The design development chapter in a nonlinear process in which the author attempts to find the appropriate and contextual architectural response for the new sport for development community centre in Oliewenhoutbosch. This chapter illustrates the process of discovering constraints and exploring opportunities with regard to architectural form and space and refines the product to mediate between all the design informants. These informants are referred to as hyperterms and are discussed later in this chapter.

A hyperterm is described as an encompassing, deconstructible concept.

The Parti diagrams illustrate the tectonic relationship of the building, the promenade and the sport fields. It further illustrates the relationship to views and the basic spatial understanding in every scenario.

Note that the promenade that links the taxi rank with the new pedestrian bridge is a constant throughout all the phases of development.
The Concept Model
March 2012 - June 2012

The base: The base of the model is a found piece of timber from site. A witness to the history of Olievenhoutbosch.

The brazing rods under tension represent the tension amongst different cultural groups.

The cables represent the lives of people and the fourth dimension - time.

Architecture: creating space of substance and meaning.

Sport: a language that transcends cultural barriers and bring the lives of people closer together.

The establishment of structure as a continuing process.

Cultural and physical barriers.

The concept model personifies the real world problem of division and the amalgamation of the potential within architecture and sport. The cables that protrude through the steel plate, as indicated in fig 102a, is indicative of a continuing process, a process were chaos is transformed into structure on a daily basis.

Physically, the model illustrates the linear nature of the proposed intervention and represents a material quality that is indigenous to local understanding.

fig. 102 a. Concept model.

fig. 102 b. Concept model.
The first conceptual drawings came into being as a representation of the authors’ initial response to a critically regional and vernacular architecture within the immediate context.

Dawson Geog (1971:17) identified three distinct vernacular periods in the development of architecture in South Africa:

- The first was the Dutch influence, later referred to as a Cape Dutch vernacular. Geog (1971:16) suggests that it interconnected European, colonial and Eastern traditions with the local context.
- The second vernacular extended the first through a Georgian influence brought to the country by the 1820 settlers where imported classical elements from pattern books were adapted by craftsmen through the use of local materials.
- The third period is unconnected because this vernacular occurred in Natal where a red brick influence adopted the British Victorian style.

The author is of the opinion that the shack fits the criteria to be acknowledged as another form of vernacular architecture. The shack is built with local labour and knowledge, locally available materials and as immediate response toward climatic and sociocultural circumstances.

Finally, within the rusted sheet metal and cardboard windows lies a underlying beauty in the imperfections which is explored further as the design-development process continues.

1Geog, E. (1971) authored from a president in Chief of the Institute of Architects. The text was for the work up in Herbert Butler in South Afrika Architecture and Guide to Architecture in South Africa.
The Promenade

The promenade was the first design strategy used to give the project a larger range and impact on urban scale. The promenade is the conglomeration of existing routes that run through the site between the old and new parts of the community. Olivenhoutbosch over the notorious R5 road. The promenade extends into a new pedestrian bridge that will prevent the regular occurrence of accidents that children have been killed by high-speed and high-velocity traffic when they attempt to cross the R5.

"It is really a foolish fad, this craze for isolating buildings..."
(Camillo Sitte, CITE PLANNING ACCORDING TO ARTISTIC PRINCIPLES, New York: Random House, 1965, p. 25 - 31.)
Street Architecture

The street architecture design came about as a response toward scale, the proposed new promenade that extends toward the new pedestrian bridge, as well as the idea that a community centre should be a series of multifunctional spaces that interact with one another and thus gives the promenade a more vibrant nature.

The critique on this project was primarily aimed around the preconceived idea with regard to township architecture and the fact that spaces created were of residential scale and not of civic scale. This led to the exploration of a new approach where a civic scale was to be achieved while simultaneously integrating the building in the landscape.

In this way, the entrances of the building create nodes which enforce a zigzag pattern of movement through the promenade, rather than the expected linear movement.

The Linear Community

Historically, the African view of social interactive space was also connected to the concept of destination. People would travel long distances to meet under Acacia trees to tell stories and share ideas. However, the argument raised by the author is that a stronger bond was formed between the community members that walked together than with the people they met under the tree.

In western cultures, the general understanding of social interactive space usually correlates to a destination. In other words, people of certain social abstractions meet at a certain destination to converge in conversation and social interaction. This gives rise to concepts such as coffee culture, street cafes, and boutiques that thrive in settings inhabited by western cultures.

The theory is further emphasised by the real world situation that most people in the township depend on public transport or walking to go to work. The potential of the liminal space should be harnessed as opportunity for community building and peace building within Olievenhoutbosch.
Inhabiting The Wall

The third phase of design development was inspired by the idea that the building should create a static scale and still of form within the landscape.

The sectional parti illustrates the concept when the building inhabits the space underneath the promenade as an attempt to “inhabit” the wall.

This concept was inspired by the idea that the wall does not define within the sporting environment but rather serves as the common denominator.

Irregular Columns Supporting Roof

The irregular columns that support the roof are derived from the local examples of building structures within the area that use timber columns, often irregular, to support the roof.

Precedent: Wakerfield Market Hall - David Adjaye
The Collage Of Boxes

The collage of boxes was an exploration that incorporated the "TenseNetClad" or urban characteristic of boxes that spiral and connect to one another, the facade of the building explores a tectonic quality that has the ability to change and adapt, a characteristic informed by the authors understanding of sport architecture.

Sport architecture and "TenseNetClad" are two of the five hypotheses that inform the final design as discussed later in this chapter.
The five hyperterms

The continuation of the design development chapter will discuss the process of design development and focus on the five primary fields or hyperterms. These hyperterms govern the underlying ideas that give substance to the architecture. This chapter explains a complicated iterative design process in a linear manner and illustrates how it informs the architecture.

1. The Concept: Bridge
2. The New Urban Condition
3. Streeks[Taal]
4. Werf[Taal]
5. Sport Architecture
1. **The Concept: Bridge**

Bridge—developed as a result of an oscillating process of influence that originates from an initial idea and spans over a range of theoretical influences and real-world problems. Martin Heidegger uses the bridge to give substance to the elements that constitute a dwelling. Among others, he describes the bridge as a place of unity. In the context of the design, the bridge refers to the crossing over from one condition to another and thus also becoming a place of unity. This is particularly relevant, as the problem within Olievenhoutbosch is division. This division manifests physically and culturally throughout the township and leads to a range of underlying problems and obstacles.

The graphic above illustrates the range of influences that forms the development of the concept. Similar to this, the concept informs design and technical decision making.

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1. The back and forth process of extremes.
2. The New Urban Condition

The New Urban Condition As Design Informant

The new urban condition's primary response is its reaction to the problems of division. As explored in chapter 01, the division within Chiswick’s boundaries is caused by both physical and cultural barriers. The physical barriers manifest in deep gashes and serpentine, while the cultural barriers manifest as xenophobia, crime, violence and alcohol abuse.

Furthermore, the need for open space to facilitate sport fields and their expansion, the possibility to serve as a ‘display window’ to passers by and finally the possibility to connect nodes with a pedestrian bridge over a barrier is what informed the nature of the new urban condition and the selected site for its establishment.

As explained in chapter 02, the new urban condition creates an opportunity for the building to serve as catalyst in the process of urban developments.

1. Given the linear nature of the urban response and the bridge concept, the urban design reform the building’s linear form.

2. The new urban condition includes a pedestrian bridge that crosses the RSE road. The building and the bridge communicate conceptual similarities that communicates a similar language. This unity, strengthened by Alexander’s theory on the promenade provides the platform for integration and reconciliation.
Existing Urban Condition

Proposed

Fig 123. Existing

Fig 124. Proposed intervention on urban scale
10 Year Plan

Primary And Secondary Structure

fig 125. 10 year plan.
fig 126. Primary and Secondary routes.
3. Streeks[taal] As Design Informant

Streeks[taal] is the study of the language of the existing urban fabric as seen in chapter 02, but the question raised in this chapter focuses on its role in the development of the appropriate architecture.

1. Scale

The parti diagram illustrates the existing urban fabric and scale. It is the opinion of the author that the existing scale and spatial form should be sensitively interpreted in the architecture as it will provide the interventions with a familiar undertone and spatial understanding.

2. The spreading effect

The spreading effect coincides with the idea of sport architecture (see ‘Sport Architecture,’ p. 108). It refers to the kinetic quality between trees and their tendency to latch onto one another. This usually happens as a result of frictional events. The nature of an ICF house enables shocks and forces that attach to its electrical supply.

3. Umbrella town

In chapter 02, the author refers to Clevechurch as ‘Umbrella Town’. No matter the weather conditions or seasons, people are seen carrying umbrellas. This intrigued the author and after an analysis of the umbrella, it became evident that in addition to its basic function of protecting the user from the elements, it has the unique ability to create and manipulate space. It has the ability to create directional and directional space, private or public spaces, depending on the height and way in which the umbrella is held.

This ability is carried forward in the architecture. The facade of the building has the ability to add certain qualities to space and the height of the roof is manipulated to create different spatial experiences.

4. Application

Informed by the spatial requirements of sport and exercise and the spreading nature of the hyperbolic ‘Streeks[taal],’ the building consists of a series of spatial zones. The roof plan illustrates clearly how these spaces either protrude into the the landscape or are blended together with the linear roof structure.
4. Werf[taal]

As explained in chapter 3.1, the Werf[taal] refers to the language of the site itself. It is the subtle ideas that are communicated within the elements found on site. Werf[taal] is the hyphenated word used to describe its intangible ideas. These ideas are:

1. Beauty in the imperfection
2. Wayfinding
3. The site as limited space
4. Found architecture
5. Skins and screens

5. Beauty in the Imperfection

As explained in chapter 3.1, beauty in the imperfection is found where the presence of human activity and a sense of community have unconsciously manipulated an object to become admired or ‘imperfect’ (see fig. 125). This is often also achieved by natural processes such as weathering and decay.

This beauty is also found in the use of local materials, local technology and local labour over foreign imports — even if these are limitations. It is often these limitations that produce a unique quality and appeal in the case of vernacular design.

2. Wayfinding

Wayfinding and signage is becoming increasingly important in architectural design but more than that, the building itself should be able to guide the user through the building, indicating moving and sitting areas.

3. The Site as Limited Space

Currently, the site is a space of movement. It is used by the community to reach the R5 road or cross to the other side. This is often achieved by natural processes such as weathering and decay.

4. Found Architecture

Found architecture refers to the critical reinterpretation of materials that are common within the community and relates to the existing fabric. Thus, the proposed building responds by attempting to personalise the concept in the use of local corrugated sheets, timber and four brick.

5. Skins and Screens (Solving borders)

As mentioned in chapter 3.1, the skins of sheets and shells are wrapped around an internal frame to give the building its physical form but also to protect the inhabitants from the environmental elements and keep the inhabitants safe.

Interpretation of the space is developed through the building design. Skins and screens are used to protect the building in the same manner as the existing local structures for the purpose of security, safety and environmental benefits. However, the use and interpretation of skins and screens possess a greater underlying symbolism with regard to the larger reconciliation task at hand within the specific context, namely, solving borders.

5.1. Solving borders

As the borders imposed by apartheid began to fall — concrete walls and fences began to appear not only in white towns but also in black townships all over South Africa. Walls of fear as described by Peter Marais (1997:103) increasingly defined property lines as a self-imposed system of separation. Given the juridical state of Onderstepoort, this is the latest effects of the Apartheid regime that has imposed a certain mindset between population groups.

This is compounded by the devastating effects of HIV, housing shortage, crime and violence as well as the notorious string of xenophobic attacks on foreigners.

Potentially, these borders between public and private space represents a system of restricted movement and increasing resentment that is a result of post Apartheid trauma.

It is thus the role of the architect to consider the client’s perception of built form and dissolve the barriers that isolate social members and to create built form that provides opportunity for free interaction.
Sport Architecture

Sport architecture is interpreted by the author as the architecture of the horizontal surface. This manifests through the new design in the way the landscape has been manipulated to form spaces where people can be seen and see other people. The horizontal platforms respond to the natural slope of the site with terraces and steps to create vantage points and elevated sitting and walking platforms.

The roofs of the building have a minimum pitch for rainwater collection but still respond to the notion of sport architecture and the horizontal line. The author identifies two areas where the potential of the horizontal line has a blending quality:

1. The Plinth

The sport for development community centre is intended to grow and develop over time. The author made use of a plinth that defines the edge of the processional. The plinth will also bind future community-oriented buildings with the proposed sport development main building as they share the same text in the cores of the plinths.

2. The Roof

The long lower spanning roofs bind the spaces within the building together and extend over the edge of the building to create opportunities for spontaneity and informal use by the community.

In conclusion, sport architecture requires the designer to think about the ritual of sport and attempt to capture the process in the structuring of the spaces related to the event.
Sports complex

Pavilion with locker rooms and pool

Multi-purpose sport field

Possibility for future expansion

Landscaped terraces

Finalised sail stop

Ramp down to pavilions

Pavilion square

Multi-purpose courts

Landscaped seating

Promenade

Informal trade

Existing recreational park

New pedestrian bridge

Proposed new bus stops

Proposal for outdoor seating

Proposed new access way

Existing access way

Gymnasium and pool

Pavement and pathways

Proposed new footpath

Proposed new road

By-site utility plan

0 20 40 60

Proposed bus stop

By-site traffic plan