



The creation of a robust and flexible theoretical framework allows for certain relations and interactions to be made between theories, informing the architectural approach at multiple scales and situations. As such, the investigation into possible theories that could potentially relate, or possibly provide a solution for, the multiple raised issues, research questions and intentions, allowed a criterion to emerge that could facilitate the identification of the most applicable and appropriate theories, namely:

- Has the theory provided a perspective on changing contexts that could be applied to the context of Silverton (Figure 1.1)?
- How appropriately does the theory relate to the already identified intentions, issues and contributions (Figure 1.2)?
- Does the theory attempt to provide a mediation between nature and industry that can be applied to Silverton (Figure 1.3)?

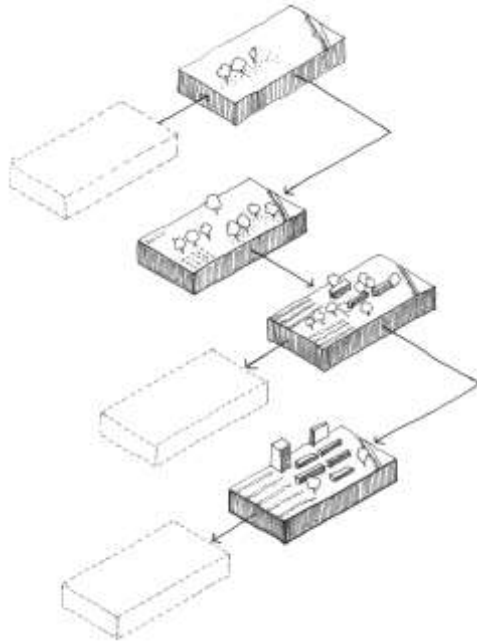


Figure 2.2: Theory providing a perspective on changing contexts (Author November 2021)

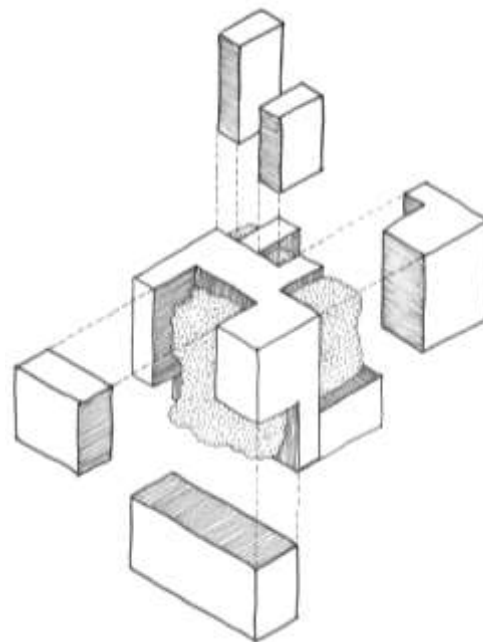


Figure 2.3: Theory relating to the already established intentions (Author November 2021)

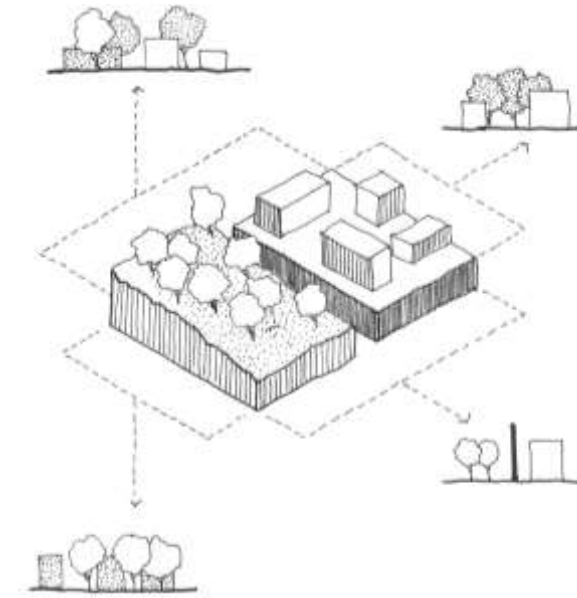


Figure 2.4: Theory attempting to mediate between nature and industry (Author November 2021)

Through this criterion, the suitable theories for mediating between nature and industry were identified, namely: regenerative theory (Du Plessis 2012: 1,15)(Mang *et al* 2014), non-modern theory (Moore 2010) and weak theory (Pallasmaa 1999: 86). Through the interactions of these three theories, an in-between theory emerged that defined the spatial theory of the project - liminality (Ng & Lim 2018) (Turner 1969).

From sustainability to regenerative theory

The current trend of the Silverton context is that of excluding nature for the sake of development, creating a divide between industrial developments and natural systems and environments. A shift in worldview is necessary that would start an engagement with natural environments and challenge the perceived status quo and distinction between nature and industry (Du Plessis 2012: 8)(Landman 2019: 160). Landman (2019: 160) argues for a departure from a mechanistic worldview acting *on* nature (sustainability) towards an ecological worldview that *participates in* nature (regenerative theory) (Reed 2007: 676).

Regenerative Theory

With a global awareness of limited natural resources, a reconciliation between industrial developments and the exploitation of natural resources created an illusion that a static equilibrium in nature had to be protected (Du Plessis 2012)(Landman 2009: 160)(Reed 2007: 676-677). In attempting to define an approach to repair living systems, Reed (2007:678) and Du Plessis (2012:6) argue that sustainability alone is not enough as it merely sustains development by reconciling industrial demands with the need to protect ecologies and nature. In this way, human activities and ecological processes are seen as two separate systems that can be managed independently (Reed 2007:678).

In Silverton, this translated to the illusion of protecting the Moreleta Spruit from industrial dumping and waste pollution but only managed to fencing it in and exclude it from the public realm and the rest of Silverton. Du Plessis (2012: 15) challenges this perceived static equilibrium by proposing a dynamic equilibrium model where periods of change are undertaken in the ecological system.

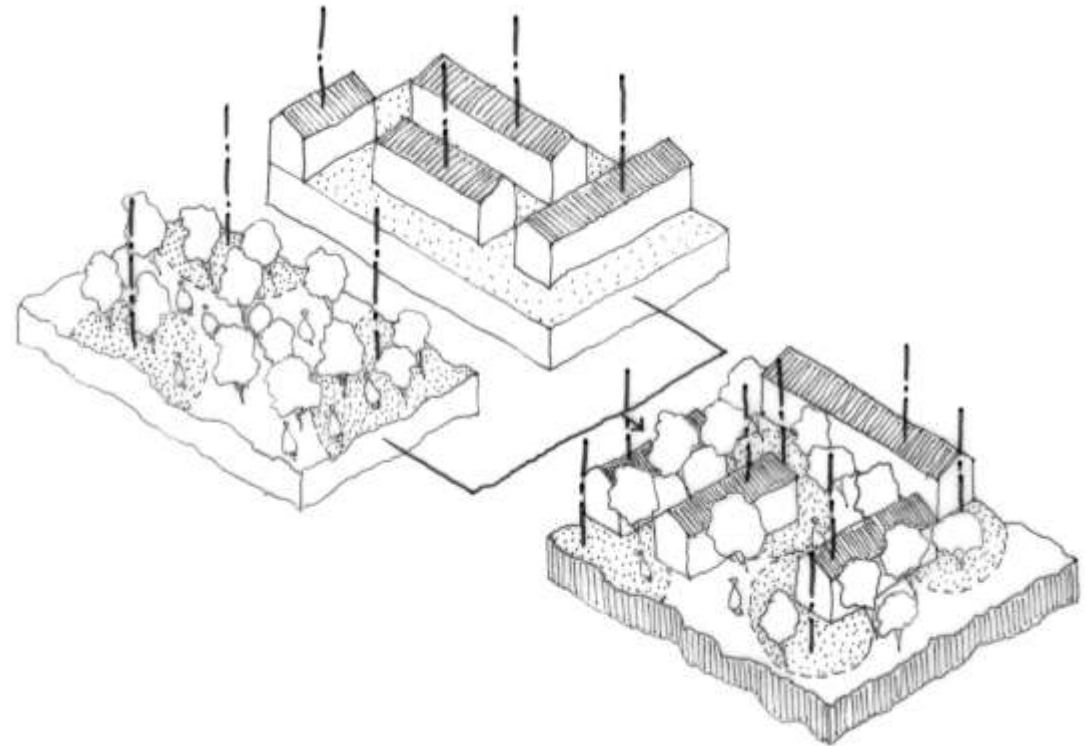


Figure 2.5: From human development as separate from nature, to a model that sees human development as part of nature (Author November 2021)

This suggests a further re-orientation of sustainability where human development is seen as taking part in the inter-connected processes of ecological systems (Hes & Du Plessis 2014: 112-113)(Mang *et al* 2014)(Reed 2007:676). This proposed shift in sustainability thinking forms the foundation of regenerative thinking theory (Du Plessis 2012))(Mang *et al*/2014).

Du Plessis (2012) outlines three core principles of regenerative thinking theory:

Firstly, nature is to be co-developed along with human development by designing individual systems that engage with the inter-connected system as a whole (Du Plessis 2012:15)(Hes & Du Plessis 2014: 113).

Secondly, the inter-connected whole is ever-changing and dynamic and lastly, human development is part of the same system as ecology, each impacting the development of the other (Du Plessis 2012:15).

As regenerative design theory predominantly resides in legislation (land use management, implementation of green architecture principles and environmental assessments etc.) and esoteric theoretical thinking, translating the identified regenerative principles into architecture challenges the conventional relationship between human development and ecological systems by promoting a mediation between the seemingly disparate systems (Landman 2019: 9).

Regenerative Theory Application

A paradigm shift is proposed from sustained development that promotes the process of change to evolve a system, as well as the participation of humans in natural environments and processes.

Figure 2.6: Decentralised organisational structure.

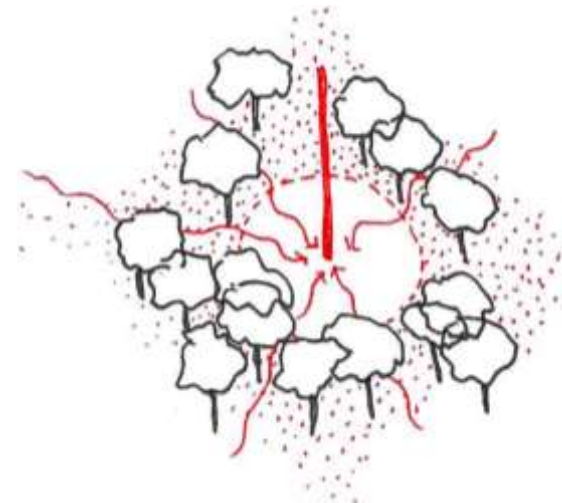
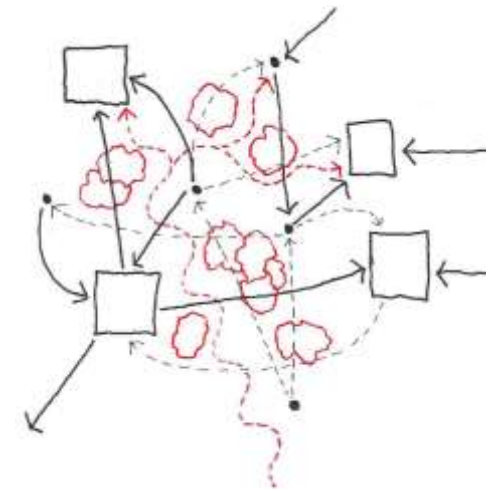
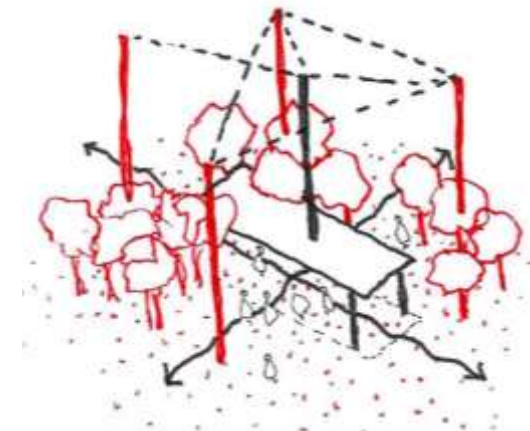


Figure 2.7: Internally read and platially developed architecture.

Figure 2.8: Co-evolution of nature (ecology) and technology (human intervention).



Non-Modern Theory

Origins in Critical Regionalism

Although Lefaivre and Tzonis (2003) initially postulated the critical regionalist movement, it was popularized by Frampton (1983) where he defined critical regionalism as existing between various oppositions (Barker 2012: 109-110). Barker (2012: 109-110) notes that Frampton's definition of critical regionalism ultimately promoted the ocular-centric creation of architecture, resulting in the emphasis of critical regionalist architecture as a product rather than a process-driven architecture.

Baker (2012: 110) further states that a true critical regionalism resists universal dogmas and opposes hegemonic power. Moore (2010: 365-366) critiques the aesthetic focus of critical regionalism by suggesting that the debate moved towards the deeper conflict between becoming modern (technology) and a return to place (nature) (Barker 2012: 114)(Moore 2010: 367).

Defining Non-Modern Theory

Furthering the relationship between technology (as a sign of becoming modern) and nature (as a return to place), Moore (2010: 365) proposed a tangential theoretical approach for reviewing the relationship between nature and industry, namely: non-modern theory.

Moore (2010: 374) postulates that non-modern theory is developed from the standpoint that human development has never been modern and as such, has always been intrinsically linked to the ecological systems that constitutes our world.

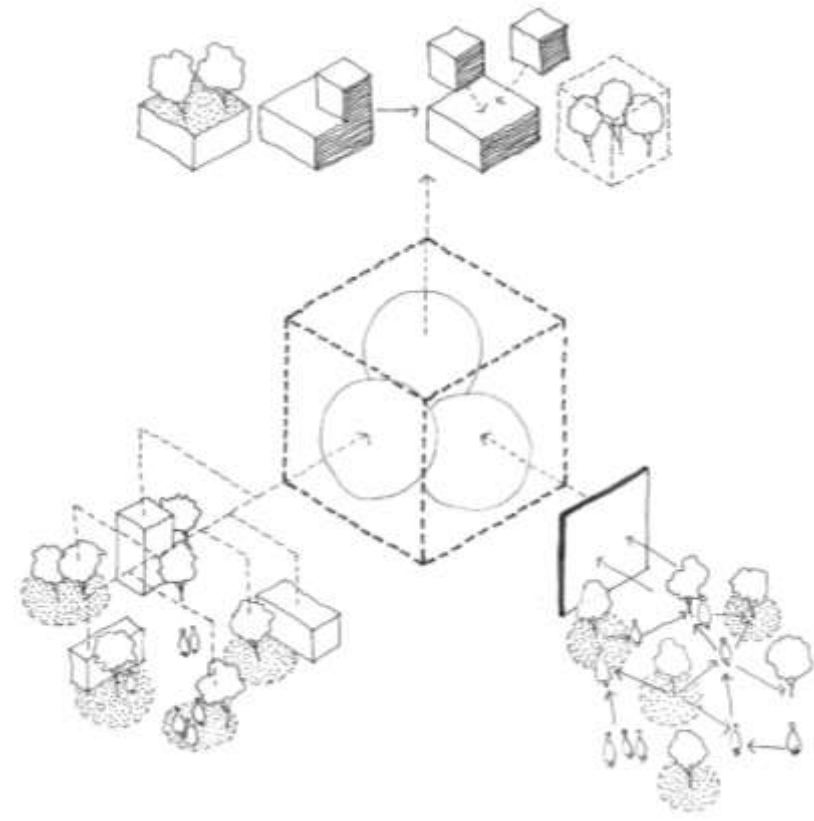


Figure 2.9: A representation of the values that non-modern theory postulates as applied to the relationship between nature and industry (Author November 2021)

This echoes the sentiments of regenerative theory (Du Plessis 2012)(Mang *et al*/2014) but provides three further architectural implications that can aid in mediating the relationship between nature and industry:

Firstly, the acknowledgement that a singular aesthetically-driven solution to align the relationship between human development and nature is less successful than relating the multiplicity of social activities to equally diverse ecological conditions (Moore 2010: 379).

Secondly, the emphasis of architectural production should be placed on the continuous social and ecological processes that create the architecture, instead of seeing the architecture as a static and complete object (Moore 2010: 379).

Lastly, non-modern architecture seeks to facilitate the confluences between social activities (human development) and ecological conditions (nature) (Moore 2010: 381).

To illustrate this dialogic relationship of technology and nature that forms the core of non-modern regionalism, a set of scales (Figure 11) is proposed that mediate between a modern approach and a post-modern approach (Moore 2010: 370). Situated in the middle is the non-modern approach that draws aspects from both approaches to define a new non-modern regionalism (Moore 2010: 370).

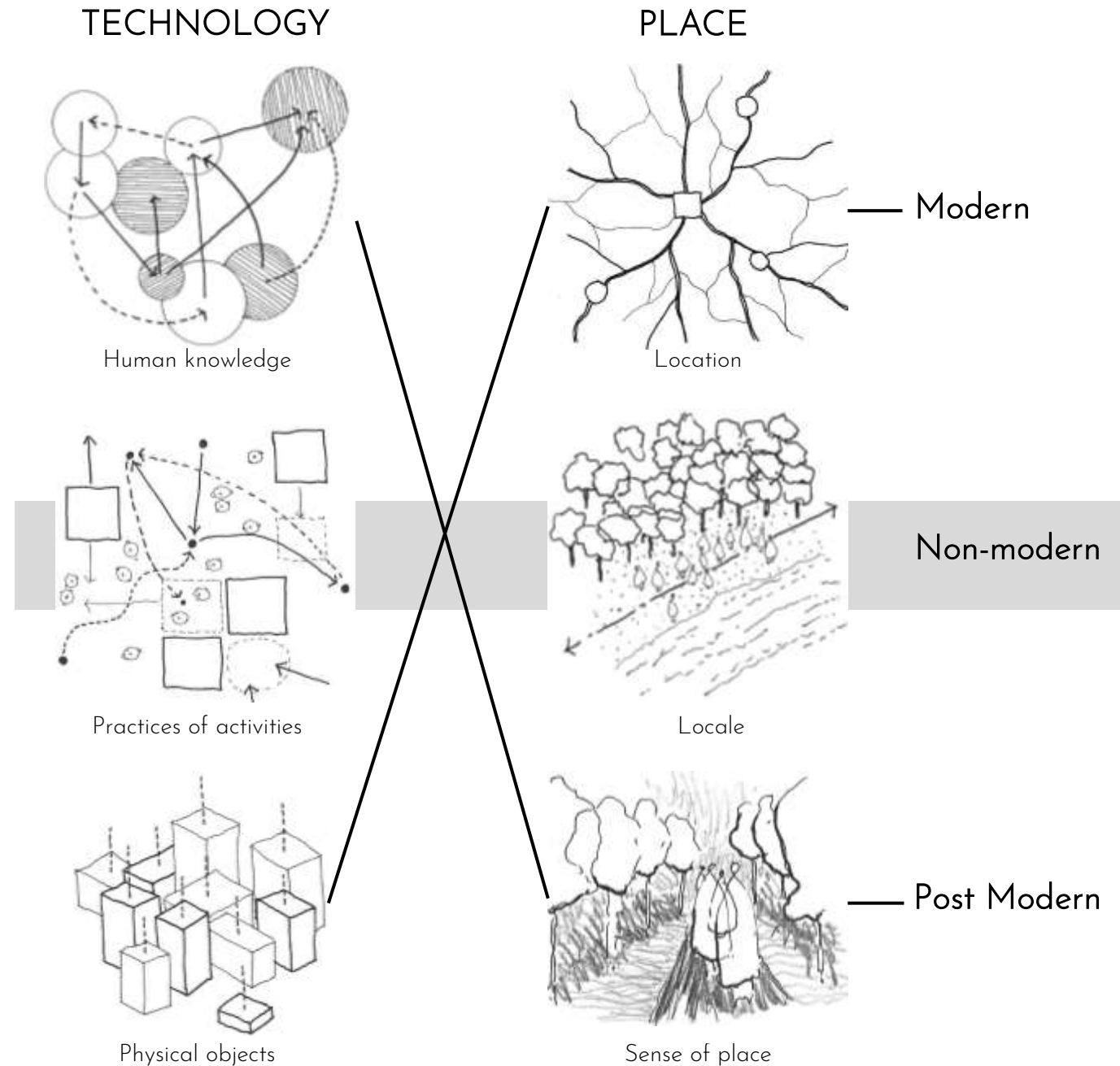


Figure 2.10: Non-modern regionalism scales and developed framework (Author July 2021)

Non-Modern Theory Application

Non-modern proposes an architecture that seeks to be activity and ritual driven rather than ocular-centric and form driven. Furthermore, architectural form is to be used as a method of dissolving the distinction between human developments and natural environments.



Figure 2.11: Narrative progression of spaces over various scales of interaction (Author July 2021)



Figure 2.12: Architecture as a means to investigate change in the identity of the context (Author July 2021)



Figure 2.13: Dissolve the perceived distinction between nature and architecture (Author July 2021)

Weak Theory

De Sola-Morales proposes weak architecture, derived from weak theory, as a possible alternative to the contemporary aesthetically-driven culture (in Pallasmaa 1999: 86). An architecture of strong structure/identity attempts to represent a singular identity disregarding the plurality and multiplicity of possible identities and perceptions of users (Pallasmaa 1999: 86).

On the other hand, architecture of weak structure/identity denies aesthetically driven architecture and values the multiplicity of identities and perceptions of users (Pallasmaa 1999: 86). Furthermore, it returns to nature and an architecture of senses to utilise rituals and processes as a form of organisation and formal informants (Pallasmaa 1999: 86).

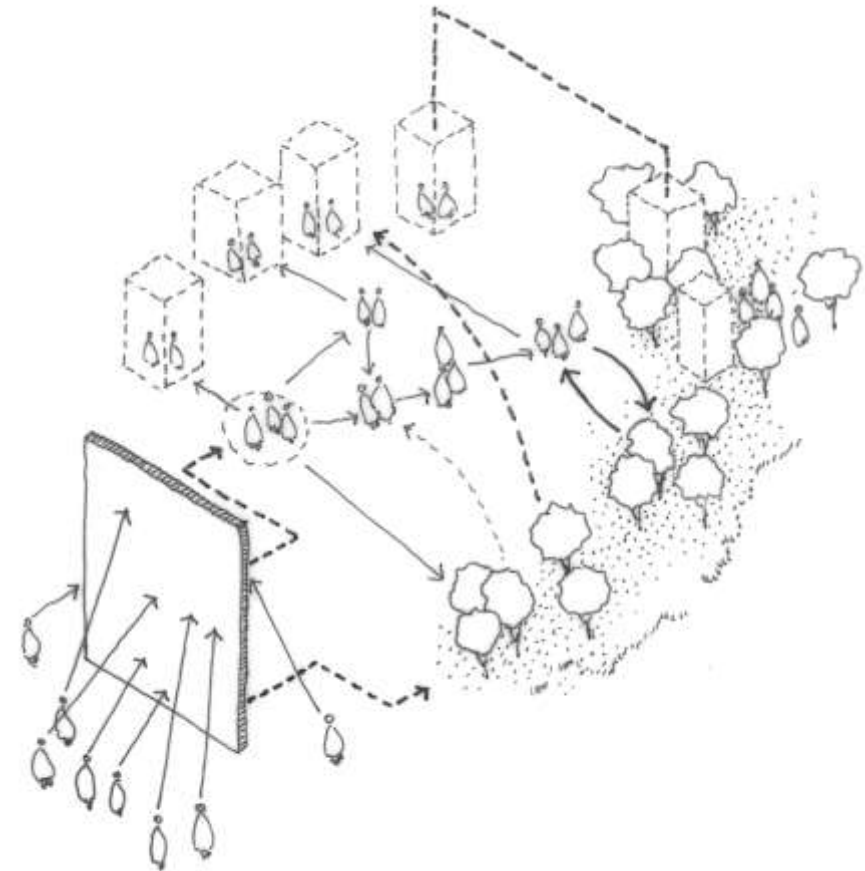


Figure 2.14: Weak theory focussing on the internal organisation rather than external visual form (Author November 2021)

Weak Theory Application

Weak theory argues for the re-alignment of human (strong images) development with natural (weak images) processes. This re-alignment accentuates the haptic and experiential above superficial visual stimulation.



Figure 2.15: Alignment of human development with *s/ow* processes of nature (Author July 2021)

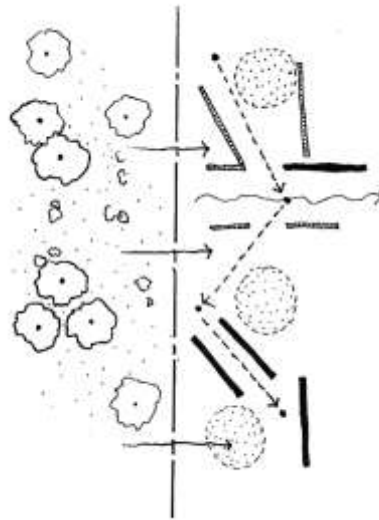


Figure 2.16: Utilisation of nature as an informant in the construction of space and form (Author July 2021)

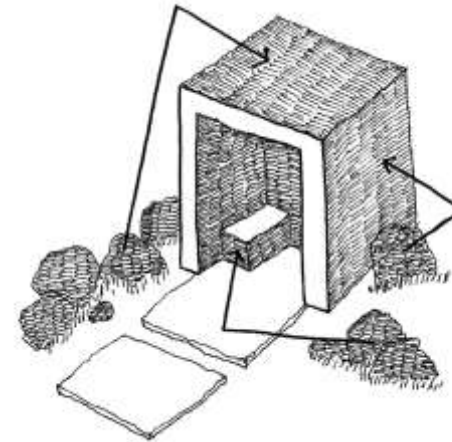


Figure 2.17: Re-introduction of the haptic and the sublime into architecture. It has always been present in the natural environment (Author July 2021)

Theory Interactions

Reflecting on the three theories discussed, certain confluences and overlaps are apparent. Through the analysis and further interrogation of these overlaps in the spatial framework, it is possible to discern a combined architectural and spatial theory comprised of the overlaps between regenerative theory, non-modern theory and weak theory.

Between regenerative theory and weak theory

With the paradigm shift towards regenerative theory that this project suggests, it is acknowledged that the development of human activities and natural processes are intimately tied and exist in the same temporal and locational space (Du Plessis 2015: 15). Pallasmaa (1999: 86) further states this relationship between fragile architecture and the fragile processes of nature as being temporally and contextually bound and in immediate opposition to the strong industrial processes.

As such, an opportunity arises to re-envision and reinterpret the conventional industrial approaches and processes through an ecological lens, altering the prescriptive industrial processes into ecological-industrial processes that engage with ecological systems (Pallasmaa 1999: 86).

Between regenerative theory and non-modern theory

Landman (2019: 167-168) proposes a possible architectural approach concerned learning from existing ecological and social patterns in the site and the context (Reed 2007: 678).

Moore proposes a similar approach, evolving it into a continuous process where the architecture serves to facilitate the confluence of ecological systems and social activities that construct the architecture. Through this facilitation, a dialogic relationship is created between ecological systems and social activities that help inform the architecture (Moore 2010: 377).

Between non-modern theory and weak theory

The confluence between non-modern theory and weak theory lies in the rejection of a stylistic or image-based approach and returning to a contextual and responsive architecture (Moore 2010: 377) (Pallasmaa 1999: 86). Pallasmaa (1999: 85) expands on weak architecture by appropriating it into an architectural approach, namely fragile architecture. Fragile architecture is concerned with sensory interaction and contextual architectural responses that develops from an understanding of the site and the context (Pallasmaa 1999: 86).

The correlation between fragile architecture and non-modern theory is further evident in the sequential and narrative driven processes valued by each theory, instead of formal and prescriptive processes (Moore 2010: 375) (Pallasmaa 1999: 85).

An emergent in-between Theory

The inter-related theories proposed, aim to investigate the relation between nature and industry from various perspectives, creating a theoretical framework to drive the project. However, a subliminal, in-between theory has emerged from the investigations and explorations of how to apply the current theoretical framework. This emergent and in-between theory is liminality and exists as a glue between the components of the already established theoretical framework.

Originally termed by ethnographer Arnold van Gennep, liminality refers to the stage of transition and transformation from one condition to another (Ng & Lim 2018). Van Gennep argued that an incompatibility exists between the profane and the sacred world thus, a transformative, intermediate stage is necessary to facilitate this movement from the profane to the sacred (Ng & Lim 2018). This transformative stage of liminality is most prominent in transitional initiation rituals and ceremonies where the child, being profane and unworthy, would undergo a process of transition, the liminal stage, and emerge worthy and part of a sacred group (Ng & Lim 2018).

Victor Turner would further the understanding of liminality by stating that it was rather a restructuring process, where one condition would be dissolved and disassociated into another condition (Turner 1969). Turner (1969) further stated that this process of dissolution and disassociation acts as the liminal space between the two conditions. The stage of liminality that facilitates the transition from one condition to the next, inherits qualities from both the conditions that it mediates between (Ng & Lim 2018) (Turner 1969).

Figure 2.18: Transitional zone acting as a mediation during initiation ceremonies and rituals (Author November 2021)

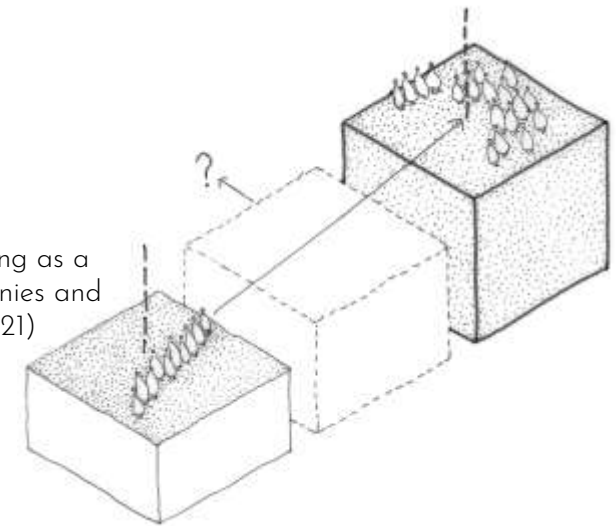


Figure 2.19: Mediation needed between nature and industry (Author November 2021)

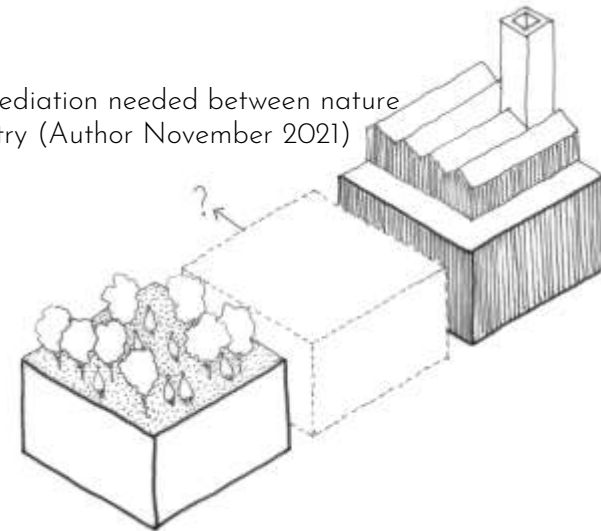
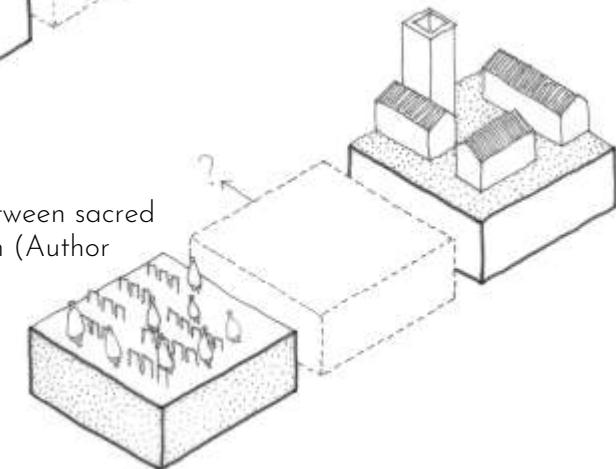


Figure 2.20: Unknown mediation between sacred cemetery and industrial Silverton (Author November 2021)



The identification of the emergent theory of liminality provided new possibilities to translate the currently selected theories into architectural tools that can be used to inform the architectural concept, namely: the sequencing of spaces into liminal relations, “folding” spaces to create liminal conditions, utilising an axis to organise the spaces and lastly, approaches to navigating the slope of the site.

Sequencing spaces into liminal relations

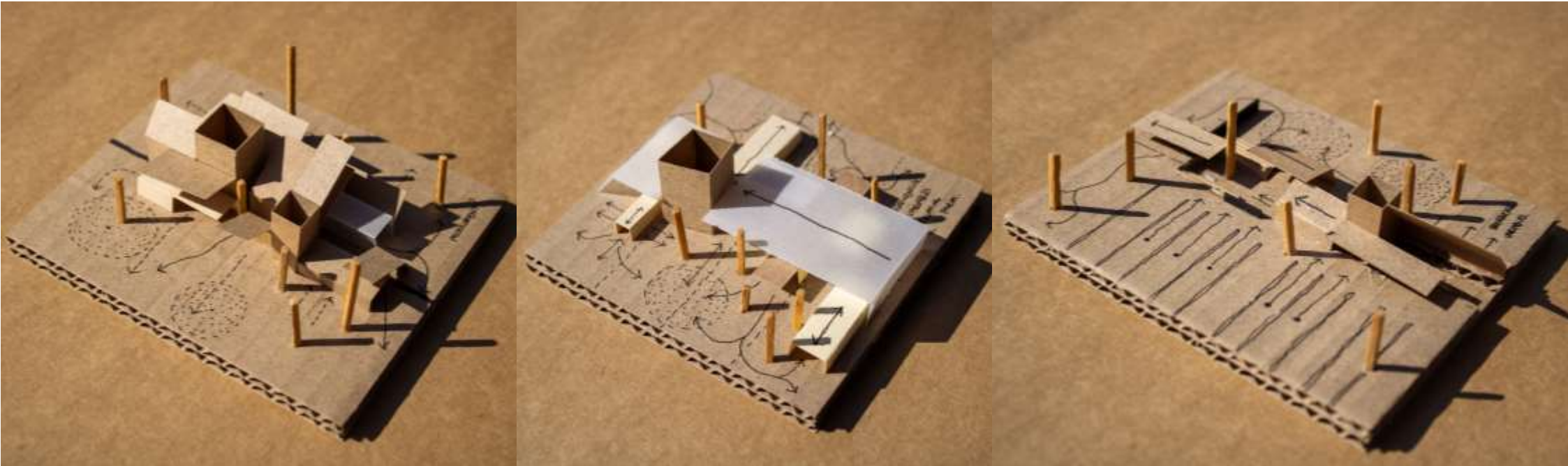


Figure 2.21: A series of maquettes exploring the sequencing of spaces to achieve new processional possibilities (Author August 2021)

Folding spaces to create liminal conditions



Figure 2.22: A series of maquettes exploring the technique of folding spaces to create new spaces that exist as in-between liminal spaces (Author August 2021)

Spatial ordering around a wetland axis

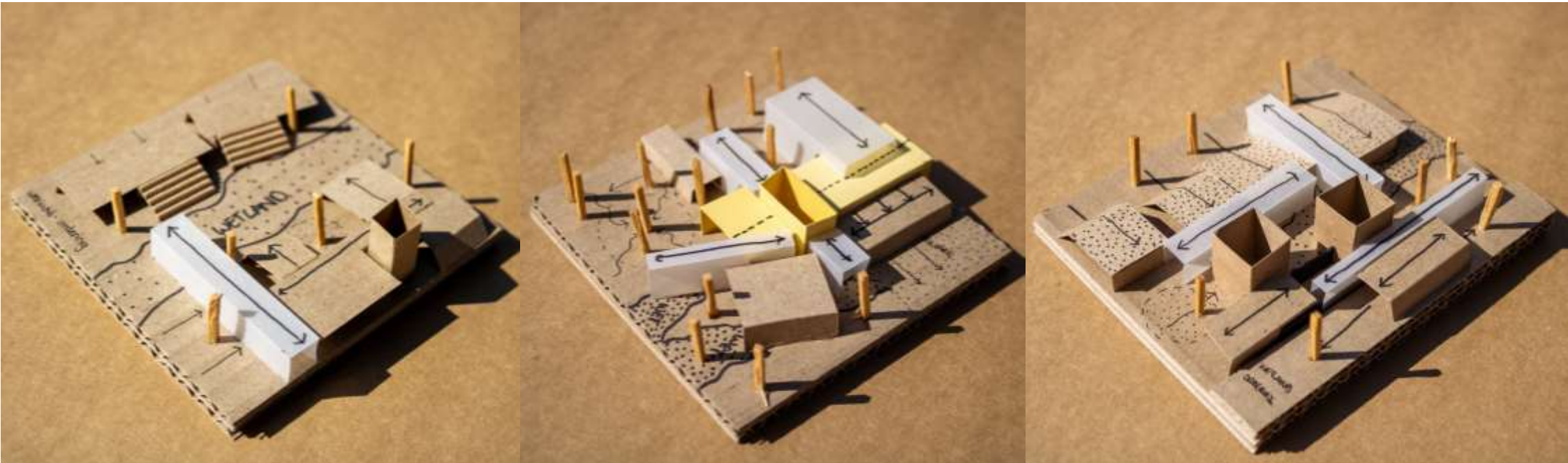


Figure 2.23: The initial intent was to create an axis on the site. These maquettes explore the organisational opportunities that an axis can provide to the design (Author August 2021)

Navigating a slope



Figure 2.24: With the site featuring a slope. The maquettes explore formal approaches that can help mediate the slope with architecture (Author August 2021)