options when generating income to preserve their farms. Many of the non-commercial farms have adopted a form of agritourism to diversify their income sources (Zvavahera & Chigora, 2023:3). Vaalwater is a town located within the Waterberg region of Limpopo, where there is a strong concentration of commercial farms and game farms with ecotourism activities. Land use within this area largely consists of wildlife game reserves for hunting and viewing wildlife, commercial dry crops, and irrigated farming. The small-scale farmers are located within the areas demarcated as buffer zones. In these zones, agriculture is not encouraged by the land development plan because agriculture risks the destruction of natural landscapes (LSDP, 2016:136).

1.2.5 Agritourism as a solution

Agritourism is a rapidly growing and increasingly significant form of tourism that is gaining prominence in both developed and developing countries around the world. In South Africa, agritourism is an up-and-coming activity that has yet to be explored to its fullest potential. Agritourism is a subcategory found under rural tourism that includes farmer markets, agricultural tours, and farm visits (Netshipale *et al.*, 2022:106). Van Zyl and Van der Merwe (2021:3) found that agritourism invites tourists to engage in farm activities on an agricultural farm with the goal of providing fun activities and selling products made on the farm. In South Africa, popular wine farms located in the Western Cape are a successful example of agritourism, an innovative solution started by the winemakers in the winelands. The Babylonstoren garden, located near Franschhoek in the Cape Winelands, boasts over 3.5 ha of edible landscape gardens that provide visitors with rich sensory and emotional experiences that are nostalgic and new (Posthumus, 2016:4). Babylonstoren serves as a unique example as it surpasses the expectations of agritourism that we typically find and specialises in culinary experiences focused on edible crops. This type of tourism can potentially generate income and employment for local communities and farmers, ultimately contributing to rural development (Zvavahera & Chigor, 2023:11). By providing new economic opportunities, agritourism can play a crucial role in poverty alleviation and contribute to more secure and resilient food systems, thereby promoting the Sustainable Development Goals (SDGs). Additionally, agritourism encourages farming communities to try entrepreneurship, enabling the community to make the most of their agricultural resources, cultural heritage, and distinctive tourist attractions. This form of tourism not only enhances the economic well-being of rural areas but also helps preserve and promote the cultural and environmental assets of these communities, leading to sustainable development and improved quality of life for residents. (Baipai *et al.*, 2021). In a rapidly urbanising world, reconnecting with the countryside is an experience that urban visitors enjoy. Agritourism is popular amongst international travellers looking for unique and memorable experiences that they typically do not find in the western world.

1.2.6 Conclusion

In conclusion, the impact of the mechanistic worldview on agriculture in rural landscape aesthetics, draws on the theories of Christopher Alexander. Alexander's critique of mechanistic viewpoints in built environment underscores a profound disconnect from spiritual and human dimensions in contemporary design. His advocacy for creating harmonious and meaningful spaces resonates strongly in the context of South Africa's agricultural landscapes, historically marked by Apartheid's divisive policies. By applying Alexander's principles locally, this proposes a transformative approach to address the fragmentation and placelessness prevalent in South African landscapes through the implementation of landscape architecture. Emphasizing both the tangible and intangible aspects of place, the study seeks to reintroduce aesthetic beauty and cultural significance into productive landscapes. The integration of agritourism emerges as a viable strategy to not only enhance economic opportunities but also preserve cultural heritage and promote sustainable development. In essence, this argues for a paradigm shift in landscape architecture towards designs that prioritize aesthetics, landscape form and principles of composition. By reconnecting landscapes with their cultural roots and fostering environments that evoke a sense of place, this approach aims to mitigate the impact of historical injustices while envisioning a more harmonious and enchanting future for South Africa's rural areas.

2 Research questions

2.1 Problem statement

The pervasive influence of a mechanistic worldview that prioritises the function of objects led to the creation of farming environments that are often devoid of sense of place, aesthetic beauty, and harmony with the human spirit. This is particularly evident in the Waterberg region of Limpopo, where the history of land use and distribution is characterised by hostility and fragmentation (Sihlobo, 2023:27). Here, the farming process has turned into a hard-cast landscape machine, turning beautiful landscapes into monocultural fields. As a result, there is a significant gap in the adaptation and implementation of these principles within the local context, which hinders the development of meaningful, vital, and spiritually resonant spaces. Designing a food farm in the Waterberg region of Limpopo province requires careful consideration of forms and principles of composition that create a sense of coherence, placeness, and the intangible. Identifying and applying these principles effectively will be essential to developing a farm that not only functions efficiently but also embodies a unique and meaningful sense of place within its environmental and cultural context.

2.2 Research question

What forms and principles of composition can inform the design of a food farm, characterised by coherence, placeness and a sense of the intangible, in the Waterberg region of the Limpopo province?

2.3 Research aim

This research aims to provide a set of local, forms and principles of compositions of landscape and landscape architecture. It aims to establish a lexicon of forms and principles of compositions that can be applied to the design of a region-specific food farm.

2.4 Research objectives

1. The research objective is to select artefacts relevant to farming and the regional character.
2. To analyse the identified artefacts according to the characteristics of the fifteen properties of wholeness developed by Christopher Alexander (2002:144-242).
3. To identify forms and compositions that adhere to the characteristics and derive a regional pattern language of landscape architecture that will aid in the design of a food farm.

2.5 Research propositions

In response to the claim that the mechanistic worldview led to the industrialisation of agricultural systems, resulting in the disenchantment and placelessness of farms, three propositions form the basis of the research. First, the creation of aesthetic wholes should be the primary concern of spatial design, focusing

on the morphology and syntax of places to inform coherent, beautiful designs. Second, beauty reveals the invisible in the visible, making aesthetic experiences essential for encountering the intangible. Third, objects evoking a sense of the intangible exhibit specific properties outlined by Alexander (2002:144-242).

3 Research methodology

3.1 Study area and context

The study takes place in the Limpopo province focusing on the Waterberg region to explore the relationship between the intangible aspects of landscape and the tangible, focusing on landscape architecture syntax and morphology.

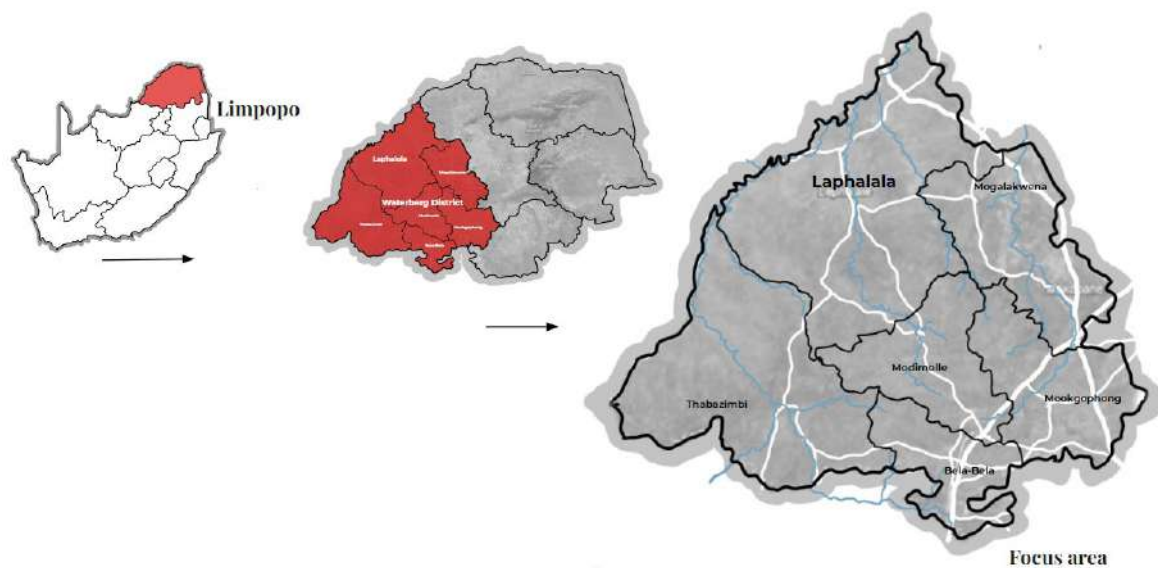


Figure 1: Study area context

3.2 Research approach

Focusing on the creation of new knowledge through the design process and the emphasis on the subjective and creative nature of design research, this study falls within the constructivist paradigm (Swaffield & Deming, 2011:40). Roggema (2016:3) describes Research by Design as “an academic investigation where design is explored as a method of inquiry, by the development of a project and exploring the different materials by which a design is carried out, including sketches and mapping”. Research by design is a critical inquiry into design work. The research strategy is the three-phase model of pre-design, design, and post-design. The pre-design or analysis phase is concerned with understanding the current situation. It involves researching and analysing the existing conditions, problems, and contexts. The goal is to gather information and insights that will inform the design process. This is the ‘what is’ stage, where the designer seeks to understand the truth about the current situation and establish a design question. Once the analysis is complete, the focus shifts to projection. The design, or projection, phase involves developing and testing

design propositions. This is the ‘what could be’ stage, where the designer explores potential futures and possibilities. It's about envisioning how things could be different and generating ideas and design proposals that address the identified issues. This phase is exploratory and allows for creative thinking and the generation of multiple potential solutions. The final phase is post-design or synthesis, which is the ‘what will be’ stage. Here, the designer takes the insights from the analysis and the ideas from the projection phase and brings them together to create a coherent and feasible solution. It's about making decisions, refining the design, and preparing for implementation. This phase also involves communicating the results and ensuring that the knowledge gained is accessible and useful to others. In this study, the pre-design phase involves understanding the problem of placelessness in modernised agricultural landscapes and conducting research on what role landscape architecture can play in bringing life back into agricultural landscapes. In this case, the concept of wholeness from Christopher Alexander has been identified as a valid method of creating beautiful and lively architecture. The design phase involves the systematic development of a coherent design language derived from location-specific, formal, and informal design patterns, creating a regional lexicon. The post-design phase includes writing a synthesised report on the research conducted. This study focused on the pre-design phase, gather information and insights that will inform the design process.

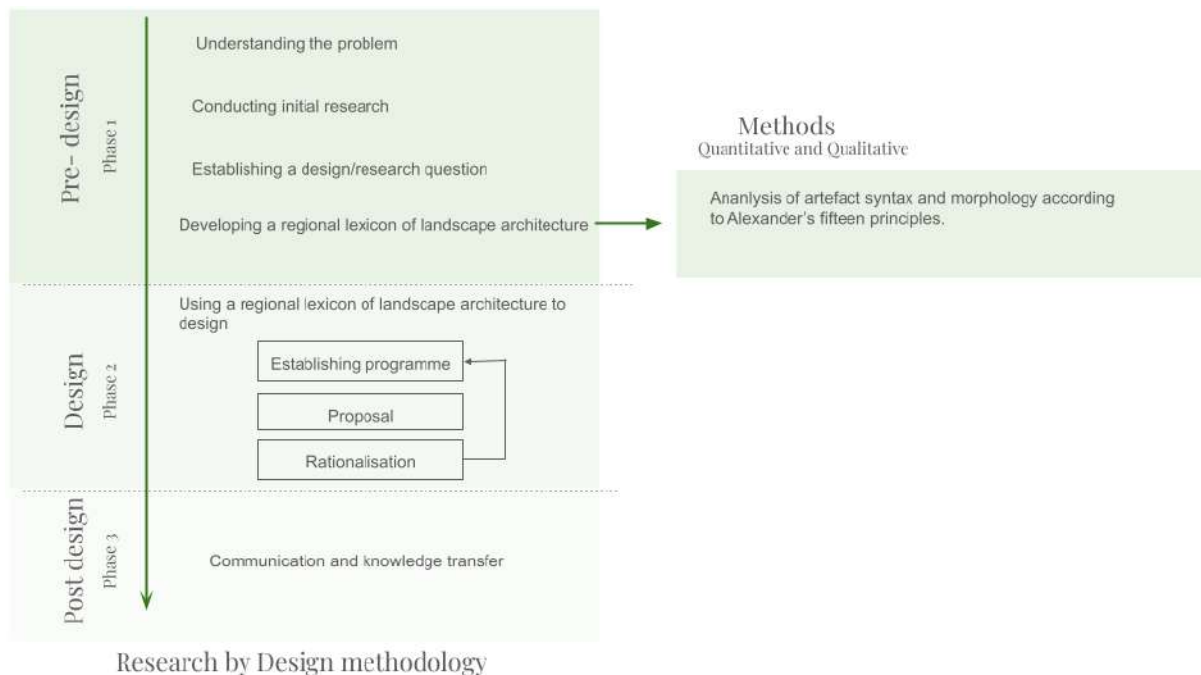


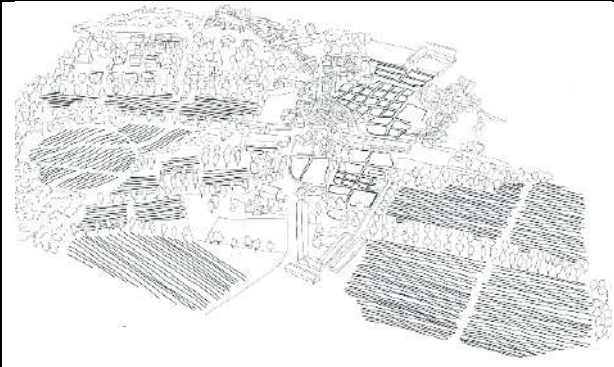
Figure 2: Diagram of research methodology

3.2 Selection of artefacts and methods

The research strategy dictates that research should be tied to the local, cultural, and political context (Roggema, 2016:15). Therefore, artefacts selected for analysis were considered appropriate if they were of the local vernacular, of historical or cultural significance and had some form of agricultural significance. However, there are two outlier artefacts that were analysed to provide a better understanding of the ideal productive landscape that has sense of place. The other seven artefacts are representative of the cultural diversity and agricultural programmes within the area. The number of artefacts analysed in this study was determined by the amount that could be visited in the given time. Three artefacts were analysed over a desktop study and site visits were conducted for another six artefacts. Over the courses of three weeks, the identified artefacts were visited and analysed according to Christopher Alexander's fifteen properties of wholeness. Qualitative and quantitative data was collected making use a preliminary desktop study of aerial photographs, onsite mapping, photographs, and sketches documenting the compositional analysis and phenomenological observations while visiting each artefact.

The following artefacts were analysed:

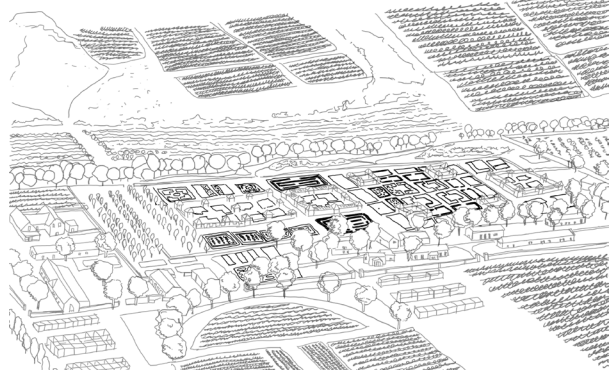
1. Santar Villa Gardens (1950) in Portugal by Fernando Caruncho

Artefact image:	Method of analysis:	Rationale for artefact selection:
	Desktop study using imagery from Google Earth and images from online resources (de Vasconcellos, 2020).	Ideal food and farming artefact

Santar is a picturesque village nestled in the valley of the Dao River region. The village is rich in history, with remnants from the Roman Empire, such as archaeological vestiges, ancient roads, and bridges still visible today. A series of stately manor houses stand with adjoining grounds that were once bustling with orchards, vegetable gardens, and vineyards along their edges. Over time, some of these enclosures have transformed into formal boxwood gardens. Since the 1950s, extensive vineyard plantations have become a dominant feature of this landscape. In a remarkable effort to rejuvenate the area, a group of property owners united their lands and initiated a conceptual project led by Fernando Caruncho (Spanish landscape architect and garden designer), who deeply understood the spirit of the place. Caruncho successfully revived the

dormant beauty and charm of the landscape. This project leverages the cultural landscape's inherent values to foster the region's social, cultural, and sustainable economic development. It brings people together by combining efforts and joining neighbouring gardens to create community gardens, opening passages, and building bridges over walls. Visitors to Santar can uncover the village's secrets and charms, including its gardens and architectural heritage, remarkable trees, emblematic camellias, and boxwood alleys. The granite structures, ranging from rustic and noble to religious, the traditions, the vineyards, and the wine all contribute to the joy of experiencing authentic country life (de Vasconcellos,2020).

2. Babylonstoren Gardens (2010) in Franschhoek, Cape Town by Patrice Taravella.

Artefact image:	Method of analysis:	Rationale for artefact selection:
	Desktop study using imagery from Google Earth and images from online resources.	Ideal food and farming artefact.

In 2007, owner Karen Roos enlisted the expertise of French architect Patrice Taravella to design the garden's layout. This meticulously planned garden consists of 15 clusters, each dedicated to different plant and animal life. These clusters include vegetable areas, stone and pome fruits, nuts, citrus trees, berries, beekeeping sections, herbs, ducks and chickens, and even a prickly pear maze. The garden's irrigation system is ingeniously designed, with gravity-fed water from a stream flowing through rills into the garden. This water then moves through ponds planted with edible lotus, nymphaea lilies, and waterblommetjies, ensuring a sustainable and aesthetically pleasing environment. More than 300 plant varieties in the garden are either edible or possess medicinal properties. The garden yields fruit and vegetables year-round, supplying two farm-to-fork restaurants. Along the garden's edge, a natural stream runs from Simonsberg Mountain to the Berg River, providing an ideal habitat for indigenous wild olive trees. In the shade of these trees, around 7,000 clivia lilies burst into a spectacular display every spring.

3. Waterberg landscape

Artefact image:	Method of analysis:	Rationale for artefact selection:
	Desktop study using imagery from Google, site visits, mapping, and drawing.	Artefact represents the local context.

The Waterberg region in Limpopo, South Africa, is known for its rugged, mountainous landscapes with dramatic escarpments, rolling hills, and expansive savannas. Rich in biodiversity, it features bushveld vegetation, including acacia trees, wild grasses, and dense woodlands. The area is dotted with rivers, wetlands, and waterfalls, creating lush riparian zones. The rocky terrain, shaped by millennia of erosion, showcases stunning rock formations and cliffs. Wildlife, including elephants, rhinos, and leopards, thrive in the region's protected reserves. This diverse landscape, with its ecological richness, is a UNESCO Biosphere Reserve, blending natural beauty with cultural and environmental significance.

4. Bakone Malapa Northern Sotho Museum (2011), Polokwane, Limpopo

Artefact image:	Method of analysis:	Rationale for artefact selection:
	Desktop study using imagery from Google, site visits, mapping, and drawing.	Artefact represents the local vernacular architecture and has cultural significance.

The Bakone Malapa Open-Air Museum is a place where tribesmen practice long-standing traditions to educate visitors about the customs of Africa's people. It is one of two similar museums in Limpopo, the other being the Tsonga Open-Air Museum near Tzaneen. Bakone Malapa is a meticulously reconstructed village modelled after the style used by the northern Sotho people around 250 years ago. It is designed to demonstrate the daily life of the Bakone, a highly sophisticated subgroup of the northern Sotho tribe. The

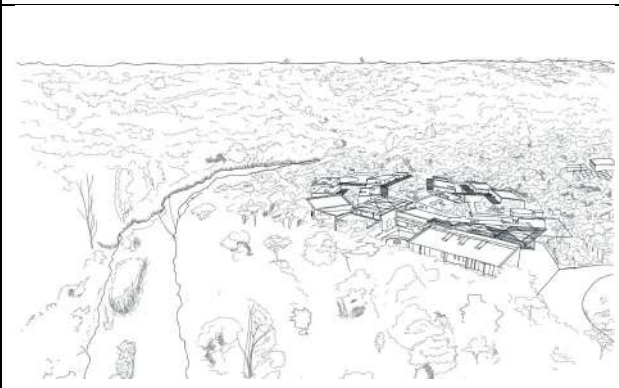
cultural village features two homesteads, or lapas, that exhibit and explain traditional activities such as fire making, maize grinding, and beer brewing, just as they were performed centuries ago.

5. St Johns Baptist Church, (1914) 24 Riviere, Limpopo by Sir Herbert Baker (1862-1946)

Artefact image:	Method of analysis:	Rationale for artefact selection:
	Desktop study using imagery from Google Earth and images from online resources	Artefact is of historical significance.

The St John the Baptist Church in Vaalwater, Limpopo, designed by Sir Herbert Baker's office in 1914, exemplifies Critical Regionalism. It features rough-hewn sandstone walls, a thatched roof, and Gothic-inspired windows with stained glass. The design incorporates local materials and climate considerations, avoiding traditional Gothic elements unsuited to Africa's sun. Memorial plaques, graves, and adjunct structures enhance its historical significance. The church reflects Baker's architectural philosophy, merging simplicity with regional context.

6. Lapalala Wilderness School (2015), Melkrivier, Limpopo by Local Studio Architects

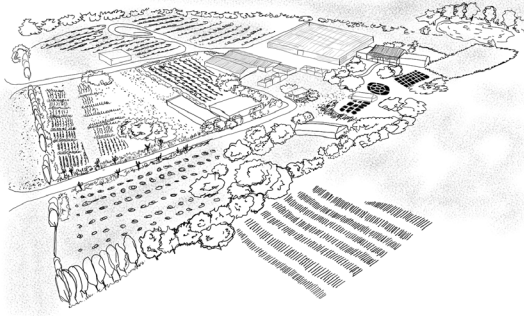
Artefact image:	Method of analysis:	Rationale for artefact selection:
	Desktop study using imagery from Google, site visits, mapping, and drawing	Artefact is of community context significance.

Local Studio's Lapalala Wilderness School project represents a significant advancement in landscape space design within rural South Africa. Established in 1981, the school is renowned for its environmental education programs, serving diverse groups from primary students to university conservation specialists. The new campus, relocated to a neighbouring property, includes teaching and administration buildings, as

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well as short-term and long-term residential accommodations. Constructed using context-driven materials like rammed earth, rock, and hardwood, the project is net-zero rated, powered entirely by a solar farm, and features a grey and black water recycling plant, highlighting its commitment to sustainability and innovative design.

7. Geluksfontein Farm, Modimolle, Limpopo

Artefact image:	Method of analysis:	Rationale for artefact selection:
	Desktop study using imagery from Google, site visits, mapping, and drawing	Artefact is of agricultural significance.

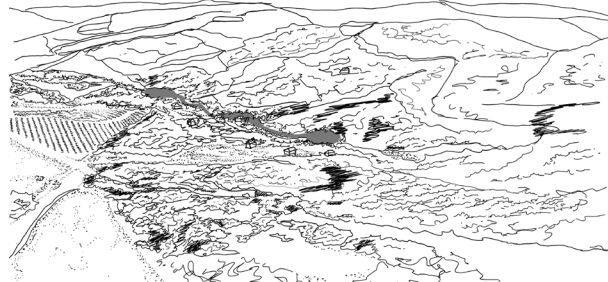
Originally a goat farm that went out of business and was bought by the current owner that transformed it into a productive landscape. The original restaurant is still in use with the addition of a small plant nursery. The farm is home to a few cows and some goats. The owner grows different types of indigenous plants including edible plants.

8. Leeuwenhof Farm (n.d.), Modimolle, Limpopo

Artefact image:	Method of analysis:	Rationale for artefact selection:
	Desktop study using imagery from Google, site visits, mapping, and drawing	Artefact is of agricultural significance.

A wildlife reserve with accommodation turned into a productive landscape. The farm grows different types of strawberries, inviting the public to participate in the harvesting process of the farm. The farm still includes forms of wildlife, and the tourism surrounding the wildlife.

9. Cheerio Farm (1964.), Haenertsburg, Limpopo

Artefact image:	Method of analysis:	Rationale for artefact selection:
	Desktop study using imagery from Google, site visits, mapping, and drawing	Artefact is of agricultural significance

Established by Sheila Thompson in 1946 after her discharge from the army, Cheerio Gardens showcases her passion for botany. Nestled in a cool valley, the garden features indigenous plants and deciduous trees from the northern hemisphere, such as maples and flowering cherries, known for their stunning autumn colours. Despite challenges from local wildlife, the garden flourished thanks to the dedication of Box Thompson, her mother Audrey, and Station. Handcrafted terraces and moss-covered pathways reflect their love and commitment. Remaining within the family since its inception, Cheerio Gardens invites visitors to experience its peace and tranquillity.

3.5 Limitations

The short timeframe the study took place in is, a limitation, a longer timeframe for Research by Design is more favourable to allow for the natural unwrapping of the design (Godin & Zahedi, 2014:11). Due to logistics and time constraints only nine artefacts could be analysed ideally it is more beneficial to analyse a larger group of artefacts to thoroughly identify the forms and compositions present in this region. The number of artefacts is therefore a limitation in this study.

3.4 De- limitations

The sanctity of food and farming is a topic explored in this study. However, the focus of this study is on the composition of landscape architecture in this region and therefore does not include artefacts specifically related to the sanctification of food and farming. The study is purely to extract forms and compositions and how to apply it in a design related field, it is not the intention of the study to address social economic problems.

4 The search for sanctity and wholeness

4.1 Reclaiming the sanctity in food and farming.

In some cultures, food and farming still have some aspect of sacred significance. Farmers across cultures would engage in rituals and prayers, seeking blessings for rain, protection against pestilence, and bountiful harvests. Communities would express gratitude to divine forces for providing ‘daily bread’, often celebrating these provisions through harvest festivals and communal gatherings. However, with the onset of industrialization and modernization, many of these sacred practices have faded into obscurity. Food production has transitioned from respected traditions to a commercial enterprise, and the act of eating has become a transaction rather than a spiritual connection. The advent of scientific advancements played a pivotal role in demystifying farming and food production, much like it did with other aspects of civilisation (Bennett, 2001:34). While science-derived farming itself is not inherently negative, farms have become steps in a consumption conveyor belt (Fefnàndez-Armesto, 2002:193). This impact has led to a profound, positive shift in societal attitudes towards nature and agriculture, wanting to reconnect people with place and time. One might ponder whether a return to a meaningful relationship with food and farming could help reintroduce elements of the divine or sacred into our daily lives and landscapes. In a world of overconsumption, how do we return to the appreciation of food and farming? To sanctify the practices of food and farming, it is important to understand the idea of sanctification. The experience of enchantment is to be profoundly moved by the exceptional that exists within the familiarity of the everyday (Bennett, 2001:4). By reclaiming the sanctity of food cultivation and consumption, there is potential for a restoration of deeper connections and meanings that have been eroded over time. To increase the appreciation of food and farming, we must bring together the practices of farming and food consumption. The mechanistic worldview disrupted the sacredness of finding our own food sources and preparing and consuming them. Therefore, this leads to the mindless consumption of food. By combining these aspects and creating a programme that will inform the design of a food farm, landscape architecture can serve as a platform that explores the idea of sanctifying food and farming processes. By anchoring the idea of creating wholes, as Alexander calls it, we must first consider the parts that will create this whole. Studies done on the success of agricultural farms that incorporate tourism show that farms that provide educational activities, interactive farming experiences, restaurants with farm-fresh meals, and accommodation are most successful because people enjoy learning and seeing the aspects of farming (Netshipale *et al.*, 2022:109-110).

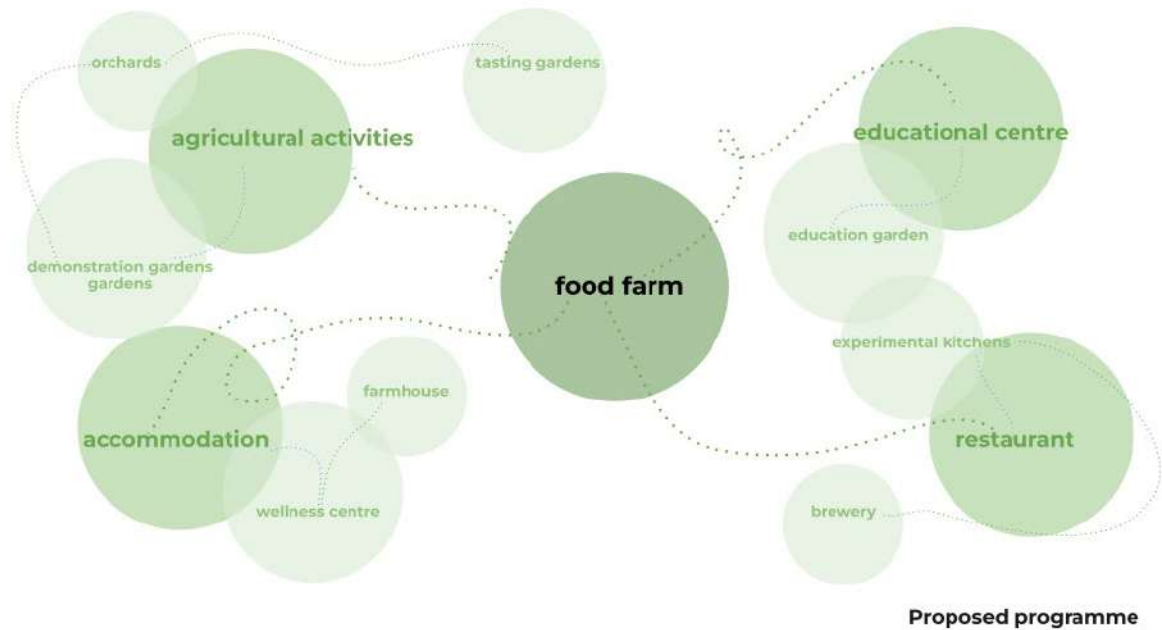


Figure 3 proposed programme derived from literature.

The activities give a good idea of what a proposed programme for a food farm can include. The re-sanctification of farming processes will include exposing the systems that the mechanistic worldview hides from consumers—the farming process that happens in isolation where the consumers have little access. The systems include soil preparation and the sowing of seed, watering and growing of crops, and the harvesting process. Some cultures still practice rituals for these processes. Soil preparation begins with rituals and blessings to honour the earth and ensure a bountiful harvest. These rituals may include offerings, prayers, and ceremonies that seek the favour of deities or spirits associated with agriculture and fertility (Bakier *et al.*, 2020:316). Rainmaking ceremonies, water, and crop rituals emphasise the sacredness of water as a life-giving force and seek to ensure an abundant and healthy harvest (Toussaint-Samat, 2009:9-13). Many cultures celebrate the harvest of the season with harvest festivals that include music, dancing, and feasting (Toussaint-Samat, 2009:25). Allowing people to experience these processes will increase their appreciation of the farming process and thereby increase its sanctity. To this, I add the cycle of meaningful consumption. Meaningful consumption is the practice of thoughtful food preparation and consumption, the preservation of food, and the idea of conservation practices. Preservation includes aspects such as fermentation, drying, and pickling that have been used for centuries to preserve food. These methods not only extend the shelf life of perishable ingredients but also honour the natural cycles of abundance. The idea of conservation concerns the protection of natural environments and the knowledge systems passed on through generations. The concepts of soil preparation and the sowing of seed, watering and growing of crops, and the harvesting process for farming, as well as the concepts of food preparation and consumption, preservation of food, and conservation practices, together form the concept of sanctification. Combining the placemaking skills of a landscape architect with the productivity of a commercial farm could lead to an

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intervention that focuses on reclaiming the sanctity in food and farming while resulting in a productive edible landscape.

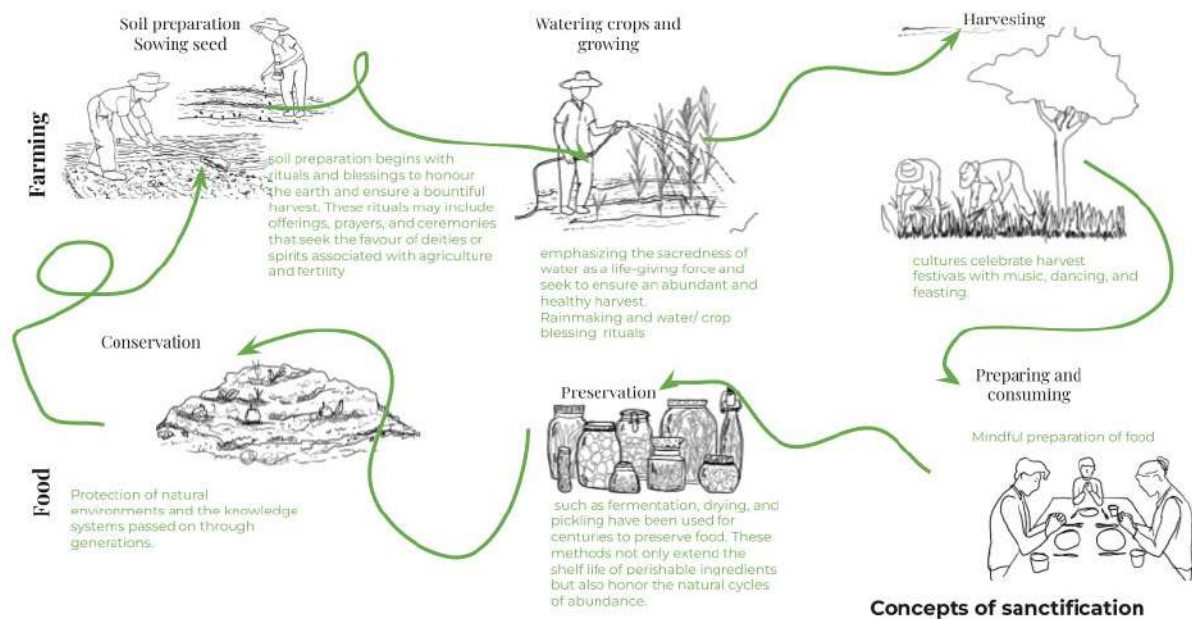


Figure 4 general concepts of food and farming sanctification

4.2 Understanding wholeness in landscape architecture

Alexander identifies a certain phenomena or quality found in cities, buildings, gardens, and spaces he calls 'life' or 'wholeness'. Alexander (2002:83-86) introduces an important entity 'centres'. Centres are the building blocks of wholeness. It exists within living and non-living structures. This quality of life or wholeness that he has observed in different objects seems to correlate with the recurring appearance of fifteen specific properties that appears throughout an object's composition. The properties are fifteen different ways centres can help one another come to life. The fifteen properties include strong centres, levels of scale, boundaries, alternating repetition, positive space, good shape, local symmetries, deep interlock and ambiguity, contrast, gradient, roughness, echoes, the void, inner calm and simplicity, and not separateness. Each of these properties are often present in a living structure (Alexander, 2002:144). Alexander hypothesises that using these properties to design a space will result in a living structure. This section will explore the fifteen properties and how they manifest in landscape architecture artefacts, specifically the Santar Villa Gardens in Portugal by Fernando Caruncho and the Babylonstoren Gardens (2010) in Franschhoek by Patrice Taravella.

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15 Properties of wholeness:

- Strong centres
- Levels of scale
- Boundaries
- Alternating repetition
- Positive space
- Good shape
- Local symmetries
- Deep interlock and ambiguity
- Contrast
- Gradient
- Roughness
- Echoes
- The void
- Inner calm and simplicity
- Not separateness

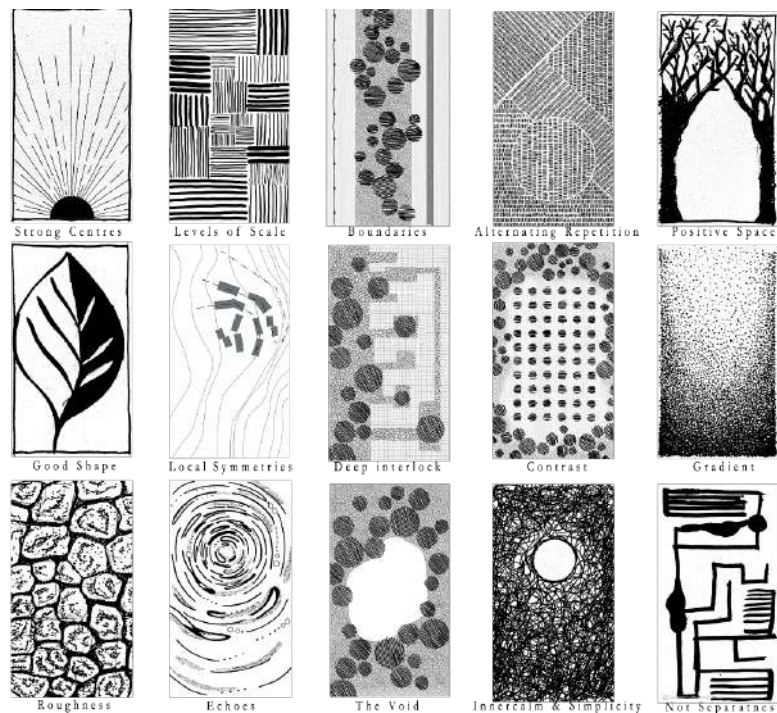
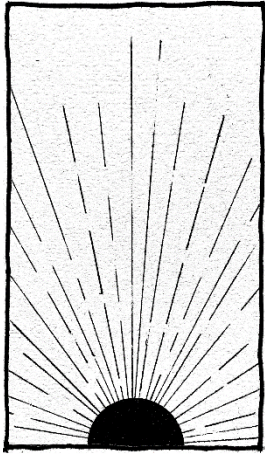


Figure 5: The fifteen properties diagrams

Incorporating the Santar Villa Gardens and the Babylonstoren Gardens as artefacts show that there are still some productive landscapes that have not fallen victim to the mechanisation of agriculture but instead have a deep sense of wholeness to them that create some sanctity in food and farming.



Strong Centres

Christopher Alexander's concept of centres in his work on architecture refers to spatial concentrations or organised foci that intensify patterns or activities within an environment. These centres are regions of concentrated physical and experiential order that facilitate a strong sense of relatedness among people, things, situations, and events. In architectural terms, a centre could be a detailed pattern on a carpet, an elaborate entryway, or a handsome arcade. Alexander believed that the key to creating environments that sustain thriving human life lies in understanding and actualising these centres (Seamon, 2022:3-4). Designing environments with centres in mind, creates a rich fabric of interconnected centres that enhance the life and wholeness of the space. This approach is detailed in his work, suggesting that the creation of centres is essential for intensifying the life and wholeness of anything built, whether it be art, buildings, or landscapes. The goal is to create a dynamic weave of centres that are alive with human life, promoting a sense of placeness. Centres in landscape architecture can be an animated plaza full of users finding pleasure in the place or a busy open lawn or a picturesque farming village nestled in the valley of the Dao River region. The Santar village is rich in history, with remnants from the Roman Empire, such as archaeological vestiges, ancient roads, and bridges still visible today lively. It consists of different gardens, manor houses and even a small church. All these elements are considered centres that support the bigger whole. Singling out one of the gardens, a strong centre at the back presents itself as a serene body of water. Smaller garden sections alongside the walkway increase the life of the whole. Babylonstoren has a wide variety of smaller garden rooms. These smaller rooms are centres interwoven and alive with human life to promote a sense of place.

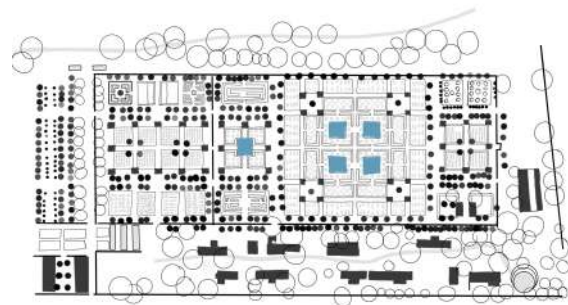
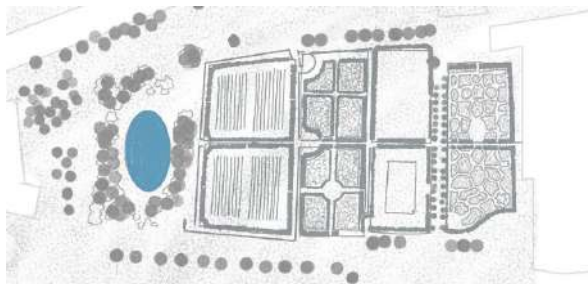
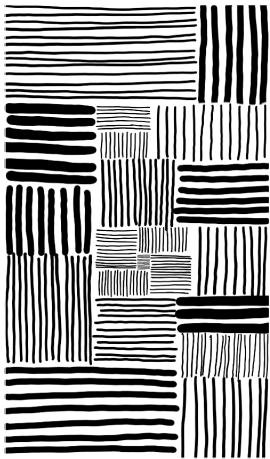


Figure6: Left Santar villa garden with strong centre at the back (in blue), Right Babylonstoren Garden with multiple small centres



Levels of scale

Objects that have life contain different scales. Centres which form these objects have a range of sizes that exists at different levels, with jumps between them. Levels of scale involves the extent to which centres support one another and focuses on how smaller centres contribute to the larger centres around them. Life is more vibrant in a centre that is nearby another with a specific size relationship to it. It is important that the change in scale is not too great (Alexander, 2002:145-147). Throughout the following analysis, the property levels of scale can be applied to other properties, for example you will find the almost all the properties can manifest in different sizes and scales. Variation in scale is evident through the number of different planting areas in the Santar Villa garden from the orchards on the outer edge that cover a large, planted area to the intimate gardens in between the manor houses. A small variation of scale is found within this specific garden however throughout the entire precinct there is good variation in levels of scale. Throughout the Babylonstoren garden strong centers exist in different scales in perspective to human scale. Garden rooms vary in scale with small jumps in between them creating a friendly human scale interaction. Babylonstoren has larger planter areas on the outer edges of the farm.

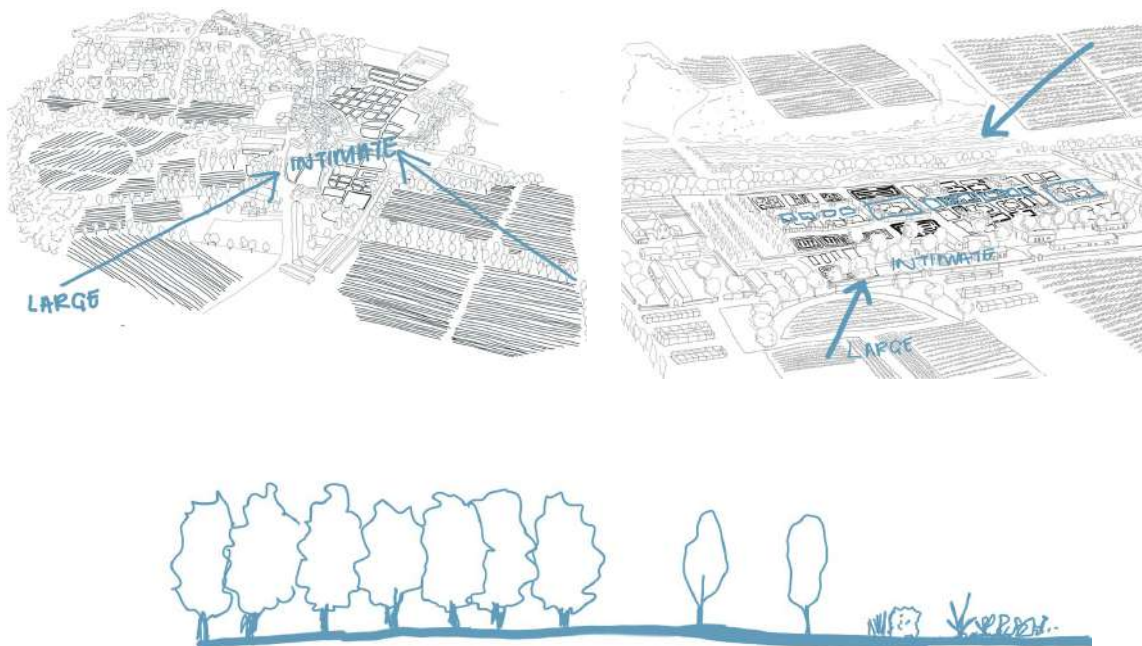
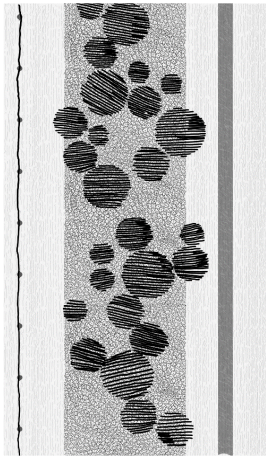


Figure 7: From vast to intimate scale, Left Santar, Right Babylonstoren



Boundaries

Centres are typically separated and strengthened by the boundaries surrounding them, therefore boundaries play two roles as connectors and separators. The boundary must distinctly separate the centre, preserving its uniqueness, while simultaneously linking it to the world beyond the boundary. Alexander states that boundaries cannot exist in isolation (Alexander, 2002:158-161). A successful boundary is the same magnitude as the centre that it binds. Suggesting that a simple cobblestone edge is not a sufficient boundary for a large open field, the small 100 mm wide cobblestone is not sufficient to hold or form the centre. Boundaries exist within different scales, from buildings and landscapes to the smaller scale boundaries surrounding objects. The Santar villa precinct exhibit different types of boundaries. Stone walls separate the series of gardens from the roads and visually block the view of some gardens from the roads, the thick stone walls are interrupted by a small gate physically separating the user from the garden while simultaneously connecting visually. Similarly, in Babylonstoren low walls are used to separate and structure the garden sections. Hedges are used as a boundary separating different planting communities. The use of pathways between gardens creates defining thresholds and connect the user to different space could be considered a boundary.

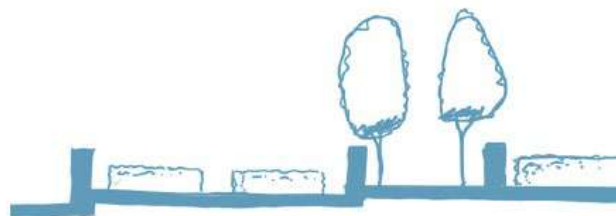
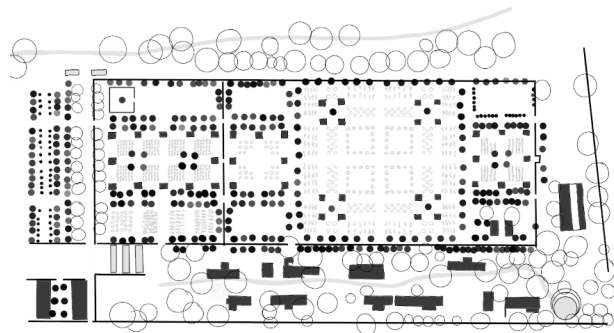
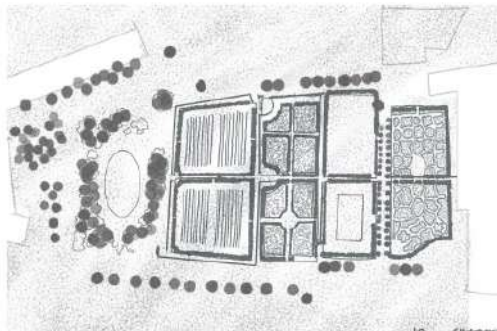
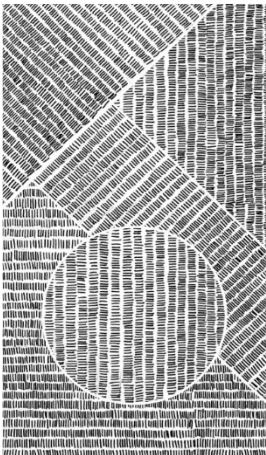


Figure 8: boundaries in Santar (Left) and Babylonstoren (Right)



Alternating repetition

Life is created by alternating centres that are subtly proportioned and different. Repetition of centres intensify other centres creating a satisfying rhythm and interplay between multiple centres. Alternating repetition introduces variation and diversity enriching visuals and spatial experiences. It engages the eye continuously but can get tired and boring when used excessively (Alexander, 2002:165). Many elements in the built environment exist from some level of repetition, roof tiles, bricks, columns, tiles, and windows. This principle specifically refers to a kind of structure where repetition of the rhythm from one centre is emphasized and intensified by an alternating rhythm that interlocks with this centre. In

this arrangement, the second system of centres repeats in parallel, creating a harmonious interplay. A repetitive and alternating pattern is typically used in designs that enhances the visual experience. Both the Santar gardens and the Babylonstoren gardens have alternating repetition in the direction of the planted orchards. The rows alternate as the contours of the landscape change enriching the visual aspect of the farm in a wider context. On a more intimate scale the gardens show alternating repetition in the different garden sections. The Santar Villa garden, alternating repetition is found in the planting patterns of the different gardens. Although there are not many alternating elements to this design it still creates some sense of harmony. There is also alternation found in the repetition between smaller and larger planting areas. These gardens are designed in a renaissance fashion. The different gardens at Babylonstoren alternate with programme and activity. Each garden room has a different programme or story while incorporating similar planting schemes.

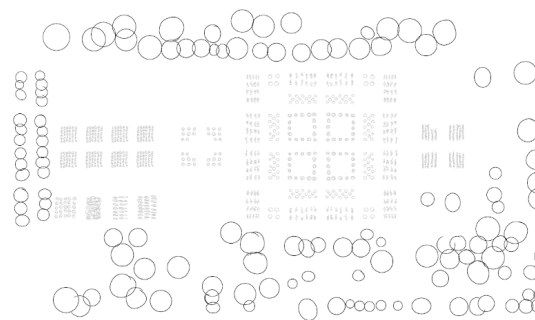
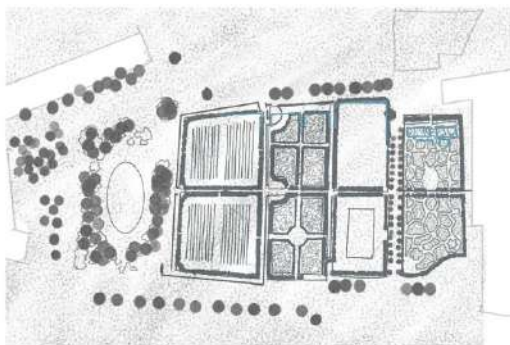


Figure9: alternating repetition in planting at Babylonstoren



Positive space

Positive space is characterised by a centre that moves outwards from itself. It creates a sense of shelter and protection, fostering a feeling of safety and security within the environment. Every part of the space has a positive shape and there are no meaningless leftovers. If this principle is used correctly, it ensures every piece of space results in a strong centre. Alexander uses the example of the Nolli map of Rome to describe the principle. The plan is a good example of positive space each part of the street, the public interiors and building mass is positive. In this whole all parts are positive (Alexander, 2002:174). An absence negative space is the result of the careful shaping of centres by people overtime.



Nolli Map of Rome (Balula, 2011)

The Santar villa Plan is a good example of positive space each part of the garden to building to street is positive. The positive space swells outward moving towards the outer edges where the positive space disappears, and the natural environment borders it. In the Babylonstoren gardens the central geometrical garden displays positive space where no meaningless leftovers paces exist however the bordering naturalistic landscape allows for awkward open unused spaces.

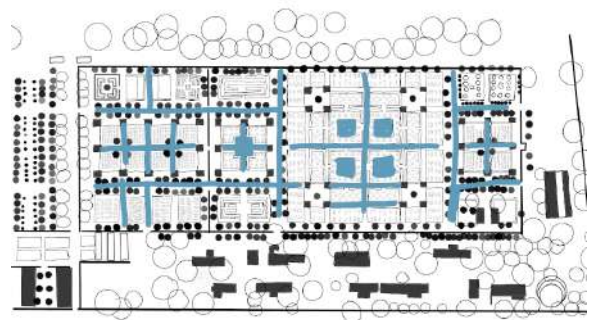
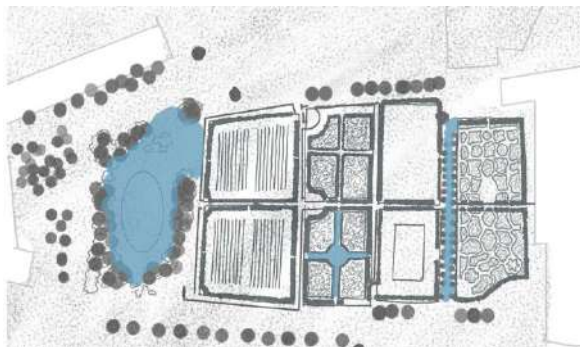


Figure 10 Positive space in the Santar and Babylonstoren gardens



Good shape

Gorgeous, beautiful, powerful shapes. Good shape is a combination of coherent centres that create a sense of composition that feels complete and satisfying (Alexander, 2002:184). According to Alexander centres with good shape are made from centres that are simple powerful and often a combination of basic geometric forms. The following elements are most common: square, line segment, triangle, row of dots, circle, rosette, diamond, s-shape, half circle, star, steps, waves, spiral, tree and octagon. Good shape can be viewed as a whole centre that relates to the combination of centers it is made up of. The formal and geometrical layout of the Santar villa gardens and the Babylonstoren gardens are good

examples of what good shape looks like in a designed garden. The selection of square garden shapes forms strong distinctive centers that create a high degree of internal symmetries. The spaces created next to or in between the planted hedges create positive space. One can therefore conclude that this garden has good shape.

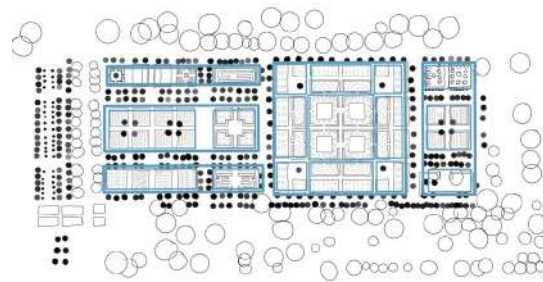
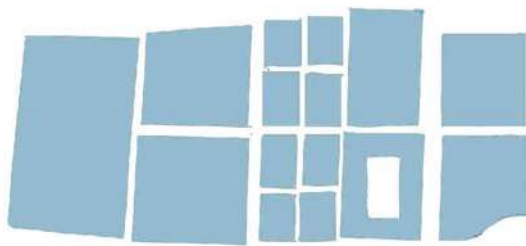
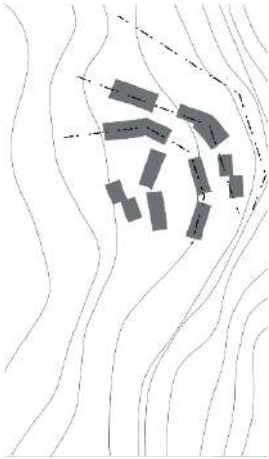


Figure 11: Good shape at gardens due to the geometrical layout



Local symmetries

This principle refers to the presence of balance and harmonious relationships between elements. It does not refer to perfect symmetry but is rather more flexible and adaptable. Perfect symmetry is often the mark of death and not life (Alexander, 2002:364). Instead of having a global order of symmetry, larger centres and elements can adapt to the surrounding centres, maintaining local symmetry and coherence on a smaller scale. Local symmetries are closely related to the existence of centres. It allows for asymmetry and variation that contributes to the richness and complexity of design and create a sense of integration and continuity establishing relationships between adjacent elements. In the Santar villa the local symmetries are found in the linear connection between the buildings and the main walkways within the garden. When looking at the garden we can see that there is a patch of grass of to one side slightly, breaking perfect symmetries and forming a local symmetry. Babylonstoren Gardens have a high degree of geometrical arrangement but is complemented with naturalistic gardens bordering the central space. The gardens have a higher degree of overall symmetry because it only needs to respond to buildings that are closely related to the geometrical layout. Where in the Santar garden the layout of space is more complex and therefore the arrangement of elements must conform to the context

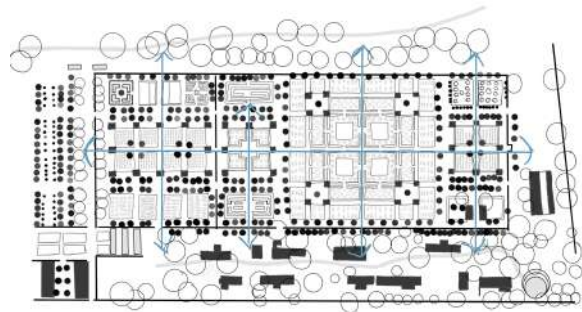
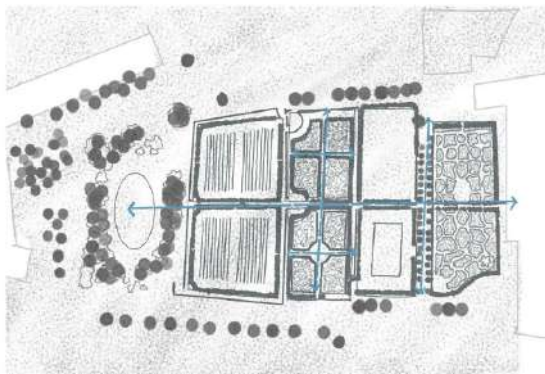
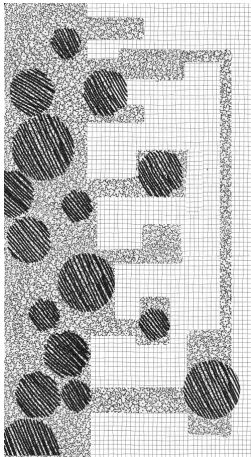


Figure 12: Local symmetries in gardens



Deep interlock and ambiguity

Deep interlock refers to elements that hook into their surroundings. Elements with deep interlock are difficult to disentangle from one another allowing for nested relationships and enhancing the adaptability and resilience of the design (Alexander, 2002:195-198). A dovetail joint is an example of deep interlock, connecting the pins and tails makes it difficult to pull the two sides apart. Other times we find centres that overlap in zones, therefore the space belongs to both centres creating spatial ambiguity. An arcade surrounding a building is a common example of spatial ambiguity, the space in the arcade belongs simultaneously to the building and the outside world. The property, deep interlock and ambiguity is present in landscape design. In the design of the gardens at the Ministry of the Army in Brasilia, designed by Burle Marx (1909-1994), the sharp geometrical patterns of hard landscape elements and soft landscape elements fit together making it difficult to disentangle the one from the other, however, there is little sense of spatial ambiguity. The open area allows for large gatherings but does not share space with different centres. The hedges in the upper part of the garden at Santar villa shows deep interlocking of hedge shapes can be found in the first part of the garden where each hedge is shaped differently. Removing one of these shapes will affect the structure of the whole center. Each hedge shape is uniquely shaped into the context that surrounds it. There is very little interlock in the Babylonstoren garden. There is this on part of the garden where the shapes do interlock deeply, but it does not occur throughout the garden.

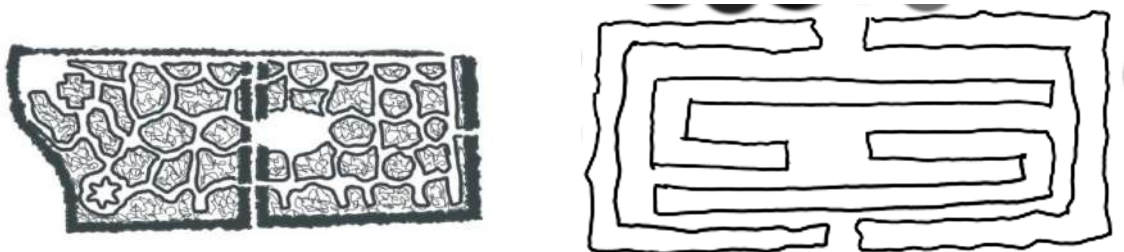
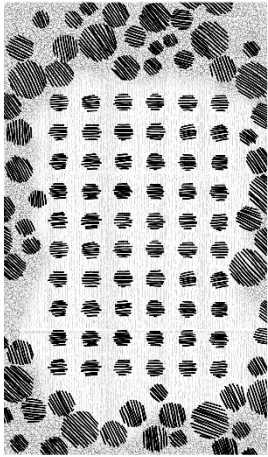


Figure 13: Deep interlock in planted hedges



Contrast

Dark-light, empty-full, black-white are the common examples of contrast. Contrast is the juxtaposition of elements, qualities, or characteristics. It provides a sense of dynamic tension between elements. Contrast not only shows variety but is shows true opposites. The existence of true opposites come together they almost obliterate one another. Each centre fully forms when the difference between them is sharp and visibly different, promoting intense attention to the individual centre. It enhances the perception and eligibility of the design by creating visual emphasis. In geometrically organised gardens such as the Santar Vila and Babylonstoren gardens the contrast manifests in the neatly maintained landscape and the natural landscape that borders the gardens. The different sections also have contrast in the neat hedges and the organic shaped plant growing within the hedge borders.

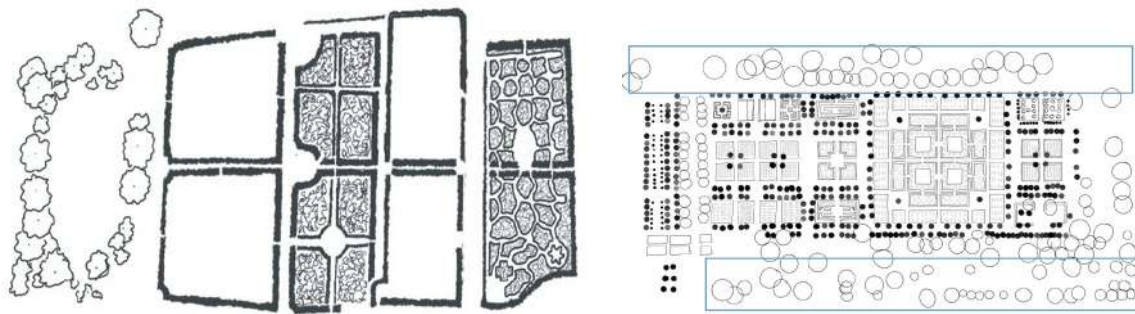
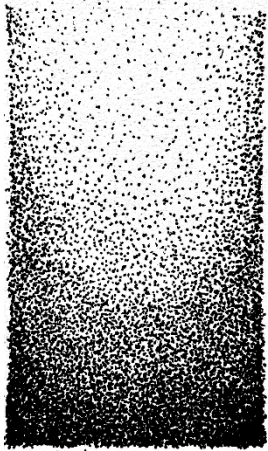


Figure 14: Deep interlock between natural and manicured landscapes



Gradients

Gradient refers to an element that vary, slowly, gradually, and subtly across the extent of things. Centres adapt to changing circumstances systematically forming a gradient. Gradients are most successful when a combination of elements differ as the circumstances change. There is a sense of gradual progression within the elements. Gradients create a sense of spatial depth and dimensionality (Alexander, 2002:205). On the plan of the Santar villa garden there is a gradation of scale formed through the sizing of the hedges. Slowly and gradually throughout the garden the garden centers are divided less and less ending at a center that has an infinite depth surrounded by the clutter of the previous centers. In the Babylonstoren gardens the planting area sizes are similar. However, there is a gradation of intricacy from the outer edges to the center of the garden. Slowly, increasing in planting difficulty.

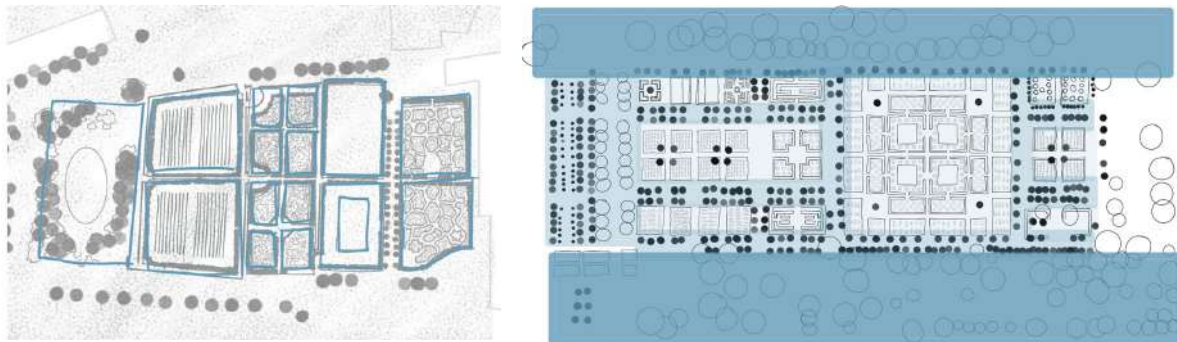
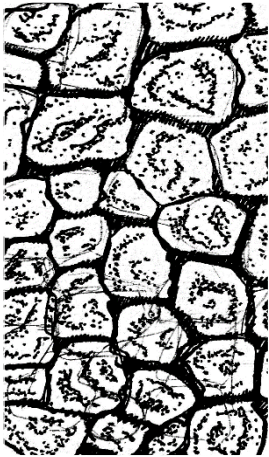


Figure 15: gradation of scale and intricacy



Roughness

Alexander describes roughness as an important structural feature without which an element cannot be whole (Alexander, 2002:210). It is not the result of handcraft or inaccuracy. It adds an organic quality to a design, introducing asymmetries and irregularities that mimics the complexity and richness of the natural world. Roughness adds depth and interest to an element and contributes to the visual texture of an element. In the natural landscape it appears because of the interplay between well-defined order and the constraints of three-dimensional space. Perhaps most simply and naturally, we can consider how a pumpkin vine produces pumpkins, a mycelium forms a mushroom, or a pear grows on a tree. The appealing life in fruit comes from its inherent order and wholeness, as it develops into its position on the vine, in the earth, or on the branch. We would never imagine a plant abandoning this natural tendency for life to make every fruit identical. Each fruit's unique formation is a testament to the vitality and organic order of the natural world. In the geometrically designed and carefully maintained Santar Villa gardens, there is a mosaic wall that has, over several years, developed a certain rough quality. This roughness did not come about through human intervention but rather as a result of the natural effects of time and the elements. Similarly, at Babylonstoren, the gardens are well-kept, yet some plants are allowed to grow naturally, showcasing their rough, organic growth. This is particularly evident at the pergolas, where creepers typically grow. In these meticulously landscaped settings, such natural elements teem with life, providing a striking contrast to the orderly surroundings and highlighting the beauty of nature's inherent imperfection.



Figure 16: The roughness in mosaic tiled wall and he roughness in natural plant growth (Babylonstoren,2019)

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Echoes

Echoes are the deep intrinsic similarities among the elements (Alexander, 2002:216). It involves the subtle repetition of elements or patterns creating a sense of continuity throughout the design. Our natural environments often share a common feeling, allowing us to intuitively recognize them as part of the same family of structures, because they are shaped by the same forces. The similarity in environment and process creates echoes in the final product, and the relationship between them deeply resonates with the soul. Like echoes in sound, these repeated elements reverberate across the design, reinforcing its underlying structure and coherence. In both the Santar Villa and Babylonstoren gardens, rectangular and square shapes are echoed throughout the landscape. These geometric forms are not only present in the overall layout but also prominently feature in the design of pergolas, reinforcing the repetition of rectangular shapes. Another fascinating repetition is found in the triangular shapes formed by the pergola roof structures. From certain vantage points in the Babylonstoren garden, one can observe triangular or pyramid-shaped structures appearing multiple times, adding a unique visual rhythm to the garden's design.

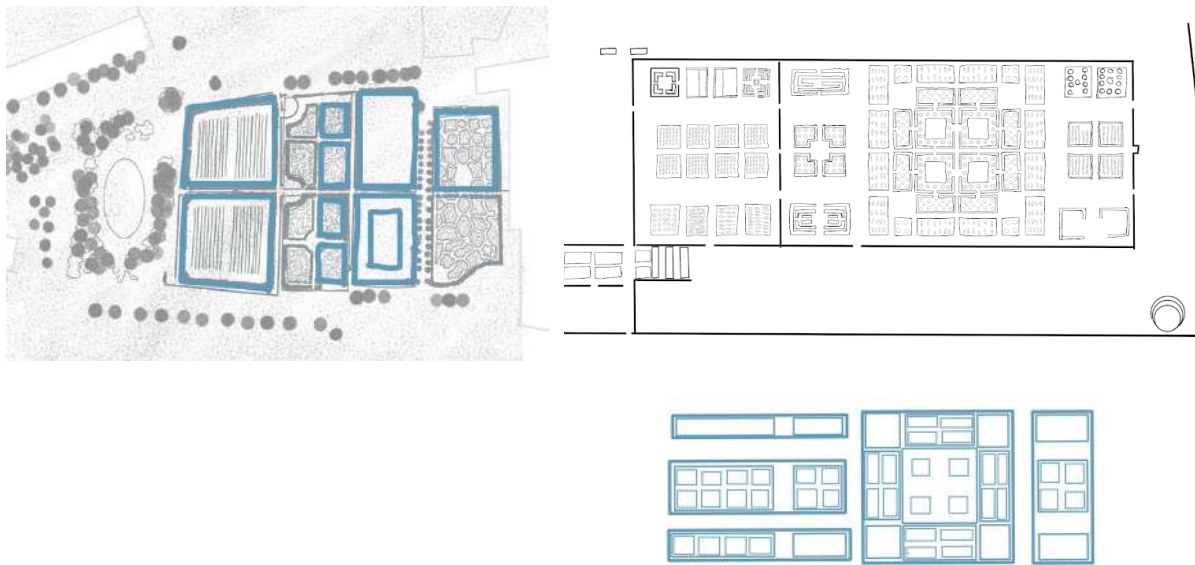
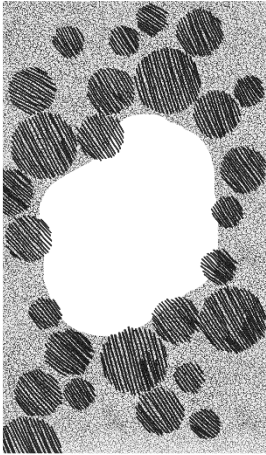


Figure 17: echoes of rectangular shapes through the gardens



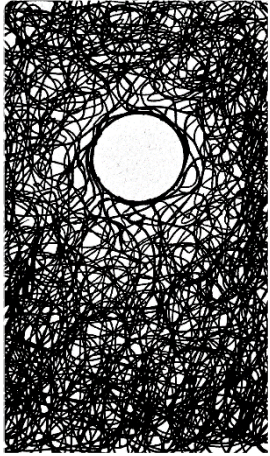
The void

The void is a fundamental concept that involves the intentional incorporation of an empty or negative space within the composition. It emphasizes the importance of balancing positive space (occupied by elements or forms) with negative space (empty or unoccupied areas) (Alexander, 2002:222-225). The void is the peace. It is found at the metaphorical heart of the design. Empty spaces can delineate functional zones, frame views, and guide movement, enhancing the legibility and coherence of the landscape. By strategically placing voids around focal points, it can enhance the centres visibility and significance, drawing attention and adding visual interest to the composition. The void represents the most

profound centres within a space. The heart is a void, surrounded and contrasted by the intricate fabric around it. As you walk to the end of the garden, you will encounter a water body. In the Santar Villa Garden, this is embodied by a seemingly infinitely deep pond that reflects the surrounding clutter. The stillness of the water contrasts with the dynamic landscape around it, creating a harmonious balance between negative and positive spaces throughout the garden. Similarly, upon entering the Babylonstoren Garden, you are immediately greeted by three serene bodies of water that stand in stark contrast to the bustling entrance. These tranquil water features capture your attention, drawing you into a peaceful and contemplative state amidst the lively surroundings.



Figure 18: Images of the voids present at the different gardens (Santar, 2023) and (Babylonstoren, 2024)



Simplicity and inner calm

Slowness, majesty, and quietness (Alexander, 2002:226). Simplicity emphasizes clarity of form and function, focusing on what is essential and meaningful while minimizing extraneous details or distractions. This approach creates environments that feel straightforward, uncluttered, and harmonious, promoting a sense of calm and orderliness. Simplicity does not imply blandness or lack of character; rather, it involves the thoughtful selection and arrangement of elements to achieve a balance between complexity and clarity. Inner calm refers to the quality of tranquillity, serenity, and balance that emanates from a centre. In landscape design, it is a common practice to create pockets of calm, typically serving as seating areas for contemplation and relaxation. In the design of the Santar Villa Garden, this principle is embodied in the open space of the lawn, which represents inner tranquillity. Visitors can sit on the lush, green grass, immersing themselves in the serene environment while observing the active spaces that surround them. Similarly, the gardens at Babylonstoren feature small lawns integrated within the garden's layout. These grassy areas provide a perfect setting for engaging in simple, wholesome activities, allowing visitors to unwind and connect with nature in a peaceful, inviting atmosphere. These tranquil lawns serve as a sanctuary for reflection and leisure amidst the vibrant garden surroundings.

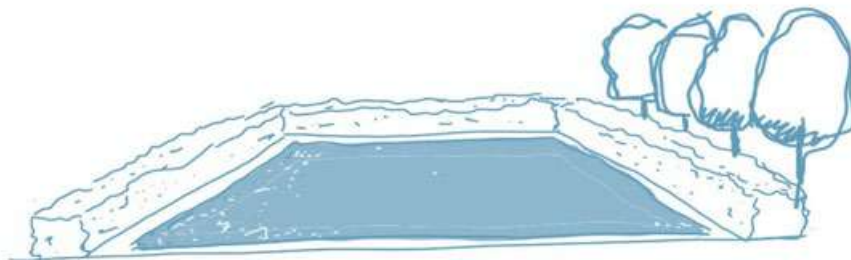
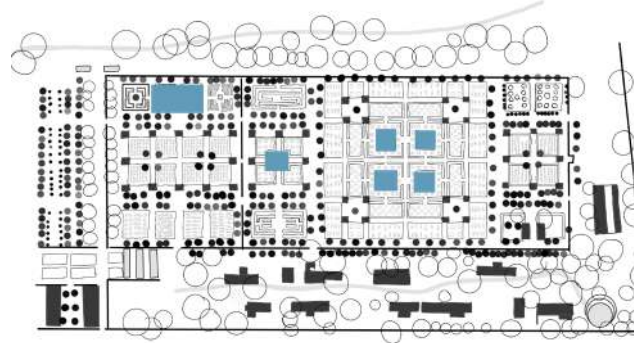
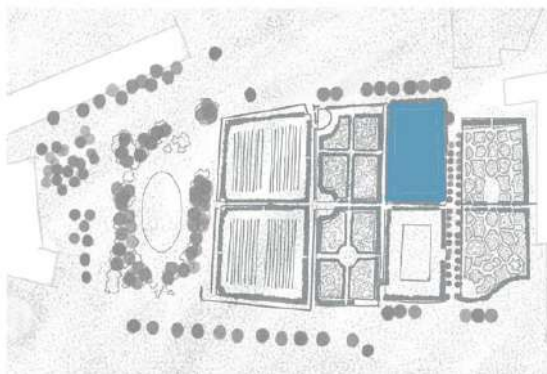
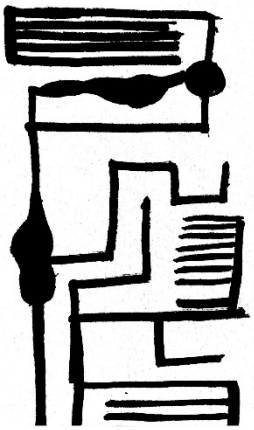


Figure 19: Open lawn areas acting as the inner calm because of its simplicity.



Not separateness

Centres with deep life are interconnected with their surroundings and do not exist in isolation or separation (Alexander, 2002; 231). Not-separateness encourages a holistic perspective in design, where individual elements are perceived as connected parts of a larger whole. It emphasises interconnectedness and integration of elements in a design. Elements that are integrated in a coherent and harmonious manner create environments that feel unified, cohesive, and alive. Similarly, in the Babylonstoren artefact the water channels running through the gardens connect the different spaces. The exposed channels subconsciously remind you that the garden is watered from the same source and highlight the innerworkings of an irrigation system. This shows that the spaces are connected to a larger whole.

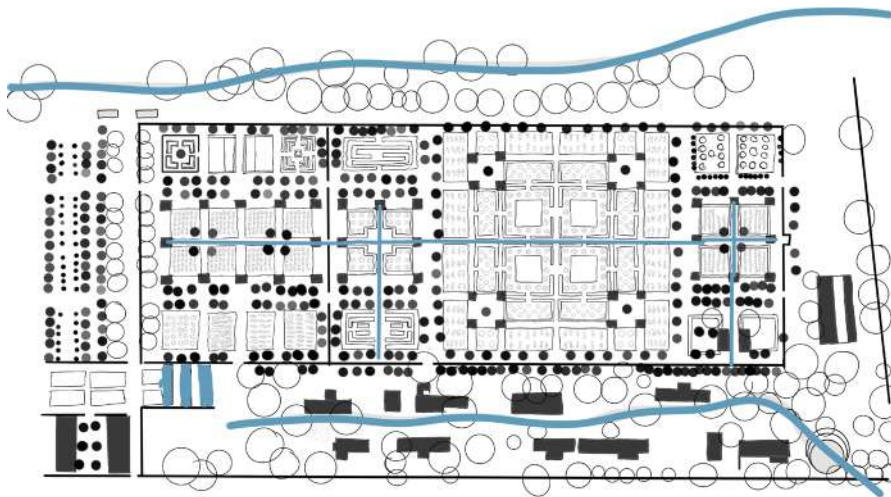


Figure 20: Not separateness in Babylonstoren referring to the irrigation channels

Conclusion

Understanding the fifteen properties of wholeness is important to be able to identify them in artefacts of regional character. Incorporating the Santar Villa Gardens and the Babylonstoren Gardens as artefacts show that there are still some productive landscapes that have not fallen victim to the mechanisation of agriculture but instead have a deep sense of wholeness to them that create some sanctity in food and farming.

5 Finding wholeness in the Waterberg

Findings and discussion

A tapestry of green, a tranquil state.

Acacias stand tall, their arms reach wide,

Whispering secrets of time, as breezes glide.

Antelope dance in shadows of golden light,

While rivers meander, shimmering bright.

Birdsong weaves through air, a melodic delight,

Nature's symphony plays, day into night.

In Limpopo's heart, where wild beauty sings,

The Waterberg breathes life into all things.

Exploring the Waterberg region reveals many spaces that evoke a sense of wholeness. Each artefact in the region was analysed to understand how the properties of wholeness manifest through their forms and compositions. This analysis aimed to build a regional lexicon that can serve as a guide for landscape architectural design in the Waterberg. The complete analysis of each artefact is detailed in Addendum A. The most striking and unique patterns identified were included in the discussion section and contributed to the compilation of the regional lexicon.

Nestled centres

A majestic tree, tranquil body of water or a dramatic rock formation are examples of natural features that anchor the landscape and provide a sense of place. These elements exist as centres within the natural landscapes of the Waterberg. Past the Vaalwater town, through dirt roads, dense vegetations and open fields you often come across different signs of life. It takes form in a simple homestead built in a clearing of vegetation or the solemn presence of an old storehouse. Nestled deep within the heart of the wilderness, the small church stands serenely surrounded by a dense community of trees, its weathered stone walls, and humble bell tower a testament to the quiet resilience and enduring faith of its solitary presence. The Church of St. John the Baptist (1913) designed by Sir Herbert Baker (1862-1946) is, in itself, a centre that exudes life. From lychgate, the small pathway to the entrance portico and the vestry of the quaint Saxon chapel. The roof rests steadily on the sandstone masonry walls. With thin pointed gothic timber windows with stained glass. The stained glass portrays images of members from founding family. Each of these elements show characteristics of wholeness and exist as centres. Creating a dynamic weave of smaller centres that intensify the whole that is alive with human life and promotes a strong sense of place. At Bakone Malapa Museum a centre is a small timber structured partly covered by a thatch roof and a luscious acacia tree

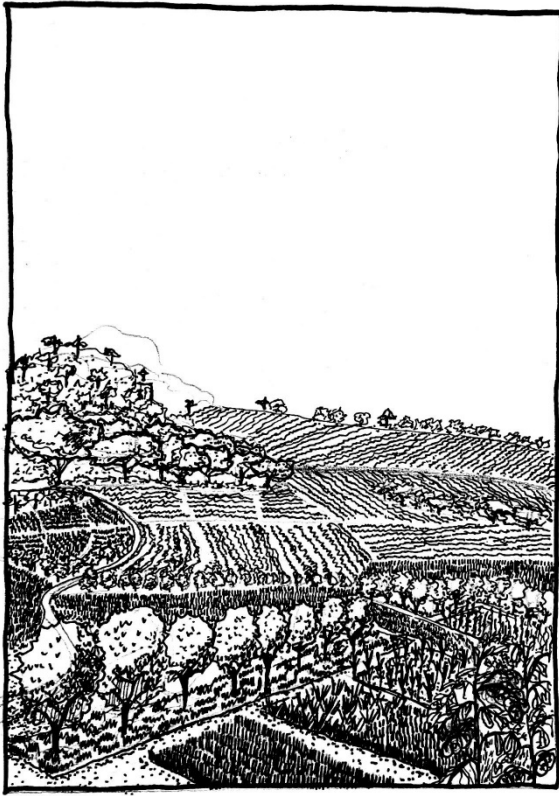
featuring a small pit where fire is made, and food is prepared. The centre is the male gathering area and serves as space where members of the community would go to speak with the chief during the day and at nighttime would make fire. A similar space for making fire is nestled between two buildings at the Lapalala wilderness school. The boma comes alive during nighttime when a fire is lit, and visitors gather around and share stories of the day. In the Waterberg it is common to find centres that act as platforms for sharing knowledge, strong centres manifest nestled between architecture or the dense vegetation of the natural landscape that intensifies life and creates a platform for sharing knowledge.



Figure 21: Different centres in the St Johns Baptist church (Adapted from Artefacts (2023))



Figure 22: centres at the Lapalala wilderness school and the Cheerio Farm

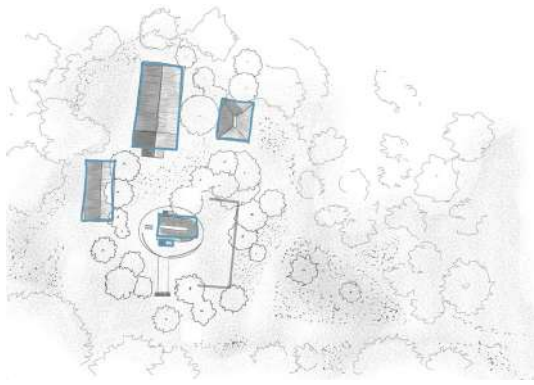


Vastness to intimacy

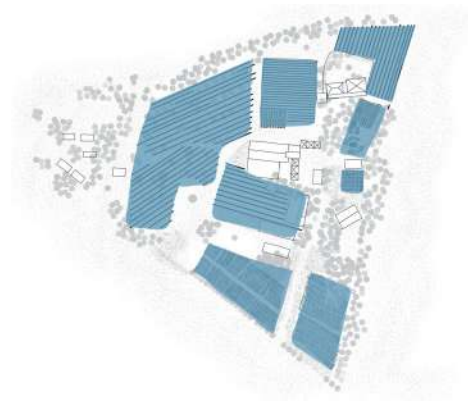
The large Waterberg ecosystems encompass vast savannas and dense woodlands teeming with wildlife. These broader habitats are interlinked with smaller systems, such as riverine, forests and wetlands, which support diverse fauna and flora showcasing a rich tapestry of interconnected scales life that occurs in nature. On agricultural farms we find a different kind of levels of scale from vast, monocultural planting to small and intimate polyculture gardens. The large orchards are found on the outer edges of the farm where the smaller more intimate gardens are found closer to the homestead of the farm. The smaller gardens are closer to where people spend most time and are more likely to interact with the gardens. Smaller gardens allow for interaction at a human scale. However, an important aspect of the property 'levels of scale' is the jumps that occur in the between the levels. Alexander (2002:264) states that a jump between scales should not be too

small or too great. The change in scale from the large orchards to the intimate gardens is very sudden and therefore too large of a jump. Incorporating intercropping methods where two or more plants are grown in the same area is a good intermediate between the larger orchards and intimate vegetable gardens. The levels of change in scale from the outer edge of the farm where larger planting formats are used to smaller intimate garden closer to the middle of the farm. The other scale that is noticeable is the change in planting variety. Orchards on the outer edge are planted with only one type of fruit tree, monocultural farming, moving in towards the homestead the planting is polyculture where multiple different species of plants grow together. Suggesting that spaces that are used more often contain a greater feeling of life. It is also where people spend more of their time living and shaping the environment. We see this structure of scale in the Geluksfontein farm. Interestingly this order is found in the reverse in the Bakone Malapa Museum artefact. The kraals with animals are positioned in the middle of the village where planting of single crops is scattered around the dwellings eventually surrounded by the diverse vegetation of the savanna. In this region levels manifest on two scales: the first is large planting formats to intimate gardens and the second is a monoculture planting, intercropping to polyculture planting.

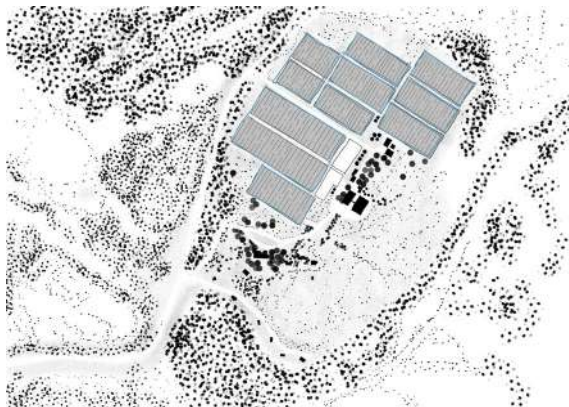
Echoes of the land:
developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



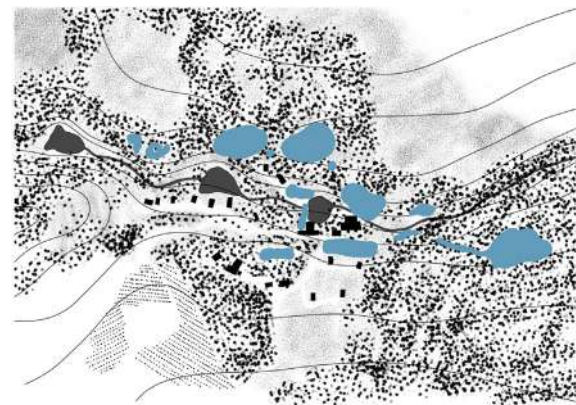
St Johns



Geluksfontein Farm



Leeuwenhof Farm



Cheerio Farm

Figure 23 : Levels of scale



Privacy, protection, and connection

While driving in the region the Waterberg Mountain ranges are visible from almost anywhere. They accompany you during your visit through the region creating a strong visual boundary and is a reminder of the region you are in. Turning off the main asphalt roads journeying to the artefacts a clear border between one plot and the other is formed by the lack of boundary. However, the lack of physical boundary could be considered a boundary, in itself, it conforms to the definition of boundaries as described by Alexander (2002:159) it visually separates the farms and physically connecting them by method access to the farms by dirt road. Here the roads form boundaries. A thick section of natural grasses, shrubs and trees typically form privacy screens between buildings or pathways. In the Bakone Malapa museum artefact low, dry stacked stone walls physically separate the areas dedicated for animal pens and open

Echoes of the land:

developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.

space while still visually connecting the other centres, other boundaries include the low adobe walls between dwellings and a screen of branches physically separate the spaces while allowing for visual connection between spaces. On agricultural farms, different crop sections are delineated by pathways that not only separate designated areas for crop cultivation but also facilitate movement for farmers between these areas. On a smaller scale, such as in vegetable gardens or smaller planted sections, boundaries are often defined using various methods. These include packed rows of rocks, flat pieces of rock arranged vertically, and raised planted areas, which serve to demarcate and separate walking paths from cultivated garden areas.

In this region, boundaries play a crucial role beyond spatial division. They are vital for protecting planting areas from wild animals that frequently roam into farms and informal villages in search of food.

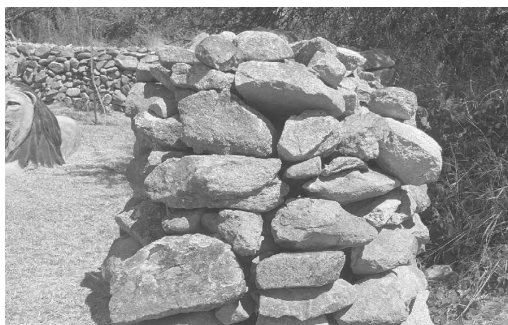
Additionally, boundaries serve purposes of privacy, providing protection for crops, and fostering a sense of connection within the agricultural landscape.



Lapalala Wilderness School

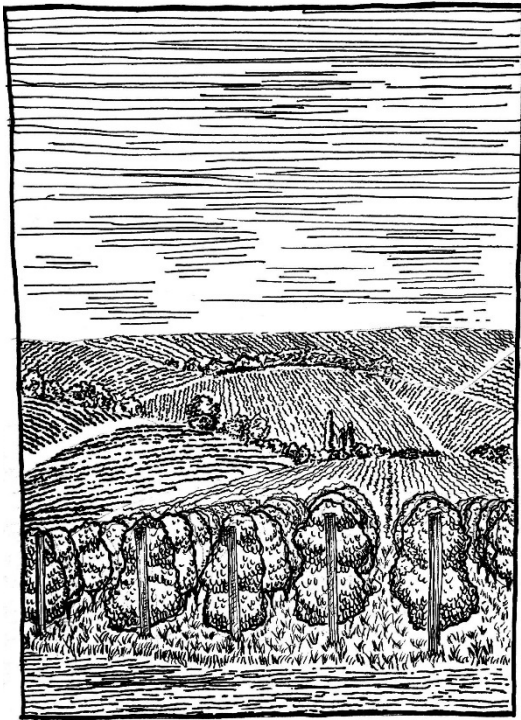


Geluksfontein Farm



Bakone Malapa Museum

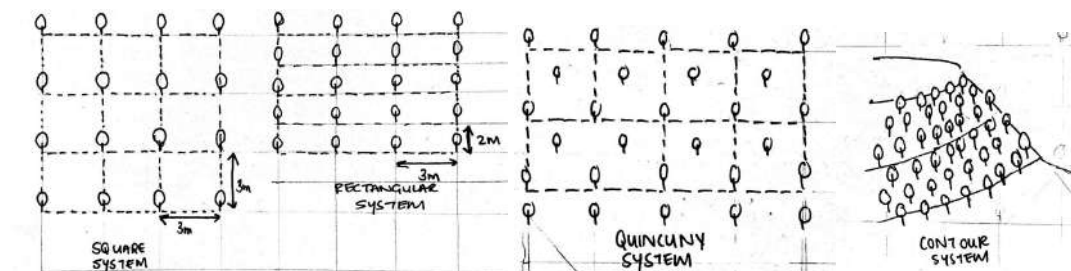
Figure 24: boundaries



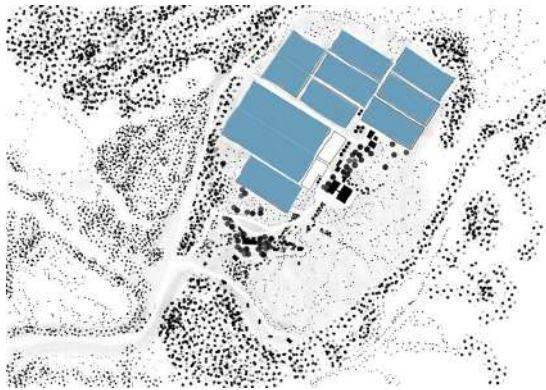
Alternating planting

In the landscapes of the Waterberg this element manifests through the alternating repetition found in the cracks in the mountain formations. We find a similar affect when looking at the alternating ripple effect in moving water each ripple alternating with a different shape resembling a similar pattern found in tree rings. One could also argue that there is alternating repetition within the contours of a landscape. Agricultural farms often create striking aerial images of the alternating rows of planting. Walking between the rows of trees, the planting configuration changes as the contours change. The variation is present between the groups of different tree layout systems. Orchard layout systems are typically in grids. There are different types of layout systems including: square, rectangular, quincunx and the contour system. Other types of alternating repetition are in the crop species. For example, the

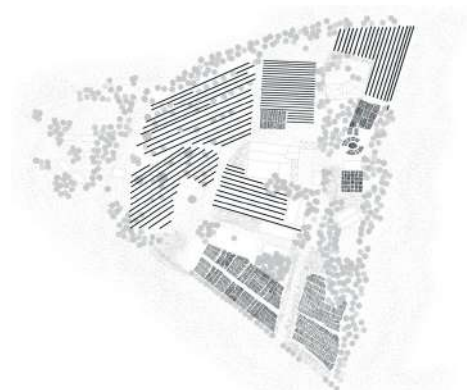
Leeuwenhof farm grows strawberries that repeats throughout the garden but the species alternate.



In the layout of the village at the Bakone Malapa Museum there is a subtle variation in the repetition of the curved walls and circular animal pens. A repetition of the arrangement of spatial zones is evident in the layout of the design. Spaces for resting and food preparation is separated in the unit. Each zone alternates across the different dwelling units creating an alternating rhythm of spatial zoning that interlocks each unit, creating alternating repetition in the design. In the Lapalala wilderness plane the buildings are anchored with a compacted earth wall on each side. The walls repeat over the plan alternating in length. The alternating repetition within the patterns of the pergola structures used in the Lapalala Wilderness School creates an oscillating play of light that changes throughout the day as the sun angles change. Alternating patterns are found in the pavement layout and material uses in different areas creating a visually appealing sequence. In the decorations on the Northern Sotho dwellings at the Bakone Malapa Museum, we see alternating repetition in the patterns. The Alexandrian property manifests through the planting patterns found in the orchards and gardens, the alternating wall structures and decorative patterns found in and on structures.



Leeuwenhof Farm



Geluksfontein Farm

Figure 25: Alternating repetition in planting directions at two farms, the Geluksfontein Farm is more successful

Efficient order

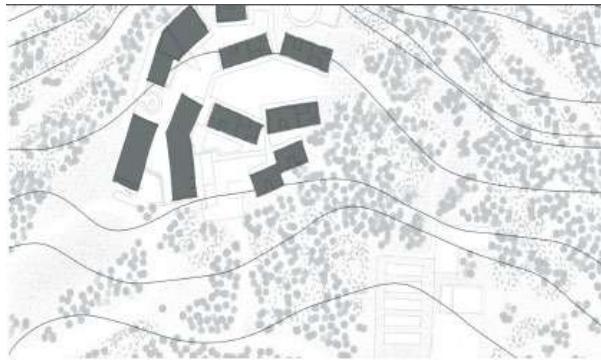
Positive space is characterized by the efficient and purposeful use of space, ensuring that there are no meaningless, leftover, or awkward areas. In the rural and minimally developed Waterberg landscape, there is an abundance of open space. According to Alexander, positive space is inherently linked to good shape, making the combination of these qualities particularly fitting. Agricultural landscapes, in particular, tend to exhibit good shape. The layout of a farm is typically determined by how the space can be used most effectively to maximize planting areas. Consequently, agricultural farms often have little to no unused space, thereby creating positive space. The structured and intentional design of these farms ensures that every inch is utilized, contributing to a sense of order and efficiency. In the Waterberg, the layout of farms often follows the natural contours of the land, such as rivers and valleys, creating a harmonious integration with the environment. The image on the left, for instance, shows how the farms align with the river, enhancing the overall aesthetic and functional coherence. This thoughtful arrangement not only maximizes agricultural productivity but also highlights the inherent beauty in the landscape's geometry. Good shape is evident in the rugged, geometric patterns of the farm layouts. The meticulously planned fields, often forming crop circles or other organized shapes, add a visual appeal to the agricultural landscape. There is a unique beauty to these patterns, particularly in maize farms where circular planting formations create striking visual effects. In summary, the Waterberg landscape, with its emphasis on positive space and good shape, demonstrates how agricultural design can harmonize with the natural environment. By making efficient use of space and aligning with the land's natural features, these farms contribute to both the functionality and beauty of the rural landscape.

In the region the positive space and good shape is determined by the efficient spacing of crops.

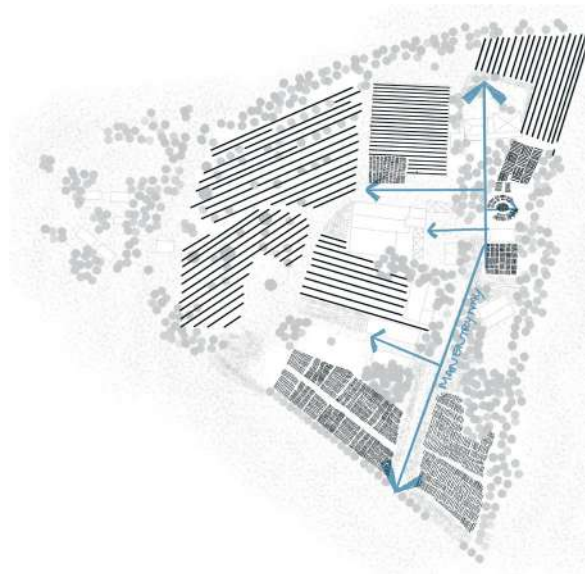
Local symmetries

The property local symmetry is about how well a seemingly symmetrical design conforms to a non-symmetrical shape. Local symmetries are often found more in areas that have pre-existing buildings and infrastructure where the new design needs to fill in an open space, therefore it responds to the space within the context. The spaces are arranged to fit well. Now the question is how would this property manifest in an environment that has endless space? It is not an urban area therefore space is abundant. Here local symmetries can be explained by the way the architects chose to conserve the natural landscape. In the Waterberg local symmetries emerge when looking at the positioning of the buildings and local natural elements. For example, the Lapalala Wilderness school is located near the river bend. The architects purposefully designed the buildings in an area where the nature has been disturbed the most ensuring that the remaining natural environment is protected as much as possible. Looking closer we find centres (gathering points) located around this area. The fire pit is positioned in a local symmetry with the river instead of in the middle of the buildings. This creates a strong centre especially at night when the area is in use. The buildings hug the curvature of this river bend moving outward. There is a similar local symmetry in the Leeuwenhof farm where accommodation is arranged along the river. On farms the extent of buildings including, residences, packhouses, storage rooms and vehicle parking tend to be arranged in a local symmetrical relationship often in a square with one another. The St. Johns Baptist church has a similar local symmetry. The positioning of the buildings creates outdoor courtyards. More traditional homesteads such as the dwellings found in the village at the Bakone Malapa Museum have a local symmetry that is of circular order. The dwellings are arranged on the outer part of the kraal. The modernised layout of the dwellings is arranged on an axis, this layout is very symmetrical however on elevation we can see that the dwelling at the back has doors and windows that are slightly off centre breaking perfect symmetry. In this region local symmetries can be explained by the way the architects chose to conserve the natural landscape.

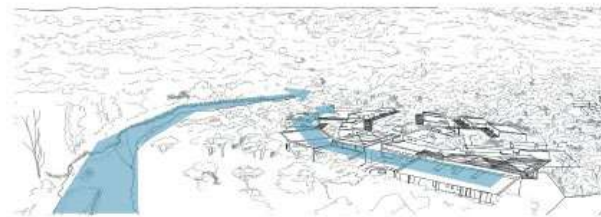
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Local symmetric



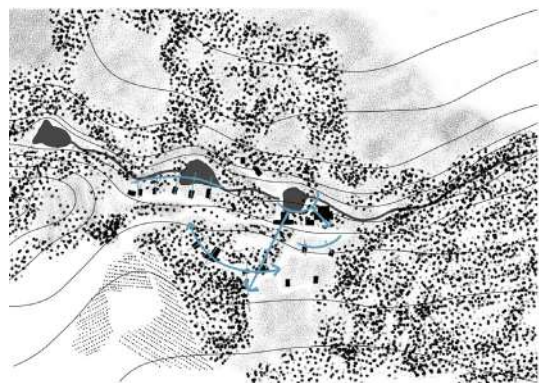
Geluksfontein Farm



Lapalala Wilderness School



Bakone Malapa Museum



Cheerio Farm

Figure 26: Locally symmetrical arrangement around the natural elements such as rivers

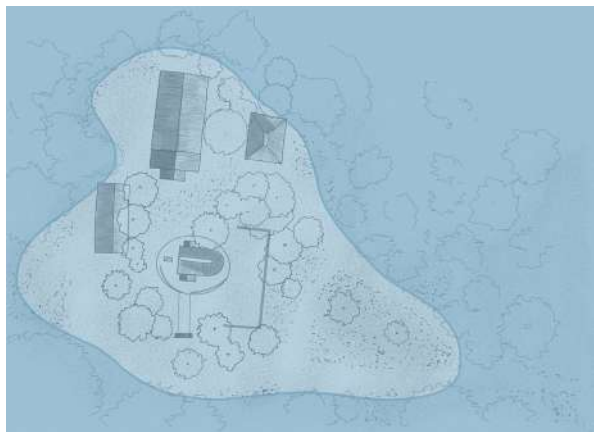
Interlacing spaces

In the vast landscapes of the Waterberg, a sense of ambiguity weaves through the intricate series of mountain ranges and the networks of rivers that define the region. The mountains and rivers are iconic elements of the area. Yet this natural splendour brings forth an intriguing paradox. On one hand, mountains and rivers are natural elements, belonging to no one and everyone simultaneously. They are part of the Waterberg's heritage, their existence preceding human claims and ownership. On the other hand, when a river flows through a privately owned property, it becomes an integral part of that land, falling under the ownership and stewardship of the property holder. This duality creates ambiguity around natural features. One can delve deeper and observe that the mountains and rivers are intricately intertwined, creating an important ecosystem that cannot be fragmented. As a landscape architect designing in this region, the natural environment is one of the most important aspects that should be considered because the Waterberg has important fauna and flora especially if we are trying to incorporate a more multicultural landscapes to protect the natural landscape from the agricultural farms that destroy the enchanted scenery. Successfully designed architecture projects in the region demonstrate a masterful interweaving of robust stereotomic structures with the gentle natural landscape. An example of this is found in the Lapalala Wilderness School, where the natural landscape, constructed buildings, and pathways lock into one another. This creates a powerful visual and physical connection as if the built and natural elements are gripping each other, providing a clear and compelling interlock. This characteristic is also found in a vernacular artefact; outdoor spaces in the Bakone Malapa museum lock into each other and are secured in place by the rock walls. A closer inspection of these walls reveals a meticulous assembly where the rocks are deeply interlocked and removing just one stone could lead to the collapse of an entire section. This demonstrates the strength and stability derived from such intricate construction techniques. The Church of St. John the Baptist, further exemplifies this principle. The church walls are constructed from interlocking rocks, each stone in the wall fits precisely with its neighbours, creating a durable and enduring structure. Throughout the region's artefacts, various construction methods relate to deep interlock. This interlock extends to the spatial organization as well. Large windows, open courtyards, and flowing pathways create a fluid transition between indoor and outdoor spaces. This transition is facilitated by pergola structures that create a similar experience to the arcade, the space belongs both to the indoor and outdoor. In this region deep interlock manifests as the interlacing between spaces.

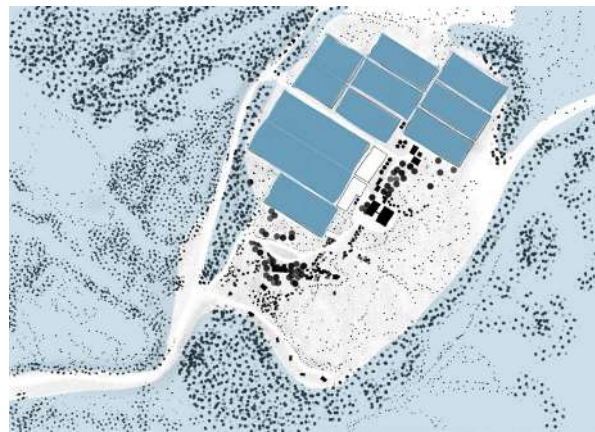
Order and disorder

The Waterberg landscape is defined by striking contrasts that highlight the region's diverse and dynamic character. The jagged, rocky mountain ranges stand in stark opposition to the soft, flat grass fields that spread out below. This dramatic juxtaposition creates a visually arresting scene, where rugged terrain meets tranquil plains. Similarly, the hot, dry, sandy soil conditions are often found adjacent to cool, quiet streams of water, emphasizing the region's varied ecological niches. In this area, there is also a pronounced contrast between the monocultural layout of productive farms and the surrounding natural, biodiverse landscape. Farms in the Waterberg exhibit a uniform structure, with crops planted in meticulously organized rows, while the natural environment remains largely untouched by human hands. This clear demarcation between cultivated and wild spaces highlights the tension between human intervention and the untamed beauty of nature. The materials used in building construction further contribute to the sense of contrast within the design. At the Lapalala, for instance, the rammed earth walls provide a stark contrast to the steel pergola structures. The pergolas themselves embody contrast, with vertical elements made from natural timber and horizontal elements fashioned from steel. This combination of materials juxtaposes the solidity and warmth of the earth with the sleek, industrial feel of metal. Another example of material contrast is evident in the thick, robust walls paired with seemingly lightweight roofing materials. This interplay between heavy and light elements creates a sense of balance and intrigue, enhancing the architectural narrative of the region. Overall, the Waterberg's landscape and architecture are defined by these powerful contrasts, creating a rich tapestry of visual and sensory experiences. These contrasts not only enhance the aesthetic appeal but also reflect the complex interplay between nature and human ingenuity in this remarkable region.

In this region contrast manifests in the disorder of natural vegetation and order of planted crops.



St Johns



Leeuwenhof Farm

Figure 27: Contrast between manicured landscape and the natural landscape

Enclosure

In the Waterberg region we find gradual transition of mountain peaks in a mountain range, from towering summits to rolling foothills, that create a scale gradient that adds drama and depth to the natural landscape. The gradual change from the flowing grass fields to the ridged rock formations creates a texture gradient. A gradation of scale also takes place within the planting areas. The forest walk at the Cheerio gardens has a gradual transition of tree density in the forest canopy, from dense, lush foliage in the understory to sparse, open spaces in the upper canopy, creating a density gradient that shapes the distribution of light. Intimate openings under a canopy of a tree, a hide out within a clearing of large shrubs, a natural harbour. In the spatial layout of buildings and structure we find a gradation from public space to private space. The village at the Bakone Malapa Museum has spatial gradation from the centre of the kraal (public) moving outward to the dwellings (private). We also find this gradation of space in the Lapalala wilderness school where the public spaces are on the outer side while the more private spaces and courtyards are on the inner part. Spaces such as courtyards and outdoor rooms are more private. Outdoor rooms are typically formed by some barrier like a wall or natural rock formation with vegetation that surround it. The tree canopy and wall in the Bakone Museum. In the Lapalala we find a similar situation but there are purposefully created courtyards. We also find natural cul-de-sacs that turn into rest spaces that are made by the way people interfered in the natural landscape.

In this region the Alexandrian principle 'gradients' refers to the manner in which an open space gradually changing to a more intimate space and vice versa.



Roughness

With its wild grasses, informal villages, and rocky outcrops, the Waterberg region embodies a distinctive roughness. This rugged character is highlighted by passes carved through mountain ridges, revealing ancient rock formations. The process of creating these passages, with its marks of broken rocks and heavy machinery, has imparted a unique texture to the landscape. This roughness is an organic quality, reflecting the natural terrain's irregularity. In the Waterberg, this roughness is evident in the hand-packed stone walls, constructed from diverse

rocks patched together with concrete mixed with local soil. Such construction is a common occurrence in this rural area, where the rough-hewn aesthetic is a common feature. It can be seen in the leftover paving used to create walkways, with irregularly shaped bricks laid in a seemingly haphazard manner. The natural vegetation that grows between these stones or through the cracks in a walkway further enhances this organic feel. Roughness is also present in the handmade fence doors found in the middle of the forest, obscuring the view around the corner and adding an element of mystery. This aesthetic, characterized by its unrefined and raw qualities, reflects the authentic spirit of the Waterberg, where nature and human intervention coexist in a beautifully imperfect harmony. The patterns painted on the walls of the Bakone Malapa Museum has a certain roughness to it. You can almost see the finger marks that the person who painted it left. It exhibits a feeling of personality. In this region roughness is characterised by the unrefined and raw qualities reflected by the natural overgrowth.



Waterberg landscape



Cheerio Farm

Echoes of the land:

developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



Leeuwenhof Farm

Figure 28: Rough characters found in the artefacts

Echoes

Driving through the Waterberg you see flashes of dense tree communities, open grass fields and shrubbery. In the natural landscape one finds echoes of similar plant communities. The Waterberg region falls within the savanna biome (Mucina and Rutherford, 2006:438). Veld types in this area consist of Sour Bush Veld, Central Sandy Bush Veld and the Waterberg Mountain Bush veld. Plant communities in this region consist of the savanna woodland, savanna shrub veld and the savanna grassland. Echoes in the colours found in the surrounding area and plant types. This echo changes as the seasons change and the different plants flower and change colour. In farming typologies or artefacts throughout the farm one or two species of plants reoccur frequently. It is not specific to the region but specific to the farm. For example, the Leeuwenhof farm has echoes of Vaal trees, Geluksfontein farm the aloe tree echoes through the panting.

In the layout of the chief's unit at the Bakone Malapa museum the form of the circular walls echoes outward in a circular fashion. The buildings of the Lapalala Wilderness school echo away front the river bend following the contours. In this region echoes manifest in the planting communities or singular plant that reoccurs throughout the region or artefact.



Waterberg landscape



Cheerio Farm

Figure 29: Echoes of plant types, communities and colour in the landscape



The watering holes

In the heart of the untamed landscape, a watering hole emerges as a serene focal point, embodying the principle of the void. This natural basin, surrounded by clusters of wild grasses and sporadic acacia trees, serves as a vital gathering place for the region's diverse fauna. The void here is the open expanse of the water, a clear, reflective surface that stands in stark contrast to the dense, bustling life around it. The empty space of the watering hole delineates a functional zone where animals congregate, drink, and interact. This negative space enhances the legibility and coherence of the landscape, providing a calm, unobstructed area amidst the surrounding vegetation and rocky outcrops. It frames the view, drawing the eye to the water's edge and the life it sustains. Strategically placed voids, such as clearings around the watering hole, create pathways and guide movement. These empty spaces not only enhance the visibility and significance of the water but

also offer peaceful retreats where animals can rest and observe their surroundings without obstruction. This balance of positive and negative space adds visual interest and depth to the composition, highlighting the watering hole as a central, tranquil element in the wild expanse. In this setting, the void is more than an absence; it is the peace at the metaphorical heart of the design. It underscores the importance of balance and harmony in nature, where every element, even the emptiness, plays a crucial role in the overall aesthetic and functional coherence of the landscape. Across the artefacts one element that embodies the void principle is a body of water. Almost every artefact has a presence of water. In the region the void principle manifest as a waterbody that embodies the balance between positive and negative space.



Geluksfontein Farm

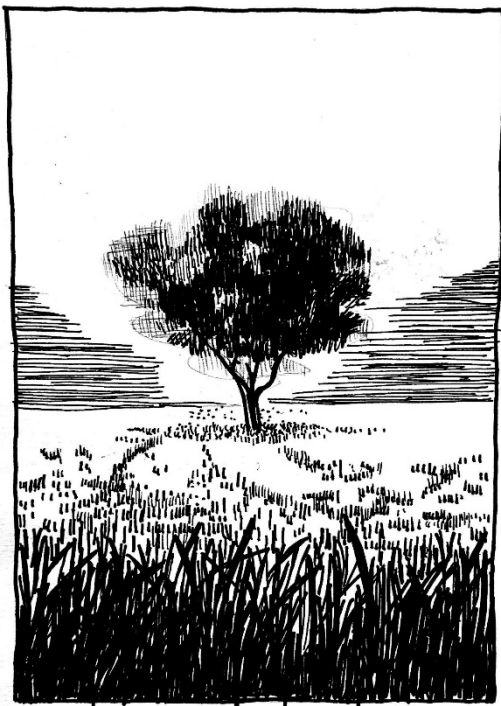


Cheerio Farm



Leeuwenhof Farm

Figure 30: Waterbodies in the Waterberg



Simplicity and inner calm

From the bustling rhythms of everyday life, people often seek refuge in the countryside to immerse themselves in its calming embrace. The Waterberg landscape epitomizes this retreat, where inner calm is embodied by open fields dotted with a few central trees, creating serene resting spots for shepherds during the day. These tranquil spaces invite quiet reflection and provide a sense of peace amid nature's expanses. However, it is not uncommon to encounter areas where overgrazing has stripped the land of vegetation, creating barren fields devoid of the life-affirming qualities celebrated in Alexander's principles. These overgrazed landscapes lack the essence of vitality and beauty, highlighting the importance of maintaining a harmonious balance with nature. In agricultural settings, serenity is often found in the orderly beauty of symmetrical crop circles or the expansive,

golden wheat fields that sway gently in the breeze. As one drives through the countryside, these examples of cultivated calm are abundant, offering visual and emotional respite. At the Bakone Malapa museum, inner calm is discovered in the various pockets of space behind traditional dwellings. These secluded areas provide quiet corners for contemplation and connection to the cultural heritage of the land. Similarly, the gardens of Cheerio Farm are dotted with pockets of tranquillity. A small bench overlooking a dam, framed by tree trunks, invites visitors to sit and listen to the sounds of nature, encapsulating the simple yet profound experience that leads to the enchantment of the area. Inner calm is also found in the simplicity of grazing fields where cattle peacefully feed, the solitary bench in a clearing inviting rest, and the old hardwood table on the back stoep where stories of the day are shared during dinner. These elements create a tapestry of serene experiences, where the understated beauty of the countryside fosters a deep sense of peace and

connection to the land. In essence, the Waterberg landscape and its surroundings offer a variety of serene experiences that collectively illustrate the profound impact of simplicity and natural beauty on our inner calm. By appreciating these tranquil moments, whether in cultivated fields or secluded garden corners, we reconnect with a sense of peace that is often elusive in our fast-paced lives. Inner calm and simplicity manifests as an open grazing field where cattle find nourishment.



Bakone Malapa Museum



Cheerio Farm



Geluksfontein Farm

Figure 32: Examples of inner calm from the artefacts

Interconnected

In the natural environment of the Waterberg, there is an overwhelming sense of connectedness. The majestic mountains loom into view from nearly every vantage point in the region. They serve as constant, subconscious reminders to visitors that they are part of a larger landscape, deeply embedded within the rugged beauty of the Waterberg. The mountains are not the only thing that makes us feel connected to the greater context, in this region the community is also tightly knit, many farmers are involved in community projects. The Lapalala wilderness school has strong ties with the community and goes to show how good design does not only connect the physical objects with the greater context but creates a platform for deep connection between people in different communities. This concept of connectedness between smaller groups or communities is also visible in the vernacular design of the Bakone Malapa Museum. Throughout

the village there are small pits about 600 cm in diameter and 20 cm in depth, used for food preparation. At night a large fire would be made at the male gathering area, one by one other members would 'collect a flame' to start the fire near their huts in these food preparation pits. The traditional practice of sharing the fire throughout the village creates a sense of connectedness among the community. The use of rainwater gullies connects the village with the larger natural systems. When it rains, water is moved to a point and collected. Irrigation systems that are used throughout an agricultural farm could also symbolise connectedness especially if the rivers are used as main source of the water for irrigation creating the idea it forms part of a greater whole. Other smaller hints of not separateness are found within the materials use throughout the artefacts allowing for coherence and a sense of connectedness between different spaces of the landscape. Not only does this material palette speak to the coherence artefact it speaks to the materials used in other artefacts in the region. The use of natural materials such as adobe, compacted earth, dry stacked rock, thatch grass and gum poles, is evident throughout the different artefacts. Thus, the not separateness manifests in forms of material uses in compositions that support the exposing of the innerworkings of systems such as the irrigation systems and the reoccurring of specific elements such as a boma.

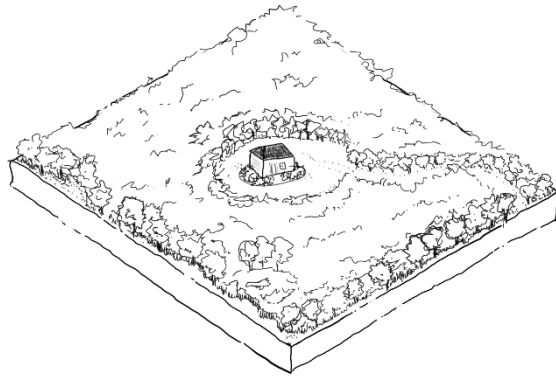


Bakone Malapa Museum

Figure 33: The fire pits at the Bakone Malapa Museum

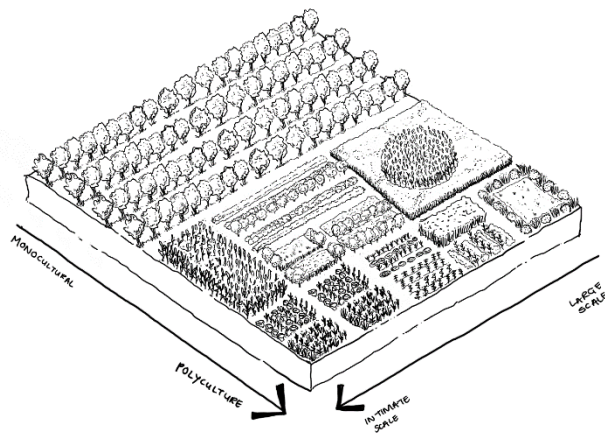
6 Regional lexicon

The following is a summary of the principles of compositions that exist within the context of the Waterberg region and can be used as a guide to design landscapes in this region.



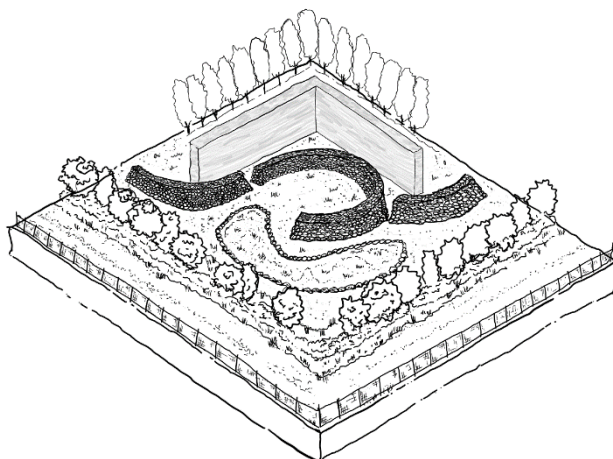
Nestled centres

Strong centres manifest nestled between architecture or the dense vegetation of the natural landscape that intensifies life and creates a platform for sharing knowledge.



Vastness to intimacy

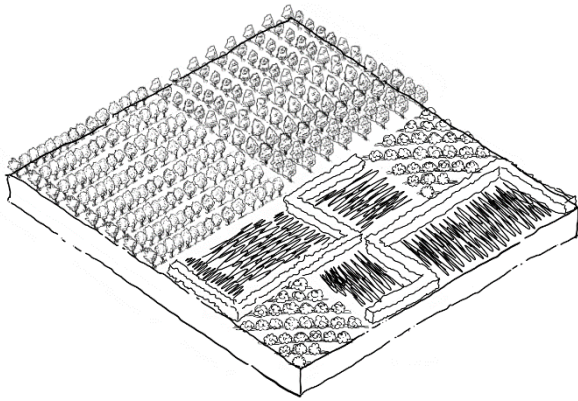
Levels manifest on two scales: the first is large planting formats to intimate gardens and the second is a monoculture planting, intercropping to polyculture planting.



Privacy, protection, and connection

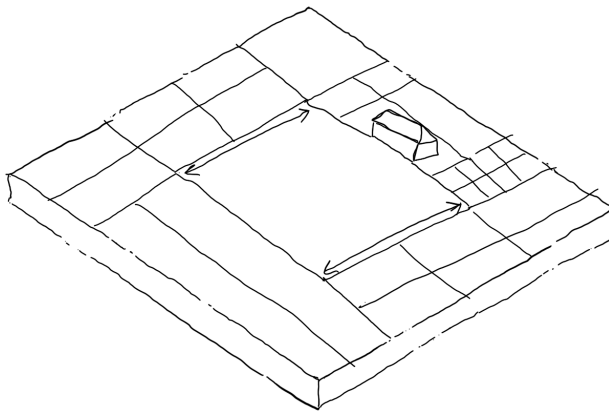
Boundaries play a crucial role beyond spatial division. They are vital for protecting planting areas from wild animals that frequently roam into farms and informal villages in search of food. Additionally, boundaries serve purposes of privacy, providing protection for crops, and fostering a sense of connection within the agricultural landscape.

Echoes of the land:
developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



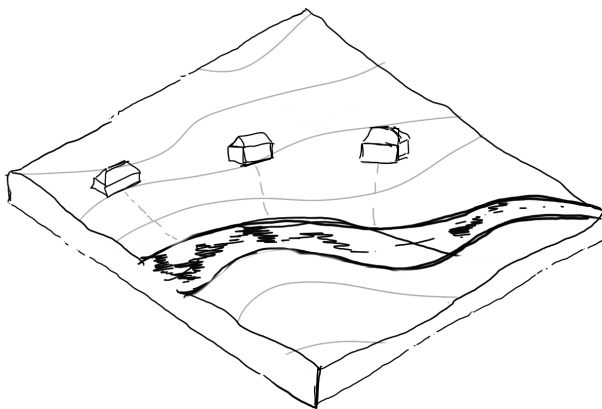
Alternating planting

The Alexandrian property manifests through the planting patterns found in the orchards and gardens, the alternating wall structures and decorative patterns found in and on structures.



Efficient order

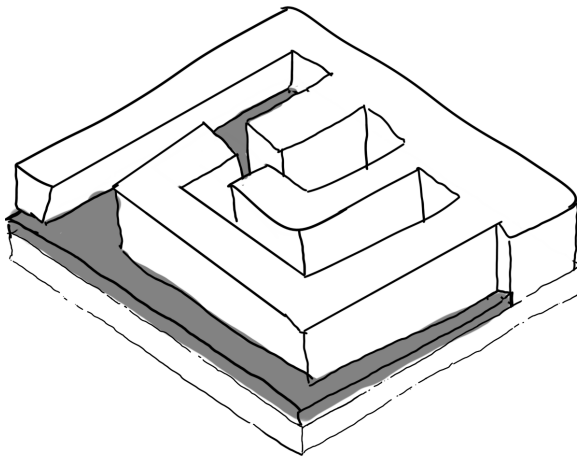
Positive space and good shape is determined by the efficient spacing of crops.



Local symmetries

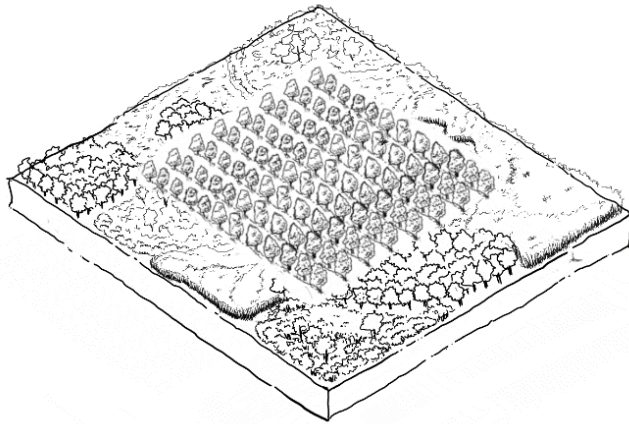
Local symmetries can be explained by the way the architects chose to conserve the natural landscape

Echoes of the land:
developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



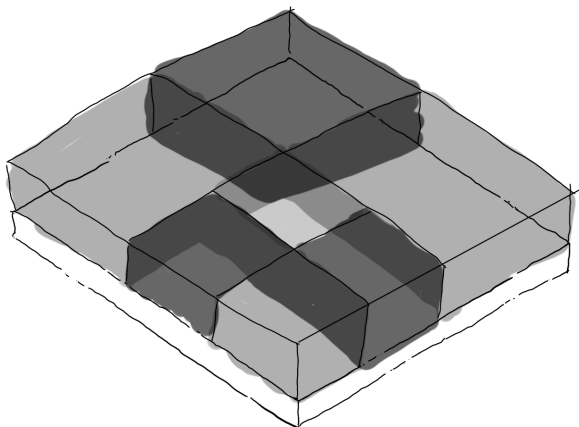
Interlacing spaces

Deep interlock manifests as the interlacing between spaces.



Order and disorder

Contrast manifests in the disorder of natural vegetation and order of planted crops.

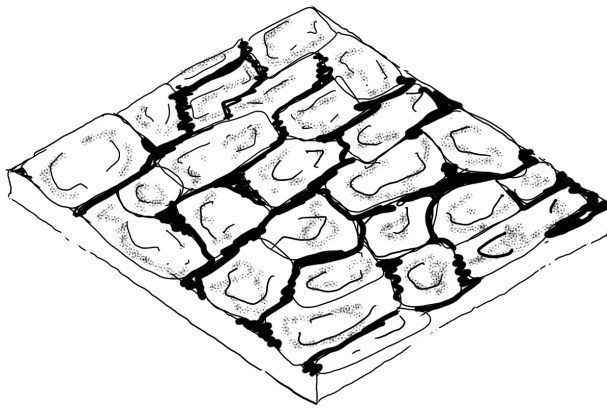


Enclosure

The Alexandrian principle 'gradients' refers to the way an open space gradually changing to a more intimate space and vice versa.

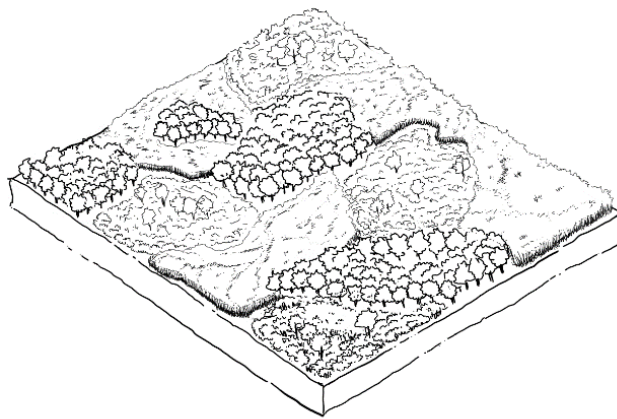
Echoes of the land:

developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



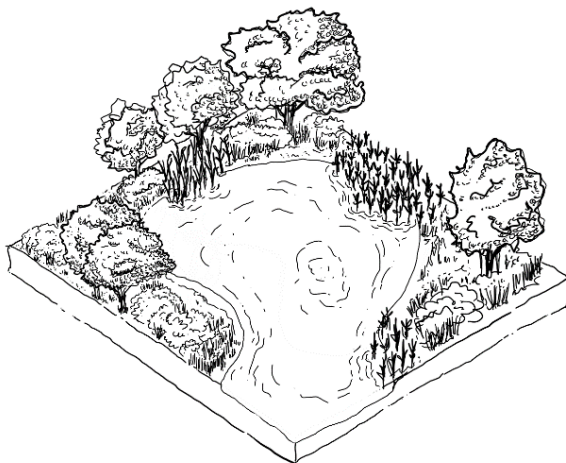
Roughness

Roughness is characterised by the unrefined and raw qualities reflected by the natural overgrowth.



Echoes

Echoes manifest in the planting communities or singular plant that reoccurs throughout the region or artefact.

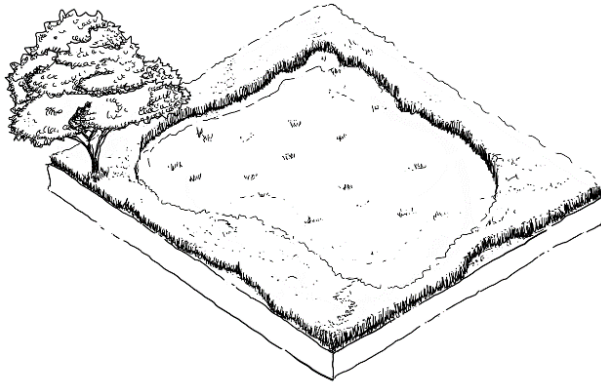


The watering holes

‘The void’ principle manifest as a waterbody that embodies the balance between positive and negative space

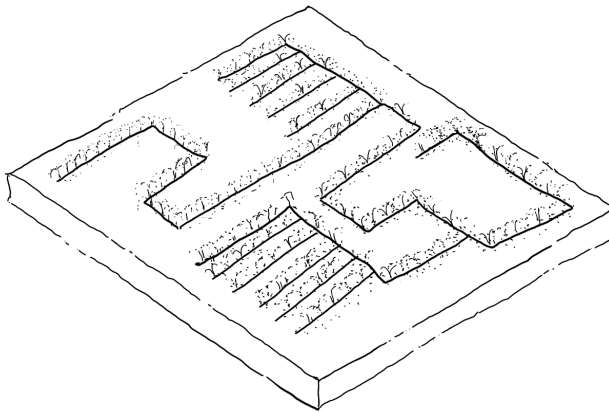
Echoes of the land:

developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



Inner calm

Inner calm and simplicity manifests as an open grazing field where cattle find nourishment.



Interconnected

Not separateness manifests in forms of material uses in compositions that support the exposing of the innerworkings of systems such as the irrigation systems and the reoccurring of specific elements such as a boma.

7 Conclusion

The regional lexicon of forms and compositions consist of nestled centre, vastness to intimacy, privacy protection and connection, alternating planting, efficient order, local symmetries, interlacing spaces, order and disorder, enclosure, roughness, echoes, the watering hole, inner calm and the interconnected. Some of the original principles are still included in the ne lexicon. Due to the limited number of artefacts analysed, the result of the lexicon is not as rich as it would have been, if more artefacts were included in the sample size. However, the regional lexicon together with the derived program and concepts of sanctification can still be used to aid in the design of a conceptual food farm in the Waterberg region.

8 Further recommendations

With the derived regional lexicon of forms and compositions in landscape architecture it is further recommended to implement the lexicon in a design experiment for developing a food farm in the Waterberg region. Alexander uses the fundamental process to create a living structure therefore it is appropriate to adapt the fundamental process and uses it in the design process of a food farm. The fundamental process is a step-by-step adaption process Alexander uses to create living structure (Alexander, 2002:217-219). The process consists of eight steps and/or questions a designer can ask, aiding in the design of a living structure.

The fundamental process:

1. Every step of the process should be concerned with the whole, whether you are making, designing, maintaining, or repairing.
2. Ask what act will contribute most to this wholeness to increase life?
3. Referring to the centers ask: Which one could be expanded to create a better sense of life within that center?
4. Are we working to increase the life within this center in such a way that would contribute to the larger center?
5. Simultaneously create a center next to the new living center in similar size and then add more smaller centers within that.
6. Revisit what has been created and evaluate if there has been an increase of life (deeper feeling of life). If not, start the process again otherwise continue.
7. Repeat the steps once again with the newly created centre.
8. If no further steps can be taken that intensifies the feeling of the whole, the end product has been reached.

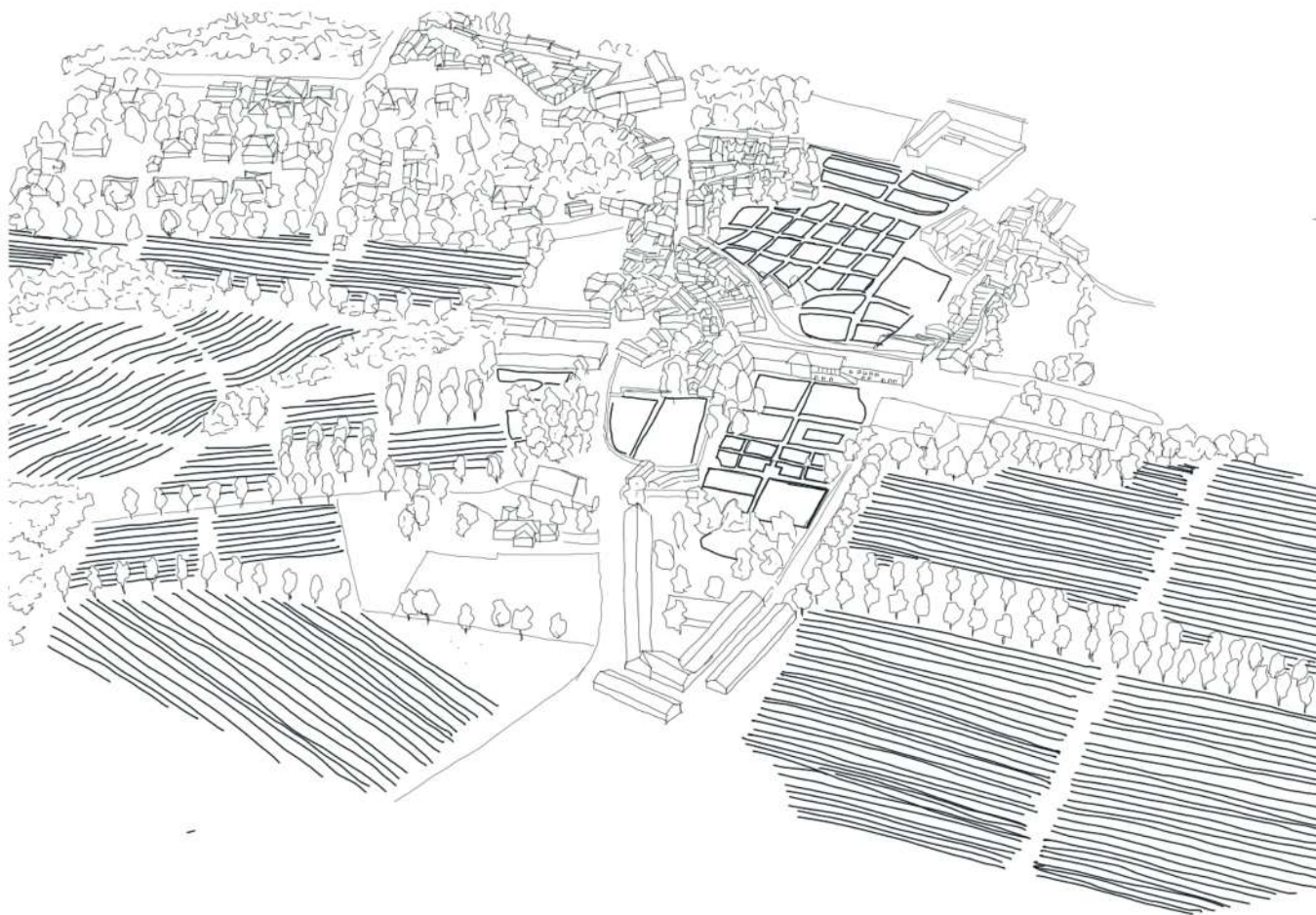
Further research into the region and the food practises should be valuable in determining if there are any sacred significance to the food and farming practices in the Waterberg region and will lead to a richer design project.

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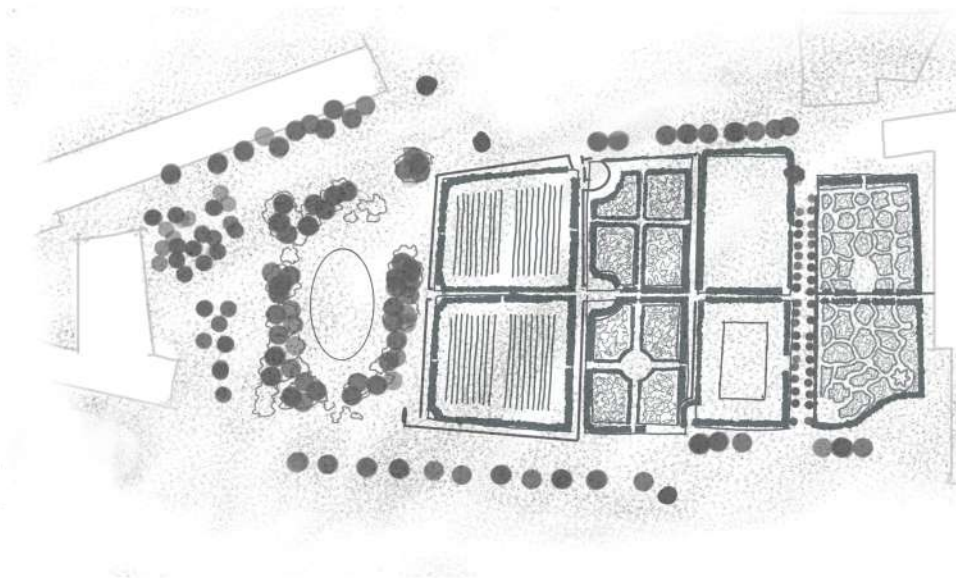
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10 Appendices Artefact analysis sheets

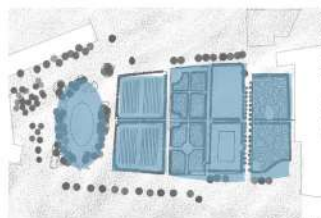


Project Name : Santar Villa Gardens, Portugal (1950)
Landscape Architect: Fernando Caruncho

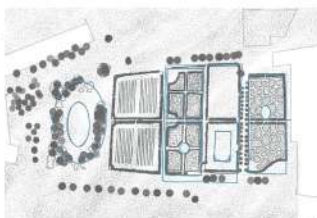
Project description: Santar is a picturesque village nestled in the valley of the Dao River region. The village is rich in history, with remnants from the Roman Empire, such as archaeological vestiges, ancient roads, and bridges still visible today. A series of stately manor houses stand with adjoining grounds that were once bustling with orchards, vegetable gardens, and vineyards along their edges. Over time, some of these enclosures have transformed into formal boxwood gardens. Since the 1950s, extensive vineyard plantations have become a dominant feature of this landscape. In a remarkable effort to rejuvenate the area, a group of property owners united their lands and initiated a conceptual project led by Fernando Caruncho, who deeply understood the spirit of the place. Caruncho successfully revived the dormant beauty and charm of the landscape. This project leverages the cultural landscape's inherent values to foster the region's social, cultural, and sustainable economic development. It brings people together by combining efforts and joining neighbouring gardens to create community gardens, opening passages, and building bridges over walls. Visitors to Santar can uncover the village's secrets and charms, including its gardens and architectural heritage, remarkable trees, emblematic camellias, and boxwood alleys. The granite structures, ranging from rustic and noble to religious, the traditions, the vineyards, and the wine all contribute to the joy of experiencing authentic country life (de Vasconcelos, 2020).



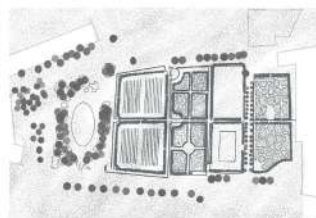
Santar Villa Gardens, Portugal



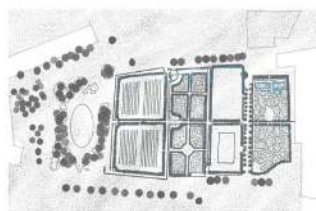
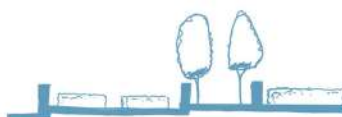
Levels of scale



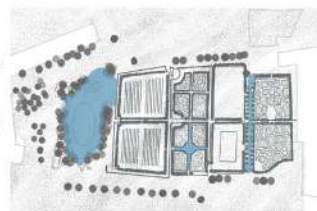
Centers



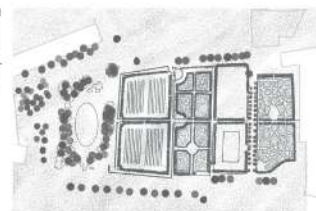
Boundaries



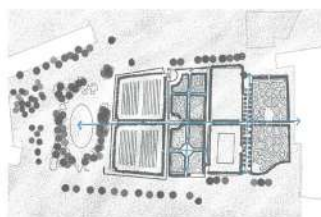
Alternating repetition



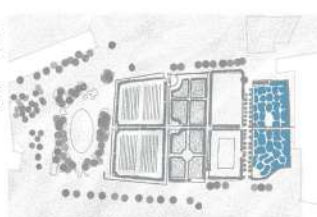
Positive space



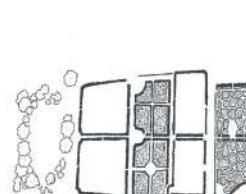
Good shape



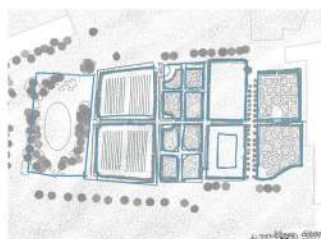
Local symmetries



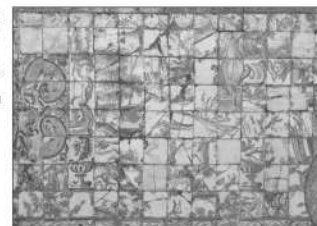
Deep interlock



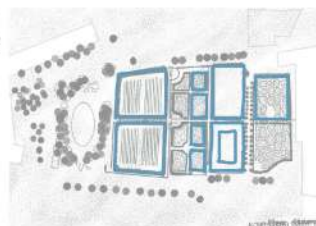
Contrast



Gradients



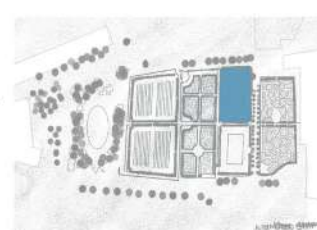
Roughness



Echoes



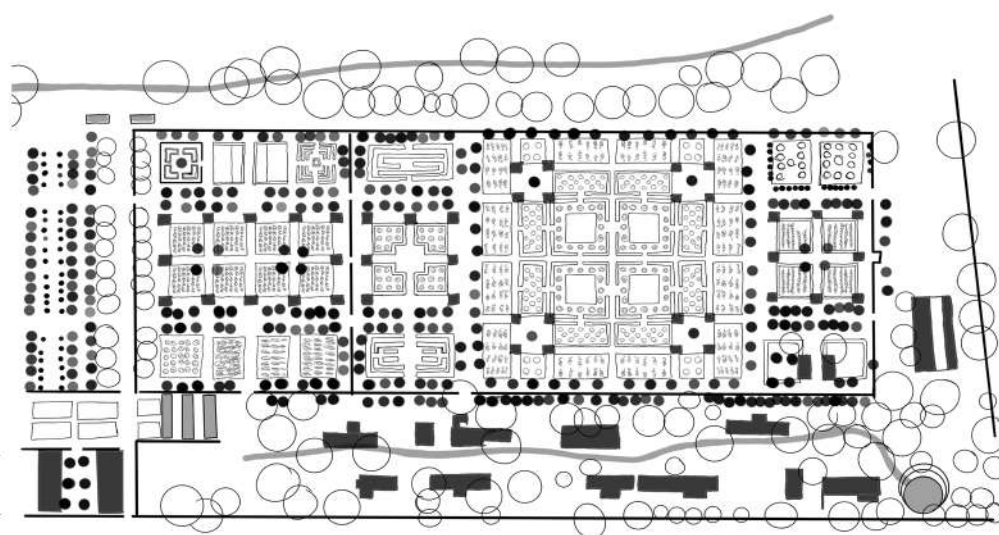
Void



Inner-calm

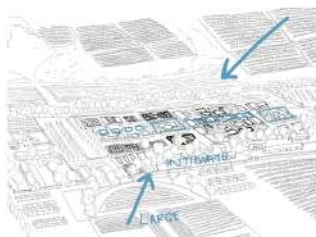


Echoes of the land:
developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



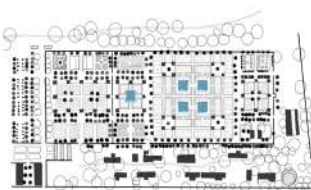
Project Name : Babylonstoren. (2010)
Landscape Architect: Patrice Taravella.
Project description: In 2007, owner Karen Roos enlisted the expertise of French architect Patrice Taravella to design the garden's layout. This meticulously planned garden consists of 15 clusters, each dedicated to different plant and animal life. These clusters include vegetable areas, stone and pome fruits, nuts, citrus trees, berries, beekeeping sections, herbs, ducks and chickens, and even a prickly pear maze. The garden's irrigation system is ingeniously designed, with gravity-fed water from a stream flowing through rills into the garden. This water then moves through ponds planted with edible lotus, nymphaea lilies, and waterblommietjes, ensuring a sustainable and aesthetically pleasing environment. More than 300 plant varieties in the garden are either edible or possess medicinal properties. The garden yields fruit and vegetables year-round, supplying two farm-to-fork restaurants. Along the garden's edge, a natural stream runs from Simonsberg Mountain to the Berg River, providing an ideal habitat for indigenous wild olive trees. In the shade of these trees, around 7,000 clivia lilies burst into a spectacular display every spring.

Babylonstoren, Franschhoek, Cape Town



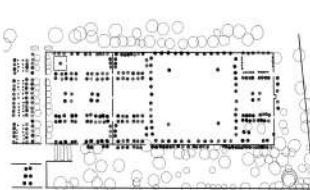
Levels of scale

Throughout the Babylonstoren garden strong centers exist in different scales in perspective to human scale. Garden rooms vary in scale with small jumps in between them creating a friendly human scale interaction. Babylonstoren has larger planter areas on the outer edges of the farm.



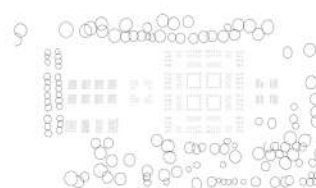
Centers

Smaller garden sections alongside the walkway increase the life of the whole. Babylonstoren has a wide variety of smaller garden rooms. These smaller rooms are centres interwoven and alive with human life to promote a sense of place.



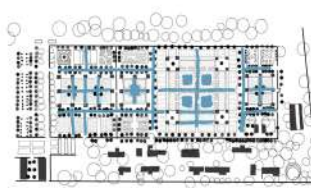
Boundaries

Low walls are used to separate and structure the garden sections. Hedges are used as a boundary separating different planting communities. The use of pathways between gardens creates defining thresholds and connect the user to different space could be considered a boundary.



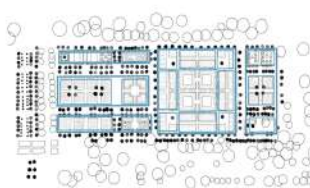
Alternating repetition

The Babylonstoren gardens have alternating repetition in the direction of the planted orchards. The rows alternate as the contours of the landscape change enriching the visual aspect of the farm in a wider context. On a more intimate scale the gardens show alternating repetition in the different garden sections.



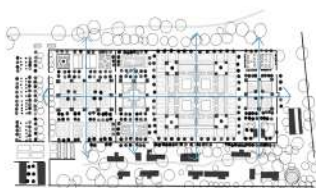
Positive space

Babylonstoren gardens the central geometrical garden displays positive space where no meaningless left-overs exist however the bordering naturalistic landscape allows for awkward open unused spaces.



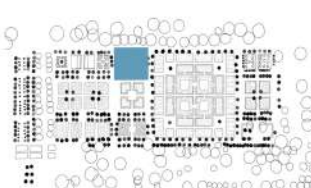
Good shape

Babylonstoren gardens are good examples of what good shape looks like in a designed garden. The selection of square garden shapes forms strong distinctive centers that create a high degree of internal symmetries. The spaces created next to or in between the planted hedges create positive space. One can therefore conclude that this garden has good shape.



Local symmetries

Babylonstoren Gardens have a high degree of geometrical arrangement but is complemented with naturalistic gardens bordering the central space. The gardens have a higher degree of overall symmetry because is only needs to respond to buildings that are closely related to the geometrical layout.



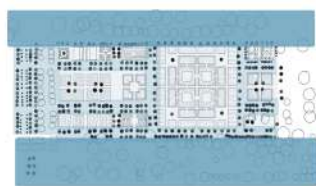
Deep interlock

There is very little interlock in the Babylonstoren garden. There is this on part of the garden where the shapes do interlock deeply, but it does not occur throughout the garden.



Contrast

Babylonstoren gardens the contrast manifests in the neatly maintained landscape and the natural landscape that borders the gardens. The different sections also have contrast in the neat hedges and the organic shaped plant growing within the hedge borders.



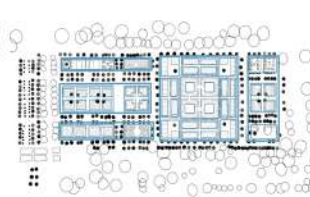
Gradients

In the Babylonstoren gardens the planting area sizes are similar. However there is a gradation of intricacy from the outer edges to the center of the garden. Slowly increasing in planting difficulty.



Roughness

At Babylonstoren the gardens are well kept but some of the plants are left to grow naturally exposing the rough natural growth. We see an example of this at the pergolas where creepers typically grow. In the neat landscape this image is teeming with life.



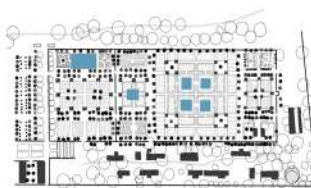
Echoes

Babylonstoren garden the rectangular and square shapes echo across the garden. Not only in the plan but in the pergolas, we also see this echoing of rectangular shape. Another interesting echo is the triangular shape that the pergola roof structure form. Standing in the correct vantage point looking across the Babylonstoren garden you will see the triangular or pyramid shaped structures pop up multiple times.



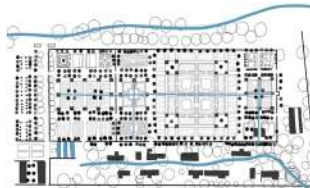
Void

The water is the void again



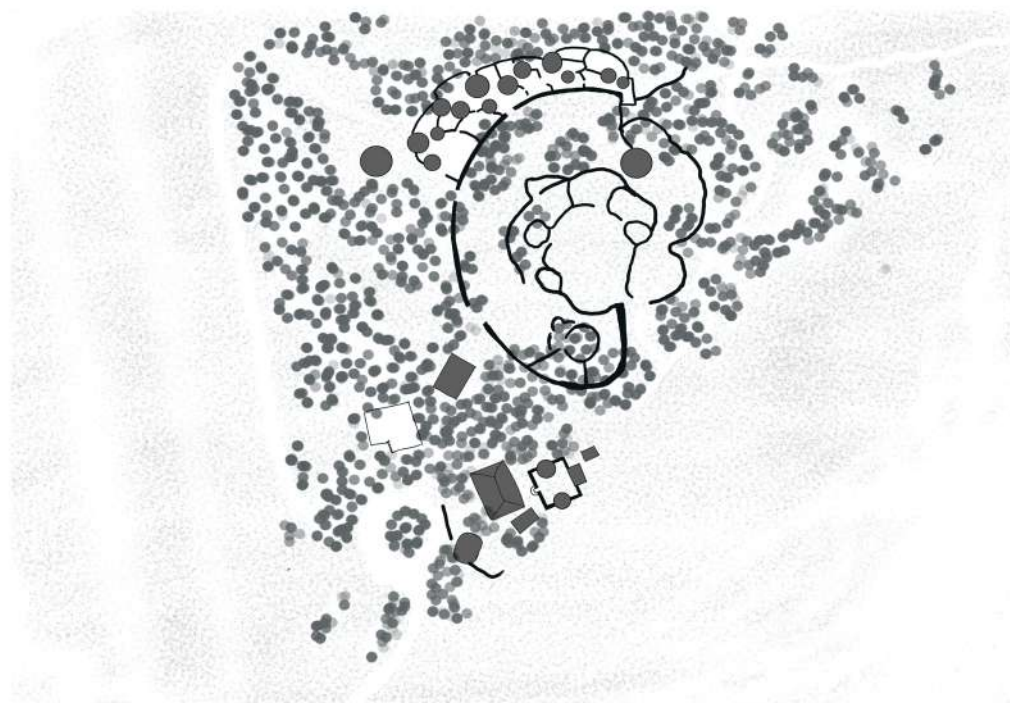
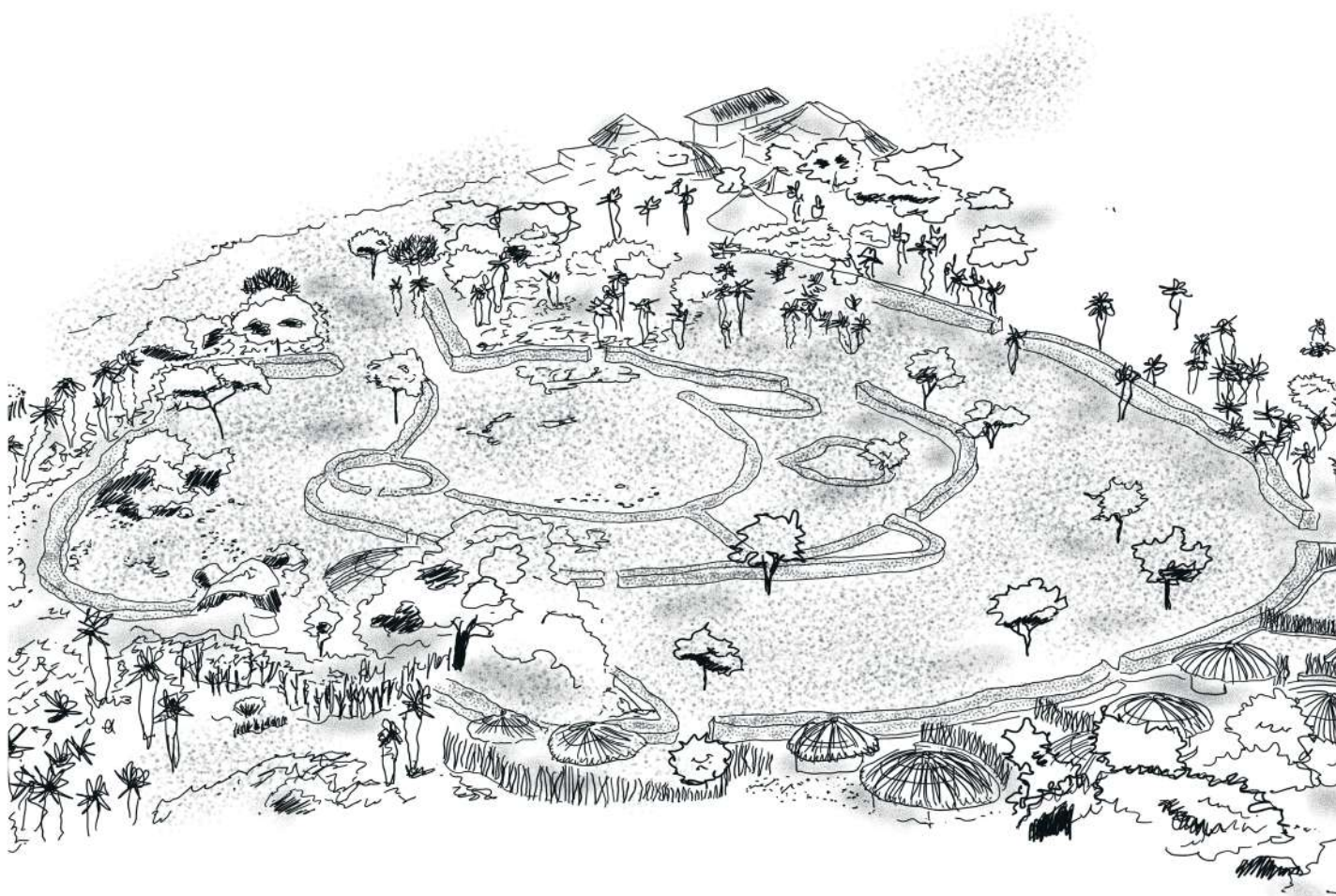
Inner-calm

The gardens at Babylonstoren feature small lawns integrated within the garden's layout. These grassy areas provide a perfect setting for engaging in simple, wholesome activities, allowing visitors to unwind and connect with nature in a peaceful, inviting atmosphere. These tranquil lawns serve as a sanctuary for reflection and leisure amidst the vibrant garden surroundings.



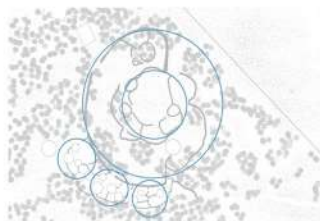
Not separateness

In the Babylonstoren artifact the water channels running through the gardens connect the different spaces. The exposed channels subconsciously reminds you that the garden is watered from the same source and highlight the inner workings of an irrigation system. This shows that the spaces are connected to a larger whole.



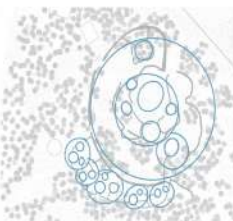
Project Name : Bakone Malapa Northern Sotho Museum, Polokwane, Limpopo (2011)
Landscape Architect: n.d
Project description: The Bakone Malapa Open-Air Museum is a place where tribesmen practise long-standing traditions to educate visitors about the customs of Africa's people. It is one of two similar museums in Limpopo, the other being the Tsonga Open-Air Museum near Tzaneen.
Bakone Malapa is a meticulously reconstructed village modelled after the style used by the northern Sotho people around 250 years ago. It is designed to demonstrate the daily life of the Bakone, a highly sophisticated subgroup of the northern Sotho tribe.
The cultural village features two homesteads, or lapas, that exhibit and explain traditional activities such as fire making, maize grinding, and beer brewing, just as they were performed centuries ago

Bakone Malapa Northern Sotho Museum, Polokwane, Limpopo



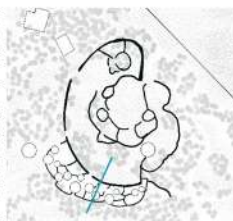
Levels of scale

Centers appear on a level of different scales within this space. The smaller centers are the sleeping rooms and the kitchen areas that together form a center that exist within a bigger center. The series of centers result in the living quarters of the wives. Found near it the Kraal forms a center where individuals animal pens could also be considered a center. Centers sizes change with small jumps, therefore there are different levels of scale in the layout of the Chiefs Unit. The smaller centers are found on the outside of the Kraal.



Centers

The smaller centers are the sleeping rooms and kitchen areas that together form a one sleeping unit. A series of sleeping units exist on the outer border of the kraal together forming a center as the living quarters. The kraal forms a center containing different sizes of smaller centers consisting out of the animal pens Ritual areas and slaughtering areas. The series of centers result in the living quarters of the wives. Found near it the Kraal forms a center where individuals animal pens could also be considered a center.



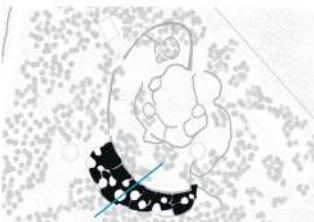
Boundaries

Packed stone walls form the boundaries from and strengthen the centers. These stone walls keep the centers distinct while connecting them to the to the context beyond the boundaries. Between the individual wives sleeping quarters we also find a second boundary made from branches, a screening wall type, separating the living spaces while uniting them with the bigger structure.



Alternating repetition

Alternating repetition if found within the patterns that are painted on the floors and walls of the dwellings. Where the lines painted by hand change directions.



Positive space

Positive space manifests itself in the wives living quarters area where every bit of space swells outwards to



Good shape

Good shape appears in this artifact by the composition of the dwellings. It is not a very strong example however one could see that it has some properties of good shape including strong distinction of what surrounds it, the shape is relatively compact and consist of elements such as squares triangles and circles.



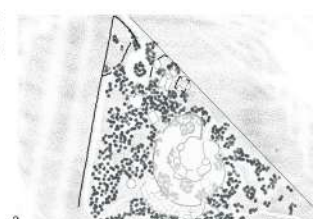
Local symmetries

The spaces are not arranged in a symmetrical form however, there is a sign of local symmetry. The centers are arranged along a circular path stretching outward around the kraal.



Deep interlock

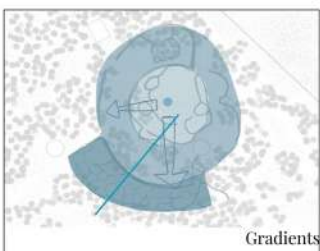
Deep interlock occurs in the stone walls surrounding the village. Removing one of the rocks would literally and figuratively dismantle the structure therefore each of rocks are deeply interlaced with one another.



Contrast

Contrast occurs in the painting colours used within the dwellings. These colours visually connect the centers to one another.

One could also argue that the contrast between the "kept" landscape inside versus the natural growth of the landscape beyond the boundaries of the Unit



Gradients

A gradual variation between public and private space is evident in the artifact. Across the extent of the Chiefs unit the inner most communal space moves outward into a more private space of the wives quarters.



Roughness

The painted patterns on the floors and the walls of the dwellings show a sense of authenticity. One can almost see the way the painter moved their hands to create the imperfect lined patterns.



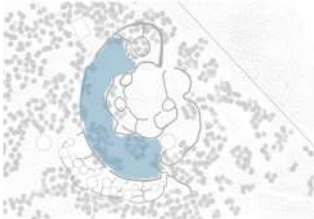
Echoes

Due to the circular pattern found within the layout of the centers there is a presence of an echo in the curved wall of the boundaries.



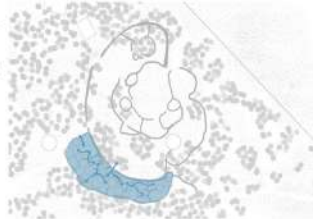
Void

At the heart of the chiefs unit we find the kraal where the cattle would have been kept. Alexander defines the void as a quality that emerges from contrasted by the surrounding clutter of fabric, therefore the most inner parts of the artifact including the kraal could be seen as the void because what happens there is clear.



Inner-calm

the inner calm is a property that refers to a certain slowness and quietness which comes about when everything unnecessary is removed. Between the central kraal and the wives quarters we find corridor of sorts, that serves as a quite space to wonder in.

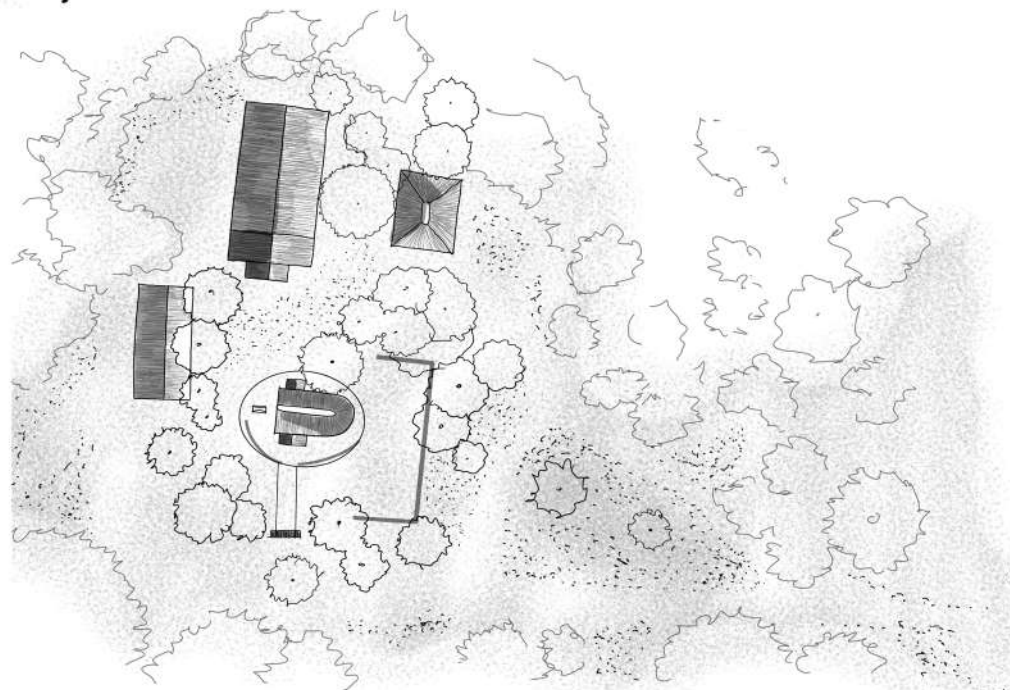


Not separateness

The quality of not separateness can be seen in the spatial organisation of the wives quarters that are both separate but connected these spaces complement each other. They seamlessly flow into one another.



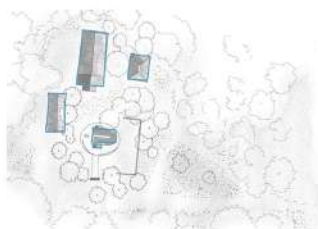
Echoes of the land:
developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



Project Name : St Johns Baptist Church, 24 Riviere, Limpopo (1914)
Landscape Architect: Sir Herbert Baker (1862-1946)
Project description: The St John the Baptist Church in Vaalwater, Limpopo, designed by Sir Herbert Baker's office in 1914, exemplifies Critical Regionalism. It features rough-hewn sandstone walls, a thatched roof, and Gothic-inspired windows with stained glass. The design incorporates local materials and climate considerations, avoiding traditional Gothic elements unsuited to Africa's sun. Memorial plaques, graves, and adjunct structures enhance its historical significance. The church reflects Baker's architectural philosophy, merging simplicity with regional context.

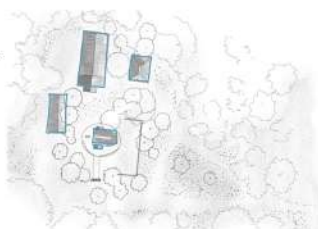
St Johns Baptist Church, 24 Riviere, Limpopo

Echoes of the land:
developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



Levels of scale

In this artefact levels of scale manifest in the different scales of meeting spaces. From the vestry to the small chapel to the community church hall. From an intimate space to a space shared by the whole community.



Centers

The Church of St. John the Baptist (1913) designed by Sir Herbert Baker (1862-1946) is, in itself, a centre that exudes life. From lychgate, the small pathway to the entrance portico and the vestry of the quaint Saxon chapel. The roof rests steadily on the sandstone masonry walls. With thin pointed Gothic timber windows with stained glass. The stained glass portrays images of members from founding family. Each of these elements show characteristics of wholeness and exist as centres.



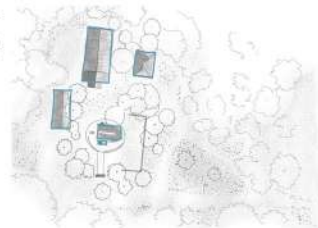
Boundaries

The dense vegetation of the natural landscape hugs the church forming a boundary between the buildings and the dirt roads. We also find different thresholds when going into the buildings' chapel.



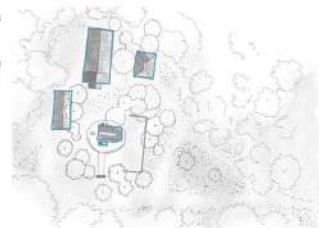
Alternating repetition

Alternating repetition takes form in the images on the windows. The shapes of the windows stay the same but the content of the image changes.



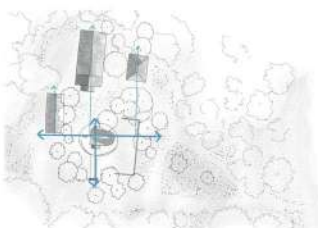
Positive space

Each building almost stands alone within the property with nothing but informal footpaths connecting each one. The simplistic layout of the building allows for one big shape of positive space that does not swell outwards.



Good shape

Good shape is found in the simplistic layout of the buildings' interior. Using space preciously there are no meaningless leftover shapes of space.



Local symmetries

The buildings are locally symmetrical in layout to each other.



Deep interlock

How each stone locks into place to create the walls of the church.



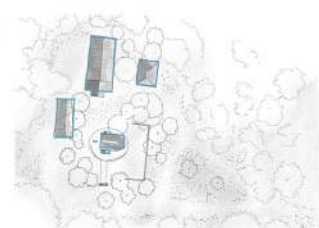
Contrast

There is a stark contrast between the manicured landscape surrounding the buildings and the natural vegetation that surrounds the property.



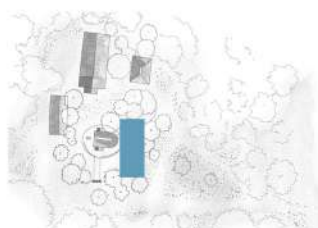
Roughness

Roughness in the construction of the walls contribute to the roughness of the artefact.



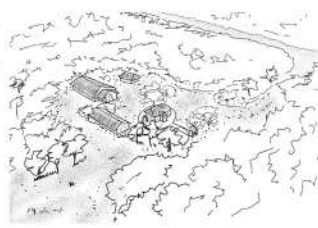
Echoes

Echoes are found in the material use in each building. Each building uses stones from the region to construct walls, thatch roofs with a timber pole structure, and stained glass windows. The walkways are made from the same stones that the walls are made of. There are echoes of the triangular shape of the gothic timber windows.



Void

The small cemetery next to the chapel functions as a void. It is a centre of peace where family members go to visit their loved ones that have passed.



Inner-calm

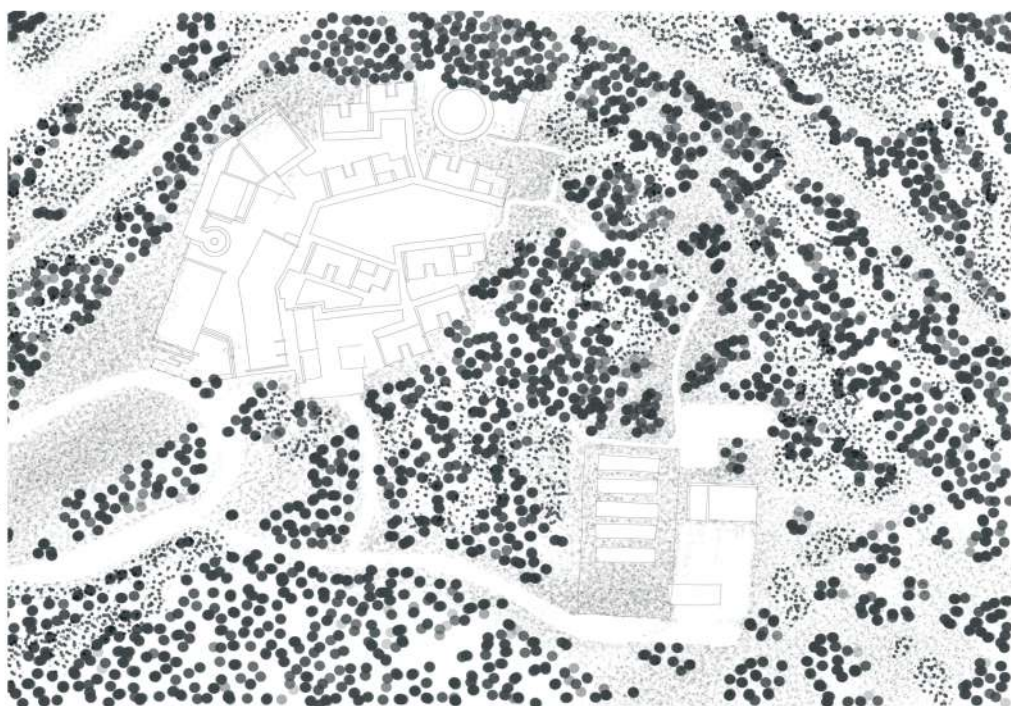
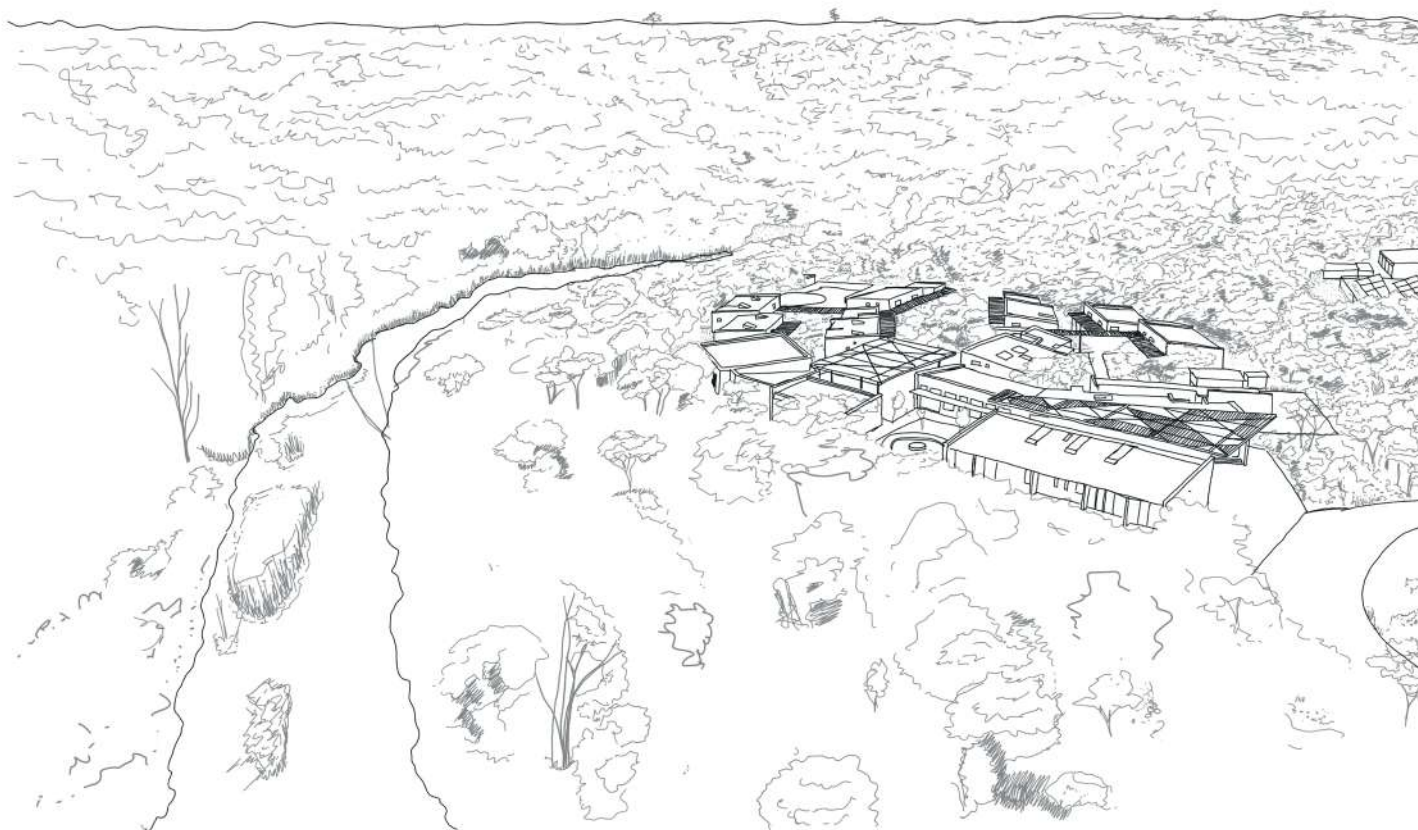
The presence of this church is the inner calm within this area. Nestled between the dense vegetation the solemn presence of the chapel creates a calm centre.



Not separateness

The act of the community gathering every week at the same place creates a sense of not being separate from your community. The church creates the foundation where people can feel connected to the community around them.

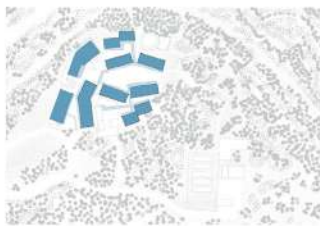
Echoes of the land:
developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



Project Name : Lapalala Wilderness School, Melkrivier, Limpopo (2022)
Architect: Local Studio Architects
Project description: The Lapalala Wilderness School, established in 1981, has earned widespread recognition as a centre of excellence for its environmental education programs. These programs are enthusiastically received by a diverse audience, ranging from primary and secondary school students to university students specialising in various aspects of conservation and biodiversity management. Local Studio's years-long effort to develop new forms of public space in South African rural communities is exemplified by the Lapalala Wilderness School. The project entailed creating new infrastructure for the wilderness education program, which was relocated from its original site within the Lapalala Wilderness Reserve to a new, neighbouring property. The new infrastructure includes teaching and administration buildings, short-term residential accommodation for students, and long-term residential accommodation for teachers and staff. The project stands out for its context-driven materiality, utilising rammed earth, rock, and hardwood alongside concrete and masonry base structures. Furthermore, the project is net-zero rated, powered entirely by a new solar farm, and features a grey and black water recycling plant.

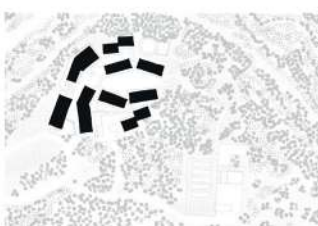
Lapalala Wilderness School, Melkrivier, Limpopo

Echoes of the land:
developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



Levels of scale

Level of scale manifest in the transitions between indoor and outdoor spaces. Throughout the extent of the wilderness school there are different levels of overhead structures that place emphasis on the outdoors.



Centers

Buildings form the primary centers where the outdoor spaces are a secondary form of a center these outdoor centers support and strengthen the buildings.



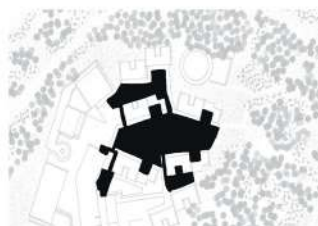
Boundaries

The thick rammed earth wall creates a boundary that separates the inside from the outside. The material it is made from connects the interior to the idea of the exterior.



Alternating repetition

In the brickwork around the buildings we find alternating forms of patterns. The repetition does not occur deliberately however it does create a sense of harmony with the structures surrounding the pavement.



Positive space

The central atrium is formed by the surrounding rooms. This atrium is a planned space that fills the area with positive space even stretching beyond the pathway to the entrances to the rooms creating small courtyard along the atrium.



Good shape

The extent of the building is formed by combining a set of geometrical elements however it does not have a high degree of internal symmetry. To some extent it does have good shape.



Local symmetries

The local symmetry is found in the positioning of the buildings. The layout of the structure follows the kink in the river that flows next to the main building. In relation to the natural contours of the area the building is placed as well in local symmetrical fashion.



Deep interlock

When comparing the natural element (plant growth) and the man-made elements that cover the area there is a sense of interlocking. To some extent the building hooks itself into the nature.



Gradients

The gradients that exist in within this artifact relates to the gradual thickening of the natural plant growth. In this area we find the thicker woodland savanna plant communities, less dense savanna bush-veld and then the grass layer.



Roughness

Roughness occurs in the in the areas between the rooms where the "garden" is left to grow wild. This quality gives a certain organic feeling to the environment and connects to the wider context of the wild state of the natural environment the school is located in. It is not a overly maintained garden.



Echoes

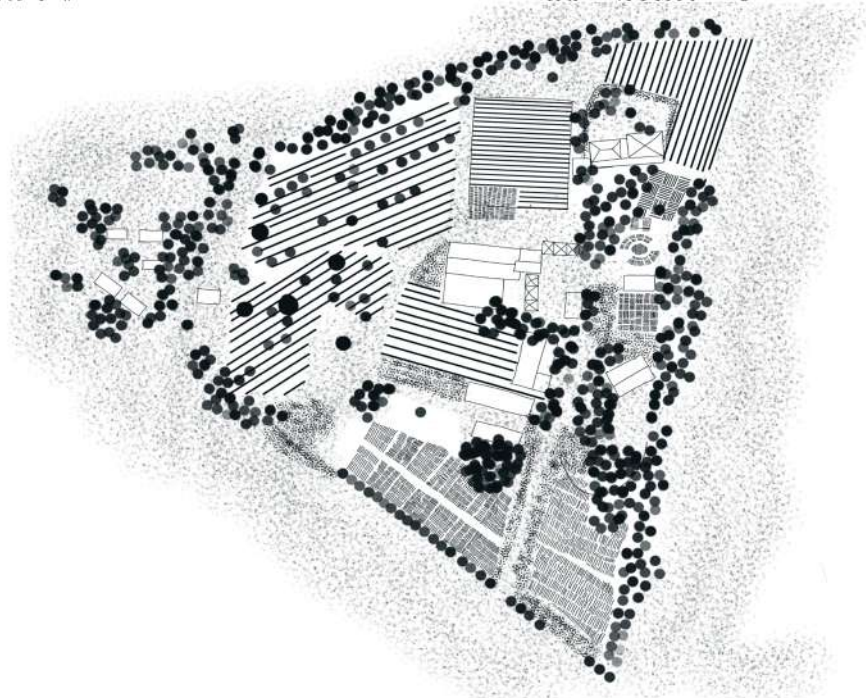
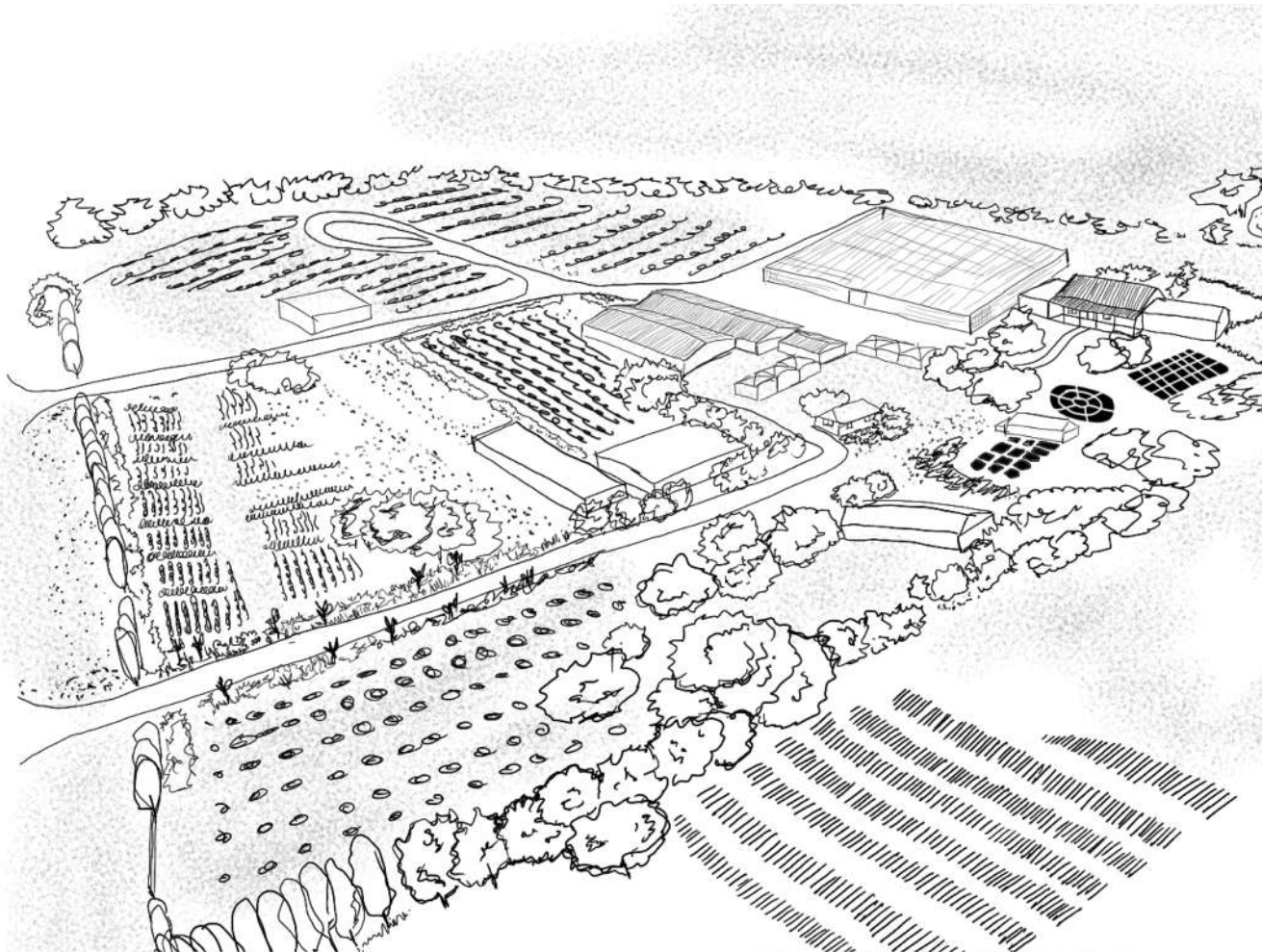
Echoes are found in the rammed earth wall that are used throughout the space. Together with the walls we find a border of rocks that are used in conjunction around the area. These rocks can also be considered a boundary that intensifies the center buildings that are the rooms.



Void

The boma area found between the two main building is a center that at heart is a void. It is surrounded by clutter and





Project Name : Geluksfontein Farm, Modimolle, Limpopo (n.d.)

Landscape Architect:

Project description: Originally a goats cheese farm that went out of business and was bought by the current owner that transformed it into a productive landscape. The original restaurant is still in use with the addition of a small plant nursery. The farm is home to a few cows and some goats. The grows different types of indigenous plants including edible plants.

Geluksfontein Farm, Modimolle, Limpopo

Echoes of the land:
developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



Orchards on the outer edge are planted with only one type of fruit tree, mono-cultural farming, moving in towards the homestead the planting is polyculture where multiple different species of plants grow together. Suggesting that spaces that are used more often contain a greater feeling of life. It is also where people spend more of their time living and shaping the environment

Levels of scale



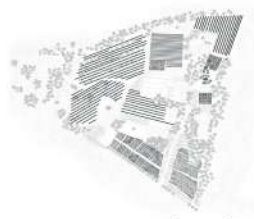
At the end of the dirt road entrance there is a restaurant that attracts people and is typically the most lively place on the farm. Passing the small garden you will see the entrance to the restaurant.

Centers



Tall trees form a visual boundary between the road and the farm. Other boundaries include vegetation beds. These beds separate growing areas. Small rocks are used as a boundary around a planted bed.

Boundaries



Walking between the rows of trees, the planting configuration changes as the contours change. The variation is present between the groups of different garden layout systems.

Alternating repetition



Some local symmetry is present. The buildings and gardens follow in the direction of the path ways and main entry way.

Local symmetries



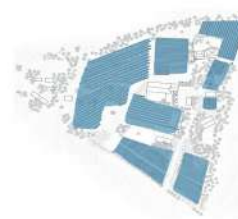
Contrast between the neatly laid out gardens and orchards, and the naturalistic landscape in the surrounding area.

Contrast



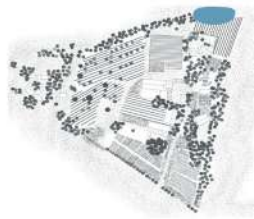
Gradation of open space planted with on type of tree/plant to small intimate gardens with different plants

Gradients



Echoes of the same plant throughout the garden creates a sense of coherence. In this case it is the echo of aloes and aloe trees throughout the planted areas.

Echoes



Past the smaller gardens and the restaurant there is a small artificial dam that is used for water storage and irrigation. This creates a focal point in the landscape.

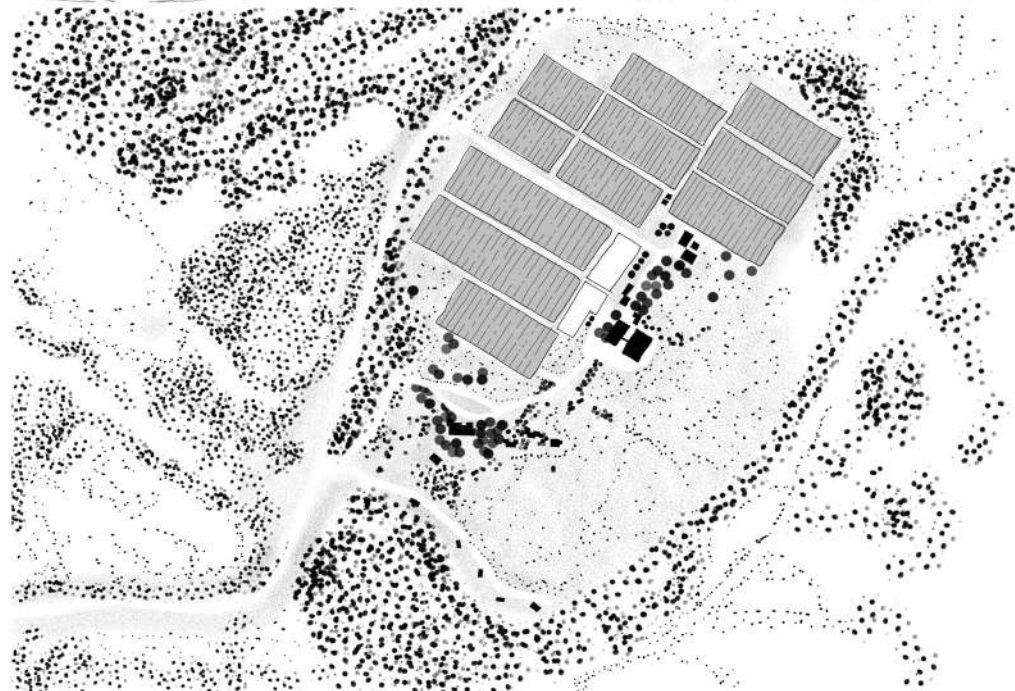
Void



Inner calm is the solemn presence of an open lawn or a field where the cows graze. The simplicity of the action that takes place there creates a sense of calm.

Inner-calm

Echoes of the land:
developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



Project Name : Leeuwenhof Farm, Modimolle, Limpopo (n.d.)
Landscape Architect:
Project description: A wildlife reserve with accommodation turned into a productive landscape. The farm grow different types of strawberries, inviting the public to participate in the harvesting process of the farm. The farm still includes forms of wildlife, and the tourism surrounding the wildlife.

Leeuwenhof Farm, Modimolle, Limpopo

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Levels of scale

vast, mono-cultural planting to small and intimate poly-culture gardens closer to the living areas. There is a large jump between size of the planting areas.



Centers

the small dams create strong centres, the other centres such as the restaurant, chalets ect are located alongside the water (natural) centres.



Boundaries

Dense vegetation forms a boundary on the outer edges of the farm. For protection against animals, the crops are covered within a netted structure.



Alternating repetition

For example, the Leeuwenhof farm grows strawberries that repeats throughout the garden but the species alternate. Other that the alternating repetition does not have a strong manifestation in the artefact.



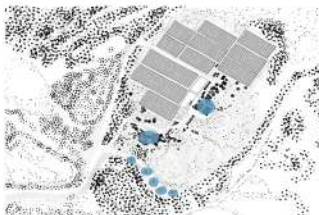
Local symmetries

like in other artifacts we see that the buildings are arranged, closely following the contour lines and some of the buildings or the forest cabins are arranged along the river (what is the rivers name?) creating a local symmetry that follows the natural element in the area



Gradients

From the larger planting spaces with one or two different types of strawberries tot the diverse natural landscape.



Echoes

Echoes of similar building shapes across the artefact.



Void

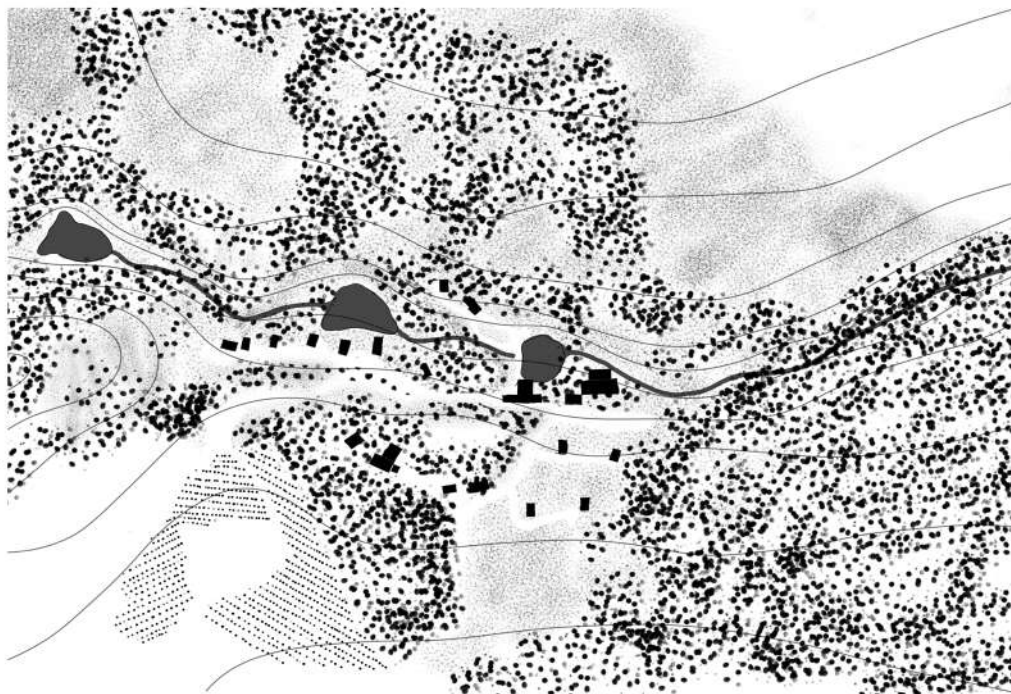
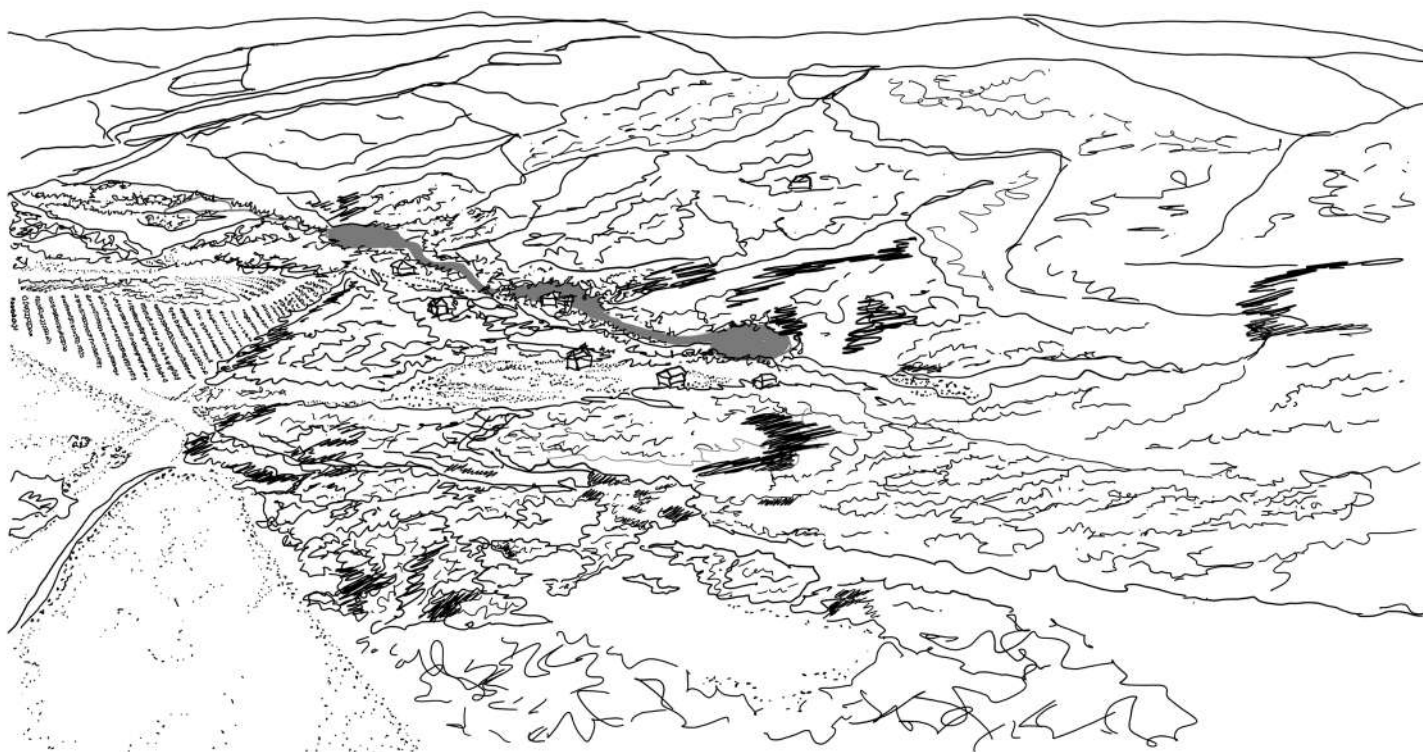
Closer to the chalets there is a watercourse that manifests as the void in this artefact.



Inner-calm

Inner calm is expressed through the open fields where the game graze and find nourishment. The simplicity of the activities that take place here creates calm.

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Project Name : Cheerio Farm, Haenertsburg, Limpopo (ndandscape Architect:
Project description: Cheerio Gardens was established by Sheila (Box) Thompson after she was discharged from the army in 1946. She was a keen botanist and wanted to establish indigenous plants in the area. Because of the cool temperatures in the valley, she also decided to grow deciduous trees and shrubs from the northern hemisphere. These included maples and flowering cherries which boasted beautiful autumn colors. A lot of the indigenous bulbs were eaten by bush pigs, porcupines and moles. Even tree ferns were eaten by porcupines during the drought. The garden was eventually established by Box Thompson, her mother Audrey Thompson and Station. All the terraces were made by hand, and the love and dedication that went into the task is visible as you wander along the moss-covered pathways. The garden has stayed in the same family since inception. Our vision is for visitors to enjoy the peace and tranquility the gardens have to offer.

Cheerio Farm, Haenertsburg, Limpopo

Echoes of the land:
developing a lexicon of landscape patterns for an agri-tourism farm in the Waterberg region.



Levels of scale

The scale of the open spaces that occur throughout the area changes in scale from small spaces big enough for two people to vast open spaces where a large group of people can gather.



Centers

It takes form in a simple homestead built in a clearing of vegetation across the dam or the humble coffee shop. These buildings act as centres that attract people.



Boundaries

The natural vegetation forms boundaries within this area. Very little to no fences and walls are used.



Local symmetries

Similar to other artifacts we see that the buildings are arranged, closely following the contour lines and some of the buildings or the forest cabins are arranged along the river, creating a local symmetry that follows the natural element in the area



Gradients

The cheerio farm is situated in a forest vegetation unit. Hiking through the area we find the dense forest and then you get to a clearing that almost brings relief this clearing also brings in natural light where the dense forest only allows for a small amount of light to filter through the vegetation creating a gradient of light throughout the artifact.



Roughness

The roughness in this artifact manifests in an old hand built wooden fence that acts as a door to the outdoor chapel.



Echoes

The colours in the cherry trees echo throughout this landscape. Colour change throughout the year echoes throughout the entire season.



Void

Throughout the gardens there are three dams that create a strong centre and manifests the principle of void. Acting as the heart of the gardens the water aspect is evident throughout the gardens.



Inner-calm

In the forest we find two large trees acting as the roof creating an opening in the dense forest. This space has been turned into a small outdoor chapel. You also find a clearing in the forest with a single bench allowing for rest or contemplation.



Not separateness

Hearing the water running while walking around the hiking trail you can mentally position yourself in the vicinity of the cheerio farm knowing that you are not separated from civilization