

LIVED REALITY, PERCEPTION AND ARCHITECTURE:
TWO COMMUNITY CENTRES INTERROGATED THROUGH THE
LENS OF LEFEBVRE'S SPATIAL TRIAD

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“There is no loss in architecture becoming less and
life becoming more”

Willie Meyer

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Dedication

This thesis is dedicated to Conrad for his continuous support through all my endeavours.

“Ever tried. Ever failed. No matter.

Try again. Fail again. Fail better.”

Samuel Beckett

Declaration

I declare that the thesis hereby submitted by me for the Doctor of Philosophy in Architecture degree at the University of the Free State is my own independent work and has not previously been submitted by me at another university/faculty. I further more cede copyright of the thesis in favour of the University of the Free State.

Date: 2 February 2015

Signed:

All images and drawings are that of the author unless stated otherwise.





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Glossary

Architecture: Refers to the formal built environment and construction of habitable structures for human activity through an architectural design process.

Civic space: An area with public or municipal structures for public or administrative use.

Community: The multiple-public, consisting of diverse cultures and races, residing in the same urban area or settlement.

Community centre: A structure that is built as a node within a settlement with the aim of providing social needs and consists of a covered gathering space and other services such as a kitchen and toilets. Other facilities might also be provided such as office spaces, class rooms, a clinic, library, or community gardens although they are not required. These centres differ from traditional city halls as they do not provide administrative municipal services or offices. Facilities are rather on the wellbeing of community members.

Gathering space: A space, either publicly or privately owned, available for social interaction between community members.

Institutional architecture: Public funded architecture used for administrative or social requirements. Structures include municipalities, hospitals, schools and other related public facilities that are relatively accessible by the community.

Public space: A space that is relatively accessible to community members for diverse activities being either social or political. Within these spaces freedom of speech is allowed and political rights can be enacted. These spaces are regulated to provide a safe space for all community members.

Q-set: This is a tool utilised in the sort-process. A q-set consists of a singular image or word that represents a value or object in the form of an object or card.

Sort-chart process: This method determines participants' perception through categorization. Q-sets, (mentioned above), are organised into free or direct sort groups. Free-sort allows participants to organise q-sets into self-determined groups. Direct-sort, on the other hand, consists of pre-determined groups formulated by the researcher. The





choice of sort is determined by the research question. Data collected are cross tabulated and then analyzed statistically.

Spatial Production: Refers to the spatial triad theorised by Henri Lefebvre as *spatial practice* (SP), *representations of space* (RoS) and *representational space* (RS) in his written work *The production of space* (1991). These three terms are explained below:

- *Spatial Practice/ Lived Space (SP) as lived reality:* This is the actual place of performance in which community members actualise space.
- *Representations of Space/ Conceived Space (RoS) as architecture:* Refers to knowledge and symbolism. Applied to architecture it refers to the two-dimensional design of a building on paper representing certain codes.
- *Representational Space / Perceived Space (RS) as perception:* Meaning embodied by a space as experienced through the appropriation of a structure.

Township: A suburb predominantly designated for one racial group as stipulated in the Group Areas Act of 1950.

Typology: Existing architectural structures classified according to function and type such as hospital or school.

Ubuntu: Generally, Ubuntu refers to human kindness or humanness. In South Africa this has become an ideology to describe communities' interdependence. Below is a quotation describing the concept in the words of Archbishop Desmond Tutu:

“One of the sayings in our country is Ubuntu – the essence of being human. Ubuntu speaks particularly about the fact that you cannot exist as a human being in isolation. It speaks about our interconnectedness. You cannot be human all by yourself, and when you have this quality – Ubuntu – you are known for your generosity.

We think of ourselves far too frequently as just individuals, separated from one another, whereas you are connected and what you do affects the whole World. When you do well, it spreads out; it is for the whole of humanity (1999).”





Acronyms

AIDS:	Acquired Immune Deficiency Syndrome
ANC:	African National Congress
BRT:	Bus Rapid Transit
CCTV:	Closed-Circuit Television
CSIR:	Council for Scientific and Industrial Research
DA:	Democratic Alliance
FAMSA:	Family and Marriage Society of South Africa
HURP:	Helenvale Urban Renewal Programme
IT:	Information Technology
MBDA:	Mandela Bay Development Agency
NCSS:	National Council of Social Service
NGO:	Non-Government Organisation
NMBM:	Nelson Mandela Bay Municipality
PARA:	Physical Activity Research Assessment Instrument
RDP:	Reconstruction and Development Programme
RoS:	Representations of Space
RS:	Representational Space
SAIA:	South African Institute of Architects
SASSA:	South African Social Security Agency
SMME:	Small Medium Macro Enterprises
SP:	Spatial Practice
TPoS:	The Production of Space
UNDO:	Understanding Neighborhood Determinants of Obesity



Abstract

Community centres are ideally at the heart of society as a platform for social interaction. Moreover, these centres often provide direly needed services such as basic health care and educational or family guidance that sustain and improve human life. Spatially, community centres form nodes from which other informal commercial or institutional facilities can branch providing a civic presence in a relative homogeneous residential area. These catalytic structures help create new networks bridging the barriers of spatial segregation that is still remnant of apartheids legacy. Consequently, the central research question investigates the spatial production of community centres built after 1994. This inquiry is further interrogated through three research questions. First, what is the relationship between lived reality of community members (Spatial Practice) and the two-dimensional representation thereof as designed by architects (Representations of Space)? Second, what is the relationship between user's perception (Representational Space) and architects intent (Representations of Space) of symbolism, images and signs? Third, how do community centres, in the macro-context, reconfigure boundaries, form and function (Spatial Practice), as well as areas of centralization, condensation and displacement (Representational Space)? Through Henri Lefebvre's' spatial triad, the lived reality, the representational and inherent embedded codes are inspected. The three spatial concepts of the two respective case studies, the Helenvale multi-purpose resources centre and the Ubuntu community centre in the Nelson Mandela Bay Municipal area are investigated through semi-structured interviews which are supported by a mapping and sort-chart process. A cross-case analysis interrogates the current public space as perceived by the users and designed by the architects. It is the thesis of a reciprocal relationship between lived reality, perception and architecture that investigates the impact of community centres on spatial transformation to inform future development.

Key words: Spatial Production, community centres, lived reality, perception and architecture.





Abstrak

Gemeenskapsentrums, in ideale omstandighede, is die hart van gemeenskappe vir sosiale interaksie. Hierdie sentrums bied ook noodsaaklike dienste soos basiese gesondheidsorg sowel as opvoedkundige en familie voorligting wat menslike lewe ondersteun en volhou. Ruimtelik vorm gemeenskapsentrums nodusse waarvolgens ander kommersiële of institusionele fasiliteite kan vertak om stedelike teenwoordigheid te skep in 'n relatiewe homogene residensiële omgewing. Hierdie katalitiese strukture help om nuwe netwerke te vorm wat grense en ruimtelike segregasie kan oorbrug wat oorblywend is van apartheid se nalatenskap. Maar, wat is die werklike karakter van hierdie ruimtes? Hoe word dit deur gemeenskappe waargeneem? Gevolglik gaan die sentrale navorsingsvraag die ruimtelike produksie van gemeenskapsentrums gebou na 1994 nagaan. Hierdie ondersoek word gevolg deur drie navorsingsvrae. Eerstens, wat is die verhouding tussen geleefde realiteit van gemeenskaplede (ruimtelike praktyk) en die verteenwoordiging daarvan soos ontwerp deur argitekte (vertteenwoordiging van ruimte). Tweedens, wat is die verhouding tussen die gebruiker se persepsie (vertteenwoordigde ruimte) en die argitek se intensie (vertteenwoordiging van ruimte) interme van simboliek, beelde en tekens. Derdens, hoe herkonfigureer gemeenskapsentrums, in hul makro-konteks, grense, vorm en funksie (ruimtelike praktyk), sowel as sentralisasie, kondensasie en verplasing (vertteenwoordigde ruimte)? Deur Henri Lefebvre se ruimtelike triade word die geleefde realiteit, die verteenwoordiging en inherente kodes daarvan ondersoek. Die drie ruimtelike konsepte van die twee gevalle studies, die Helenvale meerdoelige hulpbronne sentrum en die Ubuntu gemeenskapsentrum in die Nelson Mandela Baai Munisipale area, word ondersoek deur semi-gestruktureerde onderhoude wat ondersteun word deur kartering en soort-grafieke. 'n Kruis-geval analiese ontleed die huidige publieke ruimtes soos waargeneem deur gebruikers en ontwerp deur die argitekte daarvan. Dit is die tesis van 'n wedersydse verhouding tussen geleefde ruimte, waarneming en argitektuur wat die impak van gemeenskapsentrums op ruimtelike transformasie toelig vir toekomstige ontwikkeling.

Sleutelwoorde: Ruimtelike produksie, gemeenskapsentrums, geleefde realiteit, persepsie en argitektuur.





Chapter 1 Introduction

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1.1 Thesis topic

A critical study of public spaces is endeavoured with a philosophical approach. This study investigates the influence of community centres on developing areas such as townships. Research in architecture often only considers the physical realm or the architect's perspective. In addition to this one-sided analysis of architecture, the study aims to add community members' perceptions of public gathering spaces to understand space from multiple perspectives.

In a report on housing and development by the Council for Scientific and Industrial Research (CSIR), it was noted that more research was needed on the impact and perception of newly built structures, such as community centres, to guide future development (CSIR.: 2005). If approached in consultation with the community, infrastructural development in townships could have the ability to instigate spatial change. Gradual adjustments to the remnants of apartheid's spatial planning and insufficient Reconstruction and Development Programme (RDP) housing could be made through changes in the experience of lived reality and representation.

Two case studies in Port Elizabeth were investigated, the Helenvale multi-purpose resources centre and the Ubuntu community centre, both chosen for their geographic proximity to each other. As a typology of public space, community centres were chosen for their accessibility by a diverse group of community members and their functional adaptability. Community centres, furthermore, contain characteristics that can be compared to other public facilities such as clinics, libraries and schools. In many developing areas, these facilities are direly needed, but are often considered without concern for the impact on communities.

The spatial triad of the French philosopher Henri Lefebvre, as discussed in *The production of space* (1991) (TPoS), forms the theoretical lens for this study. This triad consists of three aspects of Spatial Practice (SP), Representations of Space (RoS) and Representational Space (RS), also interpreted as lived reality, perception and architecture. From the literature, themes were derived to investigate the three aspects mentioned above. For SP, these include function, form and structure. Themes for RoS include fragmentation, subdivision, context and texture as well as the construction of the structure. RS, on the other hand, focuses on displacement, condensation and effective centrality.





From the theory, the three research questions investigate the spatial relationship of community centres. The first question investigates the relationship between the lived reality of community members (SP) and the two-dimensional representation thereof as designed by architects (RoS). Secondly, the relationship between the user's perception (RS) and architect's intent (RoS) of symbolism, images and signs. Thirdly, how community centres, in the macro-context, reconfigure boundaries, form and function (SP), as well as areas of centralization, condensation and displacement (RS).

To investigate the two case studies, three methods were utilised for cross triangulation; semi-structured and open-ended interviews, mapping and sort-charts. In each case study, twenty interviews with primary users were conducted. In turn, the architects of each centre were interviewed. Data from maps were superimposed and compared with interviews. Information from the sort-charts was cross-tabulated and was statistically computed with a correspondence analysis.

In this study, the theoretical approach and methods consider the perspective and experience of both community members and the architects. Through this approach a reciprocal relationship could be established to inform future development in communities.

1.2 Literary investigation: Identifying themes and gaps

The literature section is organised into two sections. The first part explains the different concepts and their development, while the second part explores the two areas under investigation, namely public space and urban development.

Different discourses have been developed around the concepts of the public, public space and democracy. The general concept of the public refers to the public man in a community. Habermas (2011) describes the public as the bourgeois society of the 18th century. However, he limits the bourgeois society to a select group of the community, that of the male property owner, excluding women, children and the less fortunate. Critique on this notion of the public is noted by Fraser (1993). She argued that a singular public does not exist, but rather a multiple-public situated in many locations. The multiple-public, can therefore, represent diverse groups of people, even within one cultural group, but with different representational space. By comparison, South Africa also consists of a multiple-public, requiring a study of space to be investigated from multiple angles.



A historic overview of the development of the public and public space must be given. The term 'public' developed with the printing of newspapers and the spreading of information (Habermas: 2011). More recently, the publication of information has changed drastically with the development of technology and the World Wide Web thereby altering the concept and perception of the public (Parkinson: 2012). This research will not explore the other domain of 'public' introduced by technological development, but only the actual space of public action where to be public, one must be seen (Arendt: 1998). Historically, the typology of public space already existed in Greek and Roman cities. The Roman forum consisted of the marketplace, the *stoas* and the *bouletarion* for political debates (Roth: 1993, 195). Only Roman citizens, a select group of males born in Rome, were part of these public activities, making this a partial democracy (Fraser, 1993). Although this forum only represented a partial democracy, the typology thereof proved to be an excellent example to compare with more recent case studies. Community centres as a contemporary public forum, not for political deliberation, but for social interaction, can be investigated in relation to concepts of public space.

For the public sphere to exist there must be a contrast to private space (Arendt: 1998). Actual public and private spaces must be differentiated as well as the perception of what is accessible and permissible as public space to different groups of the community. The following questions should be asked regarding public and private space: What is the perception of public space? What spaces are perceived as public? What are the different boundaries defining public and private spaces? Who is allowed access to these spaces, or who is allowed access according to the perception of the community?

Democracy has diverse meanings to different people. The actual definition and spatial implication thereof must be defined. Furthermore, the concept of democracy and its comprehension differs amongst citizens. Therefore, the community's perception of democratic public space must be noted.

Within the discourse of public space there are diverse debates. These include the disappearance or the 'end' of public space (Mitchell: 2003, 35), the change of public space to a public domain (Hajer & Reijndorp: 2001, 12) and the gradual change of public space to privately owned property such as shopping malls (Kohn: 2004, 70). A brief enquiry should be made into these different discourses noting the gradual changes in the public sphere, but still identifying the need and existence of public space in South Africa. Furthermore, the different terms for public space discourse must be clarified: domain,



sphere, public space and the emergence of non-place (Augé: 2008, 63) in certain architectural typologies.

Physical characteristics of the urban environment have been studied by Lynch (1960) and Madanipour (2007). Madanipour focussed on the physical characteristics of the urban environment and Lynch on the experience of the urbanite. Both these studies will be used to explore the physical boundaries within settlements. Gehl (1987) investigated life between buildings, focusing on the spaces created in-between. In conjunction with Lynch, Gehl noted that there is a difference between an edge and a boundary. This contributes to the different qualities of boundaries as perceived by community members. Applied to the South African context, Bremner (2010) investigated boundaries in relation to post-apartheid urban environments. Bremner noted a change in boundaries; from segregated spaces during apartheid to gated communities thereafter. In Madanipour, Gehl and Lynch's research, physical boundaries were considered; therefore this thesis attempts to address the gap by investigating the constantly shifting boundaries and their representational value.

Spatial development in South Africa has been explored on a large scale especially regarding demographic changes (Prinsloo, Jansen-Verbeke & Vanneste: 1999), as well as on a micro scale, exploring certain areas such as Bloemfontein, Botshabelo and Thaba Nchu (De Wit: 1994; Krige: 1989). Research still needs to be conducted in certain geographical areas and on a micro scale, exploring the spatial changes activated through architecture.

In post-apartheid South Africa, spatial transformation has been investigated from a historic, residential, institutional and urban approach. Murray (2007) investigated the persistent presence of modernism in South Africa which was used for spatial control in the form of segregation. Due to these spatial restrictions, she argues that marginal or centre-peripheral relationships still persist in post-apartheid urban environments. In conjunction with spatial segregation, the community and public have not yet been merged, as the community is still only seen as a racial categorisation with few 'public' rights. Architectural interventions as transformational instruments ought to be explored, investigating changing boundaries between centre and periphery, and between concepts of public and community. In *Hostels, homes, museums: Memorialising migrant labour pasts in Lwandle, South Africa* (2014) Murray investigated the museum typology through the themes of the image and narrative, contributing to the debate on architecture's transformational ability.



Representational images have been investigated by Jonathan Noble in *African identity in post-apartheid public architecture: White skin, black mask* (2011). Through the lens of Fanon's *Black skin, white masks* (2008), Noble investigated prevailing western architectural notions in South African public buildings such as legislatures, the constitutional court, a public square and park. Through the mask, a symbolization of identity, architecture is explored as hybridized space, identifying the need for a multi-faceted approach to architectural analysis in South Africa. However, the multiple-public, as noted earlier by Fraser (1993), should still be addressed in the search for a post-apartheid South African identity of public infrastructure. This reciprocal relationship has been investigated by Bremner (2010) by incorporating Lefebvre's concept of Spatial Production (1991) to investigate representational space of professionals in relation to the lived reality of urban dwellers. Low (2003) similarly identified the need for a meditational relationship between community members and government that is traditionally dominated by architects and planners.

1.3 Problem statement: Urban and architectural infrastructure in developing areas

After democratisation all South Africans were allowed property rights and residence in urban areas. However, marginalisation shifted from racial segregation to economic supremacy of the elite. Only those who can afford high rent and property prices can move from 'segregated' townships. The spatial legacy of apartheid still remains, although gradual change on a micro level is being instigated. Interventions such as the Red Location Precinct (Port Elizabeth) (Findley: 2005; Morejele: 2006) and the development of community infrastructure in Cato Manor (Durban) (Peters: 2002; McClenaghan: 2003; Peters: 2009), allow catalytic growth. These interventions cannot remove barriers, visible or imaginary. They can, however, become a hybrid between the past and the present, providing bridges towards reconciliation.

One such catalytic intervention is community centres constructed in townships. As townships were built on the detached periphery of the urban core during apartheid, community centres play a critical role in bridging this physical divide on a macro level. On a micro level, community centres act as a vehicle for future formal and informal development where few other amenities were previously provided other than RDP housing or dormitories. These structures accommodate multiple-functions such as health, education and social facilities allowing for adaptation and transformation. Apart from this functional realization, these structures can promote a public space for social interaction becoming a central node in the community.



Although these structures are built for the community, neither consultation nor participation of members in the design process occurs adequately. Architects, often unfamiliar with the complex context, design these structures from a superficial stance. Foreign public spaces such as squares or piazzas are conceived by architects. These unfamiliar spaces subsequently become lived experiences through appropriation, forming new images of the perceived. Thus, in one place different configurations of a single space exist, the representation of space designed by the architect and the lived space of the user. But, what is the actual existing space when these layers are superimposed? What is the actual character of community centres and public space in developing areas? Therefore, the central research question explores the spatial production of community centres in developing settlements in South Africa after democratisation.

1.4 Research objectives and questions: Community centres investigated as lived reality, perception and architecture

Questions:

1. What is the relationship between lived reality of community members (Spatial Practice) and the two-dimensional representation thereof as designed by architects (Representations of Space)?
2. What is the relationship between users' perceptions (Representational Space) and architects' intent (Representations of Space) of symbolism, images and signs?
3. How do community centres, in the macro-context, reconfigure boundaries, form and function (Spatial Practice), as well as areas of centralization, condensation and displacement (Representational Space)?

Objectives:

- To understand how public spaces such as community centres, the surrounding space and the structure themselves, in developing areas such as townships and rural areas, are spatially produced after 1994.
- To investigate the relationship between lived reality (form, function and structure) experienced by community members and the Representation of Space (fragmentation, subdivision, spatial context and texture) as designed by the architect.
- To investigate the relationship between Representational Space (displacement, condensation and effective centrality) as perceived by community members and imagined by the architect.



- To investigate what spatial impact the community centre's lived space has on the macro context of the township through community participatory methods such as mapping, identifying categories of identity, enclosure, community, symbol and welcome.

1.5 Outline of this study

Chapter 1: Introduction

The field of study is introduced with a summary of the topic, the problem statement as well as objectives. These are further substantiated by a literature review corroborating the research questions being investigated. The section is concluded with an outline of the chapters to guide the reader.

Chapter 2: Theoretical explanation of Lefebvre's spatial triad applied.

In this chapter the background to Lefebvre's theory on spatiality is provided; thereafter its relevance to this research is explained. Influences that possibly shaped his spatial triad, its contextualisation as well as an explanation of each aspect of Spatial Practice (SP), Representations of Space (RoS) and Representational Space (RS) are discussed. The application of the theoretical analysis is explained and themes introduced.

Chapter 3: Research Methodology: Semi-structured and open-ended interviews, mapping and sort-charts

The purpose of this chapter is to outline the methods used to investigate the chosen case studies. Selected methodologies are discussed in relation to existing research. These were tested during two sequential pilot studies. The first pilot study tested spatial use at the Red Location museum in New Brighton and the Ubuntu community centre in Zwile, both situated in the Nelson Mandela Bay Metropolitan (NMBM), and the Belhar community hall in the Cape. The second pilot study tested the methods of sort-charts and mapping at Lourierpark community centre situated in Bloemfontein. Thereafter, the selection of participants and case studies is corroborated. The three methods applied to the respective case studies are further explained as processes and tasks conducted as well as the documentation and analysis.

Chapter 4: An overview of gathering spaces: From global to local

This historical analysis moves between international and local development of gathering spaces as well as their typological advancement. Development of public gathering spaces





from city halls to civic and community centres is discussed on a global and local level. Thereafter, the focus shifts to developing communities, and specifically to the case study area of Port Elizabeth, in which two community centres in close proximity could be identified. Public gathering spaces in these areas are then further analysed for typological development.

Chapter 5: Analyses of the two case studies: Open-ended interviews with the respective architects of Helenvale and Ubuntu

Open-ended interviews, coded and analysed, are discussed to elucidate the two case studies. The analyses include themes corroborating aspects of RoS. Data collected explain the buildings as designed by the architects with reference to meaning and context (RS) as well as aspects of function, form and structure (SP).

Chapter 6: Analyses of the two case studies: Mapping

In this chapter, maps completed by participants at the two case studies are investigated. Completed maps were superimposed after which data were compared with the relating semi-structured interviews. Through this process, the relationship between aspects of SP and RS are investigated.

Chapter 7: Analyses of two case studies: Sort-charts

Apart from the maps, participants also completed a sort-chart process to determine their perception. This involved the categorisation of images while participants explained their reasoning through semi-structured interviews. Data collected were cross-tabulated after which a correspondence analyses were completed to visualise the information.

Chapter 8: Corroborating the three research questions: Findings and discussions

In this chapter findings from the respective methods are combined to investigate the three research questions. From these, further themes and patterns are discussed.

Chapter 9: Spatial Production of public architecture: Conclusions and implications

The conclusion contextualises the themes and patterns in relation to convergent and divergent research. Findings are then interpreted in comparison to philosophical implications, impact on educational discourse, the pragmatic implication for the architectural profession and future possibilities.



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2.1 Introduction

The objective of this theoretical approach is to investigate spatiality as conceived by architects and perceived by users. With this approach I, have endeavoured to move beyond an analysis of the physical, built environment. The aim is, firstly, to understand spatial perception from different positions and, secondly, the contextual integration of the structure within the urban fabric. Thirdly, the research questions investigate the relationship between SP, RoS and RS in relation the respective community centres.

Henri Lefebvre (1901 - 91) was a French philosopher who focused on the social reality of urbanization (Stanek: 2011). His spatial theory, as developed in TPOs, was considered most appropriate to investigate the three research questions mentioned above. It was deemed appropriate as his spatial triad addresses concrete space (SP), the architectural design process (RoS) and symbolic or meaning laden space (RS). These three terms are discussed in depth under the section *Lefebvre's spatial triad* (see 2.4).

Other spatial theories that were considered initially, include Jürgen Habermas' *The spatial transformation of the public sphere* (2011) and Homi Bhaba's *The location of culture* (1994). Habermas' text investigates the initial development of the public, which originated through some of the first newspaper publications. Within *The spatial transformation of the public sphere*, Habermas delineated in broad terms the shift of the public from court to the bourgeois society. It was described by Habermas as: "...the sphere of private people [coming] together as a public; they soon claimed the public sphere regulated from above against the public authorities themselves, to engage them in a debate over the general rules governing relations in the basically privatised but publicly relevant sphere of commodity exchange and social labour" (2011, 27). Although Habermas made several spatial and architectural references, he aimed to investigate the structure of the newly termed public sphere. Some of these architectural references included residential typological changes (2011, 44–45; Trevelyan: 1946), the initiation of the coffee house as a public sphere for men associated with the bourgeoisie and the salon as a space for women (2011, 33). This theoretical notion required an investigation into who the public is, what defines them (referring to media e.g. social media such as social networks), the culture of this society (as defined by Fraser (1993) as multiple societies), and then lastly, the architectural space of this multiple-public. Furthermore, this leads to additional inquiries investigating the definition of a true public space (Fraser: 1993) as defined by a democracy (Mitchell: 1995; Kohn: 2004). The theory focuses more on sociological and political aspects defining who the public is and does not interrogate the spatial aspects of





public architecture. The benefit of this theory might be to investigate the development of public space in conjunction with changing media sources.

In Bhabha's own words, the approach to *The location of culture* (1994) can be described as "to focus on those moments [architectural interventions] or processes that are produced in the articulation of cultural differences. These 'in-between' spaces provide the terrain for elaborating strategies of selfhood – singular or communal – that initiate new signs of identity, and innovative sites of collaboration and contestation, in the art of defining the idea of society itself" (1994, 1). Bhabha established the concept of cultural hybridity mainly on the work of Franz Fanon. In *Black skin, white mask* (2008) Fanon explores the effect of colonialism and the prevalence of Western culture on identity formation. Within this difference, Bhabha locates historical transformation in which cultural hybrids are produced. This notion of hybridity is elaborated on by Van Rensburg and Da Costa (2008), who attempted to redefine spatial representation in post-colonial Africa. For them, African urban spaces must be able to accommodate cultural differences in a constantly changing society. The spatial aspects of the African city have been further explored by Mbembe (2001) and Morojele (2003), investigating identity formation. As a possible theoretical approach to this study, it might focus on the relationship between cultural difference and spatial perception as a guide to what the character of public space should be in South Africa. Defining the effect of cultural differences between African and Western spatial perceptions became problematic early in the investigation due to limited available literature. I, therefore, decided to focus on one aspect of spatial perception and the representational value thereof, regardless of cultural difference.

The theoretical chapter focuses on Lefebvre's background and published work to sketch a framework of his seminal work on *Spatial Production* (2.2). This is further contextualised by investigating its relationship to Marxism and Lefebvre's application to architecture to describe the relevance to the study (2.3). Thereafter, the meaning of space as intended by Lefebvre and applied to this research is investigated (2.3). After contextualisation, Lefebvre's spatial triad is investigated. First, the notion of 'triad' as discussed in *Triads and Dyads* (Lefebvre: 2003c) is elucidated. Second, the spatial triad of SP, RoS and RS is corroborated. From this spatial triad, theoretical constructs (2.5) are composed for content analysis of case studies (discussed in Chapter 3). This investigation explains the applicability of Lefebvre's spatial triad to architecture as a guide to methodology and to the research questions.





2.2 Extracts of Lefebvre's life and work

Henri Lefebvre (1901 - 91) was born in at Hegetmau, Landes in France. Although part of his childhood was spent in Paris, the geographic nature and characteristics of the Pyrenees region remained influential in his later work. He studied philosophy under Maurice Blondel at *Aix-en-Provence* after discontinuing his studies in engineering. In 1919, he continued his studies at the University of Paris, Sorbonne, under Leon Brunschvicg researching Jansen and Pascal. Here, along with fellow students, the journal *Philosophies* were published mainly to critique on Bergson's intuitionism (Elden: 2004b).

Some of the most influential books written by Lefebvre include *The sociology of Marx* (1968) (*Sociologie de Marx*, 1966), *Hegel, Marx and Nietzsche* (Elden, Lebas & Kofman: 2003) (*Hegel, Marx, Nietzsche ou le royaume des ombres*, 1975), *The urban revolution* (2003b) (*La Revolution urbaine*, 1970) and *The critique on everyday life* (2002) (*Critique de la vie quotidienne*, 1961, volume 1-3). However, the most influential proved to be TPoS (*Production de L'espace*, 1974) especially once translated from French to English in 1991 by Donald Nicholson-Smith, which introduced Lefebvre to the Anglo-American world.

Lefebvre's' development of spatial concepts

Lefebvre's development of spatial concepts in TPoS and interest in architecture can possibly be attributed to three aspects. First, his continued interest in the countryside, especially the area of the Pyrenees, which later led to his doctorate, as well as work on 'The Rural and Urban' (untranslated) (*Du rural à l'urbain*, 1970) and *The critique on everyday life* (2002) (*Critique de la vie quotidienne*, 1961, volume 1-3). Second, his essay on the cubist artist Edouard Pignon in which his ideas on space were mentioned for the first time (Pignon: 1956). Third, the preface written for *Pavillon* (Elden: 2003) (*L'Habitat Pavillonnaire*, 1966), in which his thoughts on space and dwelling as applied to architecture were developed.

Interest in the Pyrenees

In Lefebvre's work on the Pyrenees region in 1965, he focuses on cultural aspects to indicate symbols and values of place. These can be related to SP although some mention is made of RS. The focus here is more on SP as the symbols are not perceived as they would be by the community but rather as read by Lefebvre.

The difference between place and space must be defined here. As the focus of the *Pyrénées* (Lefebvre: 1965) is on defining the place, but later in TPoS (Lefebvre: 1991),





reference is made to space and not place. When referring to Lefebvre's notions of abstract and absolute space, a link can be made to clarify these two terms. *Abstract* refers to the notion of space and an object's symbolic qualities, focusing on the inherent meaning and not the physical object itself. *Absolute* space, on the other hand, focuses on natural space, manipulated by political factors, economics and daily life. When Lefebvre refers to the Pyrenees, the focus is mostly on the physical environment, thus referring to place. One could thus draw the conclusion that SP is place and RS and RoS are space, but if read correctly, this construct cannot be read separately, thus place and space will always be present in such a triad. Lefebvre, however, prefers to think of it as space, rather than place as he links his theoretical thought to the global and universal, rather than to the local sphere.

In Lefebvre's doctorate¹ (1963), his first written work on the Pyrenees, he focused on the small town of Vallee de Campan, in the Midi Pyrenees region in France. In a later publication in 1965, he refocused it to define place and cultural aspects of the Pyrenees. By defining the Pyrenees as 'place', Lefebvre wanted to narrate the cultural aspects of the area in relation to political and economic development (Entrikin & Berdoulay: 2005). In both these texts Lefebvre situated himself between the "centre and periphery" and the "local and global" (Entrikin: 2005), the rural and urban, by moving between Paris and the Pyrenees. This transition is also seen in later work of Lefebvre where he prefers generalized conditions over local specificities.

Although little reference is made to the Pyrenees in his later work, Lefebvre's initial exploration of the area is pivotal in establishing the foundation for SP and to a lesser extent RS. In the cultural exploration of the region, Lefebvre drew a relationship between the topographical, social practice and economic and political development. This later developed into SP, which explored the relationship between lived space, topography, typology and the perception thereof.

A colleague of Lefebvre's, Charles Struys, had already measured and catalogued some of the traditional houses in the Vallee de Campan. Although documented in 1940 it was first published in 1980 in *Pays aquitains* (Stanek: 2011, 8). Although Lefebvre did not investigate the architectural development in isolation, its cultural symbolism and

¹ Published as *La vallée de Campan: Étude de sociologie rurale*. Paris: Presses universitaires de France.





architectural representation became an important area of investigation for Lefebvre in later years. In his *Les contradictions de l'État moderne: La dialectique et / de l'État* (1978, 146 in Stanek 2011), Lefebvre referred to the Bauhaus movement and that their work “demonstrated that objects in space cannot be produced in isolation...rather, all objects at all scales should be grasped as related to one another by the same perceived, conceived, and produced space”. In the initial study on the Pyrenees, architecture became apparent to Lefebvre as a means of cultural symbolisms which later developed into diverse means of representation.

Years after writing the *Pyrenees* (Lefebvre: 1965), upon travelling through the area again, Lefebvre noted how it had been affected by urbanisation, which led to the writing of *Urban revolution* (2003b). Although Lefebvre does not refer to his *spatial triad* in this text, the relationship between topological conditions, political and economic development is recognised once again. The initial notion of lived space is revived, and although not as influential as TPoS, it probably led to developing a spatial understanding of production.

Influence from artist Edouard Pignon

In 1956, Lefebvre wrote an essay on the work of Edouard Pignon (1905-1993), a French artist whose work developed from Paul Cézanne's (1839-1906) impressionism in line with Pablo Picasso's (1881-1973) cubism. Pignon's work ranges from sketches, paintings and book illustrations to ceramics. Themes in his oeuvre include natural landscapes and later industrial spaces. Attention to the human figure is also apparent in *The miner* (1949, Oil on canvas, 92.1 x 73cm) indicating an interest in the work of Picasso who depicted figures as distorted, abstract conceptions, opposed to the realistic work of the classicists. Pignon's work can thus be categorised as cubist, along with the work of Picasso. Later, in TPoS (1991) Lefebvre described the work of Picasso as the forerunner of the shift from the observed object to the emancipation of the subject. However, these ideas on space had already been seen in the essay on Pignon, although his work was not mentioned again in TPoS.

Cubist artists were influenced by the exhibition of Cézanne's work held in Paris in 1907. On a quotation describing one of his own works in a letter, Cézanne reduced the natural forms to the cylinder, sphere and cone (Marien & Fleming: 2005, 560)





Right before Lefebvre wrote the essay on the work of Pignon, the artist completed 'Men installing electric lines at Vallouris (1954, pen on ink, 58 x 78 cm)², in which he drew a parallel between the human body and technological development (Elden: 2004b, 183). Lefebvre noted how the workers have been represented as anonymous. They functioned as organic physiological beings, abstracted against the backdrop of industrialisation. Lefebvre presented Pignon's work as an "organic whole against the fragmented world of solitary humans, alienated both from nature and other people", (1956 cited in Elden, 2004b: 183) thus representing the middle class as living beings, and not necessarily as emotional beings, within the abstract background of the urban environment.

In the essay on Pignon, Lefebvre described *Mont Sainte-Victoire* by Cezanne as an influence or fore-runner of the work of Pignon. Lefebvre described this work as a depiction of "pictorial space" and as a combination of "continuity and discontinuity, local correspondences and raptures" (1956 cited in Stanek, 2011: 146), as a two-dimensional representation of an abstract reality. This duality of space relates to the work of both Picasso and Pignon, creating fractured space on canvas. In Cezanne's *Mont Sainte-Victoire* Lefebvre observed that the classical tradition of perspective had been abandoned. The mountain "looms toward us, enormous and disproportionate", thus portrayed as a different spatial understanding as observed by the artist. Lefebvre further described the artist's goal as to "[challenge] the geometric representation of space" (1956 cited in Elden, 2004b: 183). Stanek (2011) noted that it is from this concept of pictorial space that Lefebvre derived his understanding of social space as 'seen', 'known', and 'conceived'.

In TPOs (1991, 301 –4), Lefebvre described the new conceptual understanding visible in the spatial exploration of work by Picasso. According to Lefebvre, Picasso devised a new way of painting by covering the entire canvas with the subject, thus leaving no background or horizon, the "surface was simply divided between the space of the painted figures and the space that surrounded them" (1991, 301). Lefebvre noted that in his cubistic work Paul Klee (1879-1940) developed this spatial understanding even further by apprehending the object as "perceptible – and hence readable and visible – relationship to what surrounded it, to the whole space of the picture" (1991, 304). The relationship between the object and

² According to the record held by the Tate Modern Museum, this was one of three drawings in the same theme of electric lines. Pignon drew studies of this topic with notes to later develop into paintings. This painting was, however, not completed and, according to exhibition records, was never exhibited as it was rendered inappropriate by Pignon. Only one of the three sketches was exhibited. Due to the unframed state of the illustrated image, it is suggested that this was not the exhibited image (Alley: 1981).



surrounding space thus becomes the expressed; in this case the represented thus becomes meaningful. This relationship is described by Lefebvre as “the surroundings of the object [that] become visible. And the object-in-space is bound up with a presentation of space itself”.

It is interesting to note that Lefebvre’s initial spatial concepts and developments thereof were inspired by the work of cubist artists such as Picasso and Pignon. These artists’ work are characterised by subjective abstractions of line and geometry rather than representation. For cubists, abstraction was not connected to naturalistic representation, but rather investigated geometric shapes, patterns, lines, angles and patches of colour (Marien: 2005, 560). In Lefebvre’s later development of his triad, representational space contradicted this spatial understanding as it is connected to the experience of space. Representations of space, on the other hand, can be directly linked to the work of cubist artists when designed by professionals such as architects and urban planners. In this case the object becomes a geometric interplay of solids and voids constructed by lines. Furthermore, these spaces are often bereft of meaning or experiential quality, focusing more on functionality. A direct correlation with cubism is the ability to draw an object from multiple perspectives. Within Lefebvre’s triad, social space as lived object is considered from three different angles. As with cubism, these views should be considered simultaneously to form a spatial understanding.

Furthermore, pictorial space was differentiated from the naturalistic depictions portrayed in the Renaissance, as two-dimensional geometries. Lefebvre makes a similar distinction by referring to abstract space and absolute space. Abstract space refers to codes and the signified, whereas absolute space refers to naturalistic space manipulated by politics. He thus also moved away from the naturalistic understanding of space by creating these two constructs. Here abstract space refers to the pictorial, whereas absolute space refers to the meaning embedded within architectural space, created in nature. Within Lefebvre’s spatial triad, the relationship between the physical object as perceived and the surrounding space as the receptacle thereof becomes lucid.

Writing on architecture: *Pavillon*

The *Pavillon*, a preface written by Lefebvre for the book *L’Habitat Pavillonnaire* (Lefebvre: 2003a), explores two notions of human habitation and the creation of these spaces. In the *Pavillon*, Lefebvre investigated the residential unit as ‘object’ or product consumed by the French public. Lefebvre’s initial ideas on habitation developed from Bachelard’s *The*



poetic of space (1994) and Heidegger's *Being and time* (1967). From both these texts the notion of spatial experience opposed to functionality, connected with time and space, influenced Lefebvre's argument in the *Pavillon*.

Lefebvre further developed habitation into three influential aspects of appropriation, the social imaginary and ideology (Stanek: 2011). According to Lefebvre, the *Pavillon* allows its inhabitant to be creative, to change and adapt its environment. Lefebvre further states that "they can alter, add or subtract, superimpose their own ideas (symbols, organizations) on what is provided. Their environment thus acquires meaning for them" (Lefebvre: 2003a). As an example, Lefebvre describes the street as a space of appropriation in which the multiple-public (Fraser: 1993) can arrange itself. Within the *Pavillon*, space is appropriated through 'marking, enclosure and arrangement' (Lefebvre: 2003a) which refers to Lefebvre's later ideas on SP. Lefebvre further refers to these three aspects as 'symbols, contrast and order' which indicates the relationship between SP and RS as written in TPoS (Lefebvre: 1991). Furthermore, symbolism also refers to the notion of RS as constructs formed from *lived experience*.

RS was possibly further influenced by Lefebvre's initial ideas on 'utopia'. The *pavillon* was seen as a representation of happiness, embodying utopian images, moving between the real-and-imagined. Within the *pavillon* inhabitants established their own meaning becoming a '*personalized microcosm and their own happiness*' (Lefebvre: 2003a). These *pavillons* or products were produced as RoS in TPoS (Lefebvre: 1991). *Pavillons* were re-produced in other areas of France, becoming representations of other spaces, losing their initial contextual reference, minimizing appropriation. Lefebvre describes this spatial production as "everything is real and everything is utopian, without a clear difference; everything is nearby and everything is far away; everything is 'lived' and everything is imaginary" (Lefebvre: 2003a). Within this quotation, Lefebvre describes the relationship between his *spatial triad*, which he developed in TPoS, confirming the co-existence of each concept. Lefebvre, lastly, connected ideology with SP by linking appropriation with time and space (Lefebvre: 2003a). Suburbanites (inhabitants of *pavillons*) form a collective denominator, influenced by city patterns and, in turn, influenced by ideologies.

The three major influences on Lefebvre's TPoS can thus be summarised as lived experience, art and architecture. As lived experience, Lefebvre's observations of the Vallee de Campan influenced constructs such as place and space which led to SP. The analysis of cubist art works led to two spatial understandings of absolute and abstract space with the latter developing into RoS. Although Lefebvre made several references to

architecture in TPoS, the first direct reference was in the foreword *Pavillon to L'Habitat Pavillonnaire* (Lefebvre: 2003a). When describing the dwellings, Lefebvre touches on the interrelationship of lived, conceived and perceived *space* although not as clearly defined as in TPoS. The focus is, however, on RoS (perceived), describing how lived experience has become devoid of meaning. The following section aims to place Lefebvre's work in context by briefly referring to his initial position as a Marxist and how he defined space. This contextual understanding aims to highlight the framework of Lefebvre's spatial triad.

2.3 Lefebvre in context

On Marxism and production

Lefebvre was not only known as a Marxist, but as a Marxist philosopher (Elden: 2004a). He later recognised himself as a French Marxist, who rejected the Soviet model of socialism. This shift was influenced by several wars in Central and Eastern Europe. Furthermore, the publication of Solzhenitsyn's *The Gulag archipelago* (1974), first in French in 1973 and translated into English in 1974, opened several problems associated with Marxist Socialism (Elden: 2004b). In Lefebvre's work, this shift is first seen in *Marksizm i myśl francuska* (Marxism and French thought, 1957), his first written protest against some of the Parti Communiste Français/ French Communist Party's (PCF) actions (Stanek: 2011). *The Sociology of Marx* written by Lefebvre in 1968 and the original French text of *La production de l'espace* in 1974 was written after the release of *The Gulag archipelago*, thus portraying a great influence of French Marxism.

Lefebvre explored three concepts of *praxis*³, politics and the state in *The Sociology of Marx* (1968). *Praxis* was further developed in TPoS in which Lefebvre describes space as a 'social relationship'. He described this relationship as

"...inherent to property relationships (especially the ownership of the earth, of land) and also closely bound up with the forces of production (which impose a form on that earth or land); here we see the polyvalence of social space, its 'reality' at once formal and material. Though a product to be used, to be consumed, it is also a means of production; networks of exchange and flows of raw materials and

³ *Praxis*, stand in contrast with philosophy as it focuses on the practical and applied aspects of sociology. This term considers human activity as the ability to create "the unity of the sensuous and [the] intellectual, of nature and culture" (Lefebvre: 1968, 39).

energy fashion space and are determined by it. Thus this means of production, produced as such, cannot be separated either from the productive forces, including technology and knowledge, or from the social division of labour which shapes it, or from the state and the structures of society.” (1991, 85)

Lefebvre describes Marx’s key concern as to explore the relationship between human activity and the product thereof. Within this relationship the philosophical problem of the subject-object relationship emerges (Lefebvre: 1968, 8). Within this subject-object problem the subject remains social man, whereas the object can be social space, the architectural object or the re-production of the specific space.

Form is the product of *praxis*. Lefebvre describes this as “every society is creative of forms” (1968, 45–46). Form refers to both abstract, concrete and aesthetic concepts, products all created and consumed by social man. Marx described form in *Capital* (1983) as:

“Man’s reflection on the forms of social life, and consequently, also, his scientific analysis of these forms, take a course directly opposite to that of their actual historical development. He begins, post festum, with the results of the process of development ready to hand before him. The characters that stamp products as commodities, and whose establishment is a necessary preliminary to the circulation of commodities, have already taken on the stability of natural, self-understood forms of social life, before man sets out to decipher – not their historical character, for in his eyes they are immutable – but their meaning. In other words the form is deceptive. It induces false impressions, erroneous thinking: namely, impression of fixity, confusion between the natural (immobile) thing, and the social thing (abstract, hence formed historically).”

From this quote by Marx, several ideas were developed further by Lefebvre. Primarily, spatial practice is visible in Marx’s notion of ‘the results of the process of development’ and the ‘circulation of commodities’, noting the concept of constant development through lived experience and how products are consumed to be reproduced again. The idea of representation is further visible in the ‘reflection on the forms of social life’, although there is no clear distinction yet between perceived (RS) and embedded meaning (RoS). Marx



describes this product of consumption as "...form is deceptive. It induces false impressions, erroneous thinking: namely, impression of fixity, confusion between the natural (immobile) thing, and the social thing". Thus investigating the relationship between the object, subject and how the product is consumed (SP). Lefebvre proposes that Marx's concept of commodity production represents a model by which the multiple dualisms of a Marxist analysis of space can best be accommodated and the philosophical dualism of a static analysis overcome (Shields: 1999, 159).

On space

To fully grasp the Lefebvre's spatial reference in TPoS one must understand 'space' within the context of the text. Elden describes Lefebvre's spatial production in the following two ways: "as a social formation (mode of production), and as a mental construction (conception)" (2004b, 185). As a mode of production, reference is made to all three aspects of Lefebvre's spatial triad. SP is the relationship between the lived and conceived, thus daily routine enacted within physical space. These spaces are measured by bodily experience, as conceptual constructs forming RS and on a Cartesian grid as measured space. RoS as geometric forms designed by professionals are measured spaces. Spaces designed on paper, represent actual space through lines with appropriate dimensions. A typology is further assigned according to the intended use. This typological form is then plotted on the represented site, again representing reality with coordinates. Space is thus constructed on another spatial field, that of the two dimensional, representing space through codes and co-ordinate systems on a Cartesian grid. As conceived space, reference is made to RoS and RS. RoS is often formed as a mental construct before it is developed on paper, which remains a conceptual idea. RS is a conceived space derived from the lived experience, thus relying on the historic experience throughout different time aspects.

The term space, as used by Lefebvre, can be defined after applying 'modes of production' and 'conception' of space to his spatial triad. He situates space between the mathematical Cartesian concept and the lived experience as defined by Kant with the added dimension of history and time. Space can thus be defined as: the measurable and incalculable, conceived and perceived of lived reality, both in the past, present and imagined future, thus situated between all the dimensions of time.

Semantic differences between place and space have already been described under section 2.2 with place as absolute and space as abstract, as understood by the author.





Although multiple definitions of place and space exist, it has been defined through the notion of absolute and abstract space as described by Lefebvre in TPoS. In the following section Lefebvre's spatial triad, SP, RoS and RS are explained as applied to architecture. Its aim is to clarify the different spatial constructs while stating their inter-dependability.

2.4 Lefebvre's spatial triad

In TPoS (1991) Lefebvre developed a spatial triad to unify the physical, mental (ideal), and social (real space). The triad included SP, RS and RoS. This relates to Lynch's analyses of environmental images. He investigated the urban environment by considering identity, structure and meaning (Lynch: 1960). For Lynch, each of these components is interrelated and cannot be considered without the other. This interrelationship, also presented in Lefebvre's triad, was described by Stanek (2011) as

“Each aspect of this three-part dialectic is in a relationship with the other two. Altogether they make up ‘space’. All these aspects are latent, ideological or expressed in practice in a historical spatialisation, and may either reinforce or contradict each other in any given moment.”

In the following three sections each construct is discussed individually for clarity although they cannot be viewed separately. In each section, the term is clarified after which architectural aspects are highlighted. Lastly, the construct is discussed in relation to the three research questions being investigated.

Lived reality: *Spatial practice (SP)*

Lefebvre's concept of SP refers to the relationship between the physical environment and how people's daily lives are enacted therein. However, one should not confuse spatial practice with lived space, as the latter does not consider the reciprocal relationship between the user and the space inhabited (Shields: 1999, 161). Lefebvre provided the following description of spatial practice:

“Spatial practice: the spatial practice of a society secretes that society's space; it propounds and presupposes it, in a dialectical interaction; it produces it slowly and surely as it masters and appropriates it. From the analytic standpoint, the spatial practice of a society is revealed through the deciphering of its space.



What is spatial practice under neo-capitalism? It embodies a close association, within perceived space, between daily reality (daily routine) and urban reality (the routes and networks which link up the places set aside for work, 'private' life and leisure). This association is a paradoxical one, because it includes the most extreme separation between the places it links together. The specific spatial competence and performance of every society member can only be evaluated empirically. 'Modern' spatial practice might thus be defined – to take an extreme but significant case – by the daily life of a tenant in a government-subsidized high-rise housing project. Which should not be taken to mean that motorways or the politics of air transport can be left out of the picture. A spatial practice must have a certain cohesiveness, but this does not imply that it is coherent (in the sense of intellectually worked out or logically conceived)." (*Lefebvre, 1991: 38*)

Space can thus not be viewed separately from history. Lived space should, therefore, be analysed in conjunction with its use, becoming spatial practice. However, time is ongoing, progressive and therefore requires a continuous production process between the lived and the re-construction of the perceived environment. Edward Soja describes this relationship "as the process of producing the material form of social spatiality, [thus presented] as both medium and outcome of human activity, behavior [sic], and experience" (1996, 66)

The three research questions investigate the relationship between SP, RoS and RS regarding the respective community centres. The focus is on the formation of networks and nodal points, the relationship between them and their hierarchical patterning. Lefebvre stated that every social space "duly demarcated and oriented, implies a superimposition of certain relations upon networks of named places, of lieuxdits" (1991, 193). These superimpositions are formed by different boundaries and restrictions, which Lefebvre categorized into four spaces of 'accessible space', 'boundaries and forbidden territories', 'places of abode' and 'junction points'. With reference to this study, accessible space refers to routes, vehicular or pedestrian, regulated by designated authorities, connecting various places. Boundaries and territories refer to physical or intangible restrictions located in space. Physical boundaries refer to fences, walls, partitioning and glass and often even roads or railway tracks. These restrictions prohibit physical access although visual contact is sometimes still possible. Intangible boundaries, on the other hand, are not formed by physical attributes, but by social inclusion or exclusion, cultural categorization or class divisions. Places of abode refer to private residences where access is restricted. Lastly, junction points are described by Lefebvre as "places of



passage and encounter” (Lefebvre: 1991, 193). These spaces do not refer to accessible space of circulation routes, but rather to ritual space restricted by events and time. These are thus not only physical spaces, but are formed by the prescribed programme, constantly changing. One such an example would be a church, allowing access for members on a Sunday, a space for mourning during funerals and of celebration for selected guests during a marriage ceremony.

Architecture: *Representations of space (RoS)*

RoS as an opposing concept to SP and RS, is described by Lefebvre as ‘conceived’ space, whereas RS area is the ‘perceived’ of ‘lived experience’ (SP) (1991). RoS thus belongs to abstract space and SP to concrete space, to which RS also relates. A definition of RoS is given by Lefebvre as:

“the space of scientists, planners, urbanists, technocratic subdividers and social engineers, as of a certain type of artist with a scientific bent – all of whom identify what is lived and what is perceived with what is conceived. This is the dominant space in any society (or mode of production). Conceptions of space tend, with certain exceptions...towards a system of verbal (and therefore intellectually worked out) signs.” (1991, 38–39)

From the quotation, four seminal aspects will be discussed in the following paragraphs: The role of the professional, codes of space, RoS as dominant space and as mode of production. Spatial organisation and design of our cities rely on architects and urban planners. These professionals are the mediators between the required structure and the end-user. Often the end-users⁴ are not even the clients, but they are represented by the local municipal development board or economic investors. The client has a specific design objective and the architect a certain design intent which leaves the user⁵ with imposed representations. However, within the process of spatial practice, other modes of representational space might be perceived, changing the architects intended meaning.

⁵ Lefebvre notes that the use of ‘user’ ad ‘inhabitant’ does not describe people activating the lived space of concrete space. When referring to RoS the writer find the term ‘user’ appropriate as it excludes them from the design process and are often without identity. When referring to RS or SP, especially in reference to the specific case studies, the term ‘community members’ is used to describe specific actors in the production of space.





These representations are embedded within certain ideological constructs, shaping the urban environment. Lefebvre argues that due to the presence of ideology, these representations are objective (1991, 41). Even though the design process might be guided by underlying ideologies, the architect remains a subjective artist, interpreting the environment and design brief from personal perspectives, resulting in a more subjective projection. Although RoS remains an abstract construct, Lefebvre described it as an important factor in social practice. He states that this abstract RoS “established relations between objects and people in represented space” (1991, 41), thus confirming the relationship between RoS and RS investigated through one of the research questions.

Architects present RoS two-dimensionally as geometric representations on paper, on a different scale, removed from the context. This mode of construction only developed during the Renaissance through geometric representation. Previously, the architect was an on-site builder, designing the structure as it progresses. One contemporary example is the Sagrada Familia in Barcelona designed by Antonio Gaudi. During the construction process he was present on site whilst still working on the structural composition of the church. Geometric representation started during the Renaissance with the work of artists such as Michelangelo (1475-1564). He configured the public space in front of St. Peter's basilica in Rome in a geometric grid. This square radiates from a central Egyptian obelisk to the portico surrounding the area. This marked the start of geometric codes representing architectural spaces on paper. Vidler noted that these codes became even more abstracted by Modernists, only understood by the codifier, thus “abstractions of abstractions” (2000, 7). This phenomenon has become even more severe with computer generated drawings and modelling. In some cases the structure is even designed through computer programs using parameters (points on a Cartesian plain). Through this process the architect is removed from reality, creating digital representations. Vidler describes this process as “an image as architecture and architecture as image” (2000, 17).

These abstractions have a contextual implication. Each drawing can be interpreted on its own, regardless of the context, described by Alberto Pérez-Gómez and Louise Pelletier as “each piece only a part of a dissected whole” (1992, 17). RoS should thus be investigated in conjunction with SP and RS to ensure that structures are not imposed on communities.





Perception: *Representational space's (RS)*

RS can be described as 'symbolic works' (Lefebvre: 1991, 42). Although the origin of these works is situated in reality, symbols are transformed into abstract constructs through perception. Abstract construction is described by Lefebvre as:

“Space is directly lived through its associated images and symbols, and hence the space of ‘inhabitants’ and ‘users’, but also of some artists and perhaps of those, such as a few writers and philosophers, who describe and aspire to do more than describe. This is the dominated – and hence passively experienced – space which the imagination seeks to change and appropriate. It overlays physical space, making symbolic use of its objects. Thus representational spaces may be said, though again with certain exceptions, to tend towards more or less coherent systems of non-verbal symbols and signs.” (1991, 39)

Rob Shield in his written work, *Lefebvre, love and struggle: Spatial dialectics*, described Lefebvre's notion of RS as “monuments of presence” referring both to the historical and utopian at once (1999, 159). By referring to the work of Bruno Zevi (1918-2000), Lefebvre made two references to architecture: First, to the relationship between the interior and exterior. Second, to architectural space as ‘strictly visual’, read through bodily experience. Architecture as a ‘visual’ element thus refers to its symbolic or coded character. RS is, therefore, a direct outcome of SP being the perception of lived experience.

In TPoS, RS is also referred to as perception. The notion of perception is often linked to phenomenology as the world around us is experienced through the senses. Architecture, as physical object, “can be experienced through reflective and silent analysis” (Holl, Pallasmaa & Pérez-Gómez: 2006, 40). These physical objects are described by Donal Preziosi as an “architectonic analysis” or “architectural code” (1979, 2). Preziosi further describes this language as not only consisting of archetypes, but it is also formed by the landscape and “bodies in space”. However, the perception of the built and urban environment as perceived by architects and the community differ significantly (Appleyard: 1980, 160).

SP and RoS combined form the ‘lived’ physical realm to inform perception. Maurice Merleau-Ponty stated that perception can only be experienced “in action” rather being imposed or known (1964, 12); lived reality in the physical realm, as the experienced, forms





perception. Again, for perception to be formed, Lefebvre's spatial triad cannot be viewed in isolation.

Notions of RS described by Lefebvre continuously relate the physical realm with its contextual relations. Perception is thus influenced by the landscape and bodily relations thereto. Robert Venturi also stated the importance of context as architectural element, to acknowledge place, to create harmony, dissonance and complexity (2004, 10).

RS as perceived by the community is thus the meaning and symbols found in lived reality, derived from RoS. Perceptions formed are from a multi-sensory origin and are therefore subjective. RS, as perceived by community members is of utmost importance as it can reconfigure spatial connections or disjunctions.

2.5 Themes from *The production of space*

Through a literary analysis of TPoS, themes for the spatial triad of Lefebvre have been explored to guide the methodology and analysis of data. The three spatial categories of 'lived experience', 'conceived' and 'perceived' have been investigated individually whilst still considering their interdependence. Each spatial category has an influence on the other, and in some cases the themes coincide due to the inseparability of the three categories. Each category of 'lived', 'conceived' and 'perceived' space is investigated in terms of spatial aspects located either in or between 'absolute' or 'abstract' space, the reference thereof to materiality and sub-themes investigating the category.

Spatial Practice (SP)

For Lefebvre SP (also referred to as social space) consisted of three fundamental concepts, that of form, structure and function (1991, 147), of which the triad in its totality describes objects (1991, 113). Within this concept of SP, another triad is thus found, again each aspect dependent on the other. These aspects can be observed in daily reality, thus simultaneously referring to the materialization of conceived and perceived space. As Lefebvre noted, SP can be "observed, described and analyzed on a wide range of levels" (1991, 413), here referring to the built environment and people's perception of it. Form as a theme can be further subdivided into geometric space and area, direction and orientation, urban and classical form, and aesthetic or plastic qualities. Structure can be subdivided into geometric space, bodily reference and volume, but mostly defined by technological character (Lefebvre: 1991, 369). Function can be subdivided into categories of accessibility, boundaries and networks, and inclusion or exclusion.





Lefebvre described the concept of form as “aesthetic, plastic, [and] abstract (logico-mathematical)” (1991, 148) thus referring to it as a concrete visual object. According to Lefebvre, for form to exist, bodily reference must configure through direction, orientation and axis (1991, 169). Bodily reference can be found in Lefebvre’s classification of urban and classical form in which the urban can be found in the classical. Urban form is described by “assembly, encounter and simultaneity”, whereas the classical is defined by “centrality, difference, recurrence, [and] reciprocity” (Lefebvre: 1991, 149). With these two terms Lefebvre thus combines the social aspects of gathering with classical form, reaffirming SP as the relationship between lived space and the physical realm. Lefebvre describes bodily reference as:

“an immediate relationship between the body and its space, between the body’s deployment in space and its occupation of space. Before producing effects in the material realm (tools and objects), before producing itself by drawing nourishment from the realm, and before reproducing itself by generating other bodies, each living body is space and has its space: it produces itself in space and it also produces that space.” (1991, 170)

Form as a central geometric space can be seen as an ‘empty vessel’, thus “becoming a locus of action, of a sequence of operations whereby the form acquires functional appropriation” (Lefebvre: 1991, 399). This functional aspect includes the notion of ‘within or without’ and ‘open or closed’ (Lefebvre: 1991, 163), describing the porosity thereof and the ‘centre-periphery relationship’ (Lefebvre: 1991, 149). The human body is in direct relation to the centre. The body is seen as the ‘subjective’ central point from which all space, physical and metaphysical is measured. Lefebvre describes this central position as “one places oneself at the centre, designates oneself, measures oneself, and uses oneself as a measure. One is, in short, a ‘subject’” (1991, 180).

Structure for Lefebvre is the “object that we make use of and use up” (1991, 369). The structure, furthermore, organises “elementary units within a whole” thus combining the form and environment within the textured context through scale, proportion, dimension and level (Lefebvre: 1991, 158). Through a structural analysis, the “material relationships obtaining between those forces – relationships which give rise to equally clearly determined spatial structures: columns, vaults, arches, pillars, and so on” (Lefebvre: 1991, 159).





Function can foremost be evaluated to the most essential aspects of circulation routes, private or public spaces, how these are used and by whom. These aspects can also relate to RoS applied under 'conceived' space. Applied to SP, function is read from 'lived experience', thus the concrete reality defined by the body. Function is, therefore, determined by each individual's perception of public and private, or could either be defined by management of facilities, thus formed by the restriction of boundaries. Space can further be defined by the function or permissible activities of the user or approved participant. This aspect of analysis might seem redundant, but proves to be of utmost importance as the architectural plan and final spatial appropriation often differ. Lefebvre identified this through the fact that "the space of the objects and the space of institutions are radically divergent in 'modern' society" (1991, 149); which might be ascribed to buildings being designed with often too rigid programmes.

The relationship between boundaries and named places (which refers to RS) is central in Lefebvre's inquiry (1991, 193). Lefebvre further divides boundaries into four categories of accessible space, boundaries and forbidden territories, places of abode and junction points. In TPoS, accessible space refers to routes, such as pedestrian walkways, which are controlled by prescription that refer to rules and daily reality. These spaces and routes are relatively accessible to the general public if one ascribe to principles, which in some cases are socially constructed. Boundaries and forbidden territories are controlled by social groups or individuals who manage access according to their own standards and rules. These boundaries can be visible (physical) or invisible (thus referring to RS). Places of abode refer to residential units being either permanent or temporary (Lefebvre: 1991, 193). Junction points are associated with occasion, like certain events and rituals, often connected to culture or religion, only allowing access in particular circumstances. Lefebvre presents social space "not as things, which have limiting boundaries and which collide because of their contours or as a result of inertia" but can rather be described to "interpenetrate one another and/or superimpose themselves upon one another" (1991, 86–7). These spaces are thus not separated by physical boundaries formed through architects' spatial conceptions, but can exist through restrictions of the physical or private property. Functional restrictions and boundaries can be connected through networks. Networks are described in more detail by Lefebvre as the "various movements, rhythms and frequencies" which exists between networks and locations (1991, 87).

Function and lived space are further linked through the use of space with aspects such as "inclusion and exclusion", "movable or fixed", "private or public", and "implication or explication" (Lefebvre: 1991, 163). Again, these aspects can be found either in the





physical realm of daily use or as perceived, thus the metaphysical. Lefebvre makes a connection to private and public space by referring to the connection between external and internal spaces. The external spaces are dominated by the public whereas internal spaces are appropriated by family members (1991, 166). This domination and appropriation of space refers directly to SP as typological aspects often informed by spatial use. Functional aspects are further informed by appropriation, often contradicting initial spatial conception (1991, 149). Daily reality thus influences function (again referring to plan and typology), altering it on a continuous basis.

Representation of Space (RoS)

Conceived space for Lefebvre is to be found in representational graphic elements drawn by architects and planners (1991, 361–362). These elements include site plans, plans, elevations, sections and perspectives, all two-dimensional representations referring to material qualities of objects. Themes are explored by investigating all two-dimensional drawings as they are often represented on several levels. Identified themes include spatial context and texture, hierarchy, construction technique, boundaries, spatial fragmentation and subdivision.

As Lefebvre described, *conceived* spaces are two-dimensional representations with parameters, points set as limitations in boundless space. Space is thus represented by focusing either on form, structure or function. This mode of representation becomes problematic as it fragments and sub-divides space (Lefebvre: 1991, 365). Each mode of representation focuses on a separated aspect of spatiality and often even on different scales. Fragmented spaces are thus disjunctive, divided into “specificities”. These spaces are then further subdivided on an urban scale into spaces of pleasure (non-work) and labour (work). Plans can be further analyzed by what Lefebvre describes as a grid, which defines space according to private or public use, circulation and “their use and user” (1991, 366). These aspects can also refer to SP, depending on information retrieved, thus two-dimensional abstract RoS or lived reality. On plan, space can initially be subdivided into sections identifying circulation routes and private or public demarcated areas. From there, the use of each space is defined, which is often further determined by the user, thus the public (community members) or more private use (staff and other authorised people). Hierarchical subdivision of space further occurs through which economic, social and class distinctions are made (Lefebvre: 1991, 282; 318).





Construction technique entails the manufacturing of the object, thus referring to the material and *materiel* qualities, production thereof and the relationship to nature (Lefebvre: 1991, 113) and technological development (Lefebvre: 1991, 164). Linking labour and construction technique to architecture, Lefebvre urges that the process should be made visible, even after completion of the product.

Geometric space, also referred to by Lefebvre as Euclidean space (1991, 285), is RoS in its most abstract form. These geometrical abstractions are described by Lefebvre as “a medium for objects, an object itself, and a locus of the objectification of plans” (1991, 361). With reference to architecture, geometric space thus refers to lines and planes on paper (or in some cases digital data of points in space). That becomes a RoS which is then projected onto a site. The problem of this ‘site’ is its being fragmented, subdivided and socially secluded, described by Lefebvre as “planners (thus) impose the constraints of exchangeability on everyday life, while presenting them as both natural (or normal) and technical requirements – and often also as moral necessities (requirements of public morality)” (1991, 338). In turn, these fragmented spaces are subdivided into spaces of labour and leisure (Lefebvre: 1991, 64).

In South Africa, subdivision was further marked by different racial groups and more recently by social and economic classes. These divisions are formed through architectural constructs such as the “everyday realm and the urban realm; inside and outside; work and non-work; the durable and the ephemeral” (Lefebvre: 1991, 64). Boundaries are thus formed through description on plan or through graphical representations.

Representational Space (RS)

Perceived space, in turn refers to the symbolic and imaginary, including images, signs and in some cases geometric space. These aspects do not refer to material qualities, but rather to *materiel*, linking meaning to ‘conceived’ space. Here, five themes have been identified as displacement, condensation, archetypes, centring and objectification to define images and signs.

Themes of displacement and condensation were derived by Lefebvre from psychoanalytical and linguistic fields to describe monumental space. Displacement refers to “metonymy, the shift from the part to the whole, and contiguity” (Lefebvre: 1991, 225). Condensation on the other hand, refers to “substitution, metaphor and similarity” (Lefebvre: 1991, 225). Applying these two terms to habitable buildings, displacement refers to the relationship between structural elements, the Gestalt and the relationship to





the site and greater community. A relationship between building elements and the contextual integration of the site to its surroundings might thus exist. Lefebvre further proposes two approaches to the conception of space. The first is to “enumerate parts of space” and the second is to “describe space as a whole” (Lefebvre: 1991, 295). When considering both of these aspects simultaneously, “active elements within space and the genesis of space as an ensemble that is at once social and mental, abstract and concrete” are arrived at (Lefebvre: 1991, 295). Condensation on the other hand refers to the meaning ascribed to these building elements through the process of substitution, to create metaphors and similarities.

Archetypal meanings are portrayed through the material qualities of physical objects (Lefebvre: 1991, 137). Lefebvre makes a distinction between material and *materiel*. Material refers to “words, images, symbols [and] concepts” whereas *materiel* refers to “collection procedures and tools for cutting-up and re-assembling”. These *materiel* representations refer to technology which includes the instruments, instructions, labour and the “directions for use” (Lefebvre: 1991, 105). Material thus refers directly to perceived space whereas *materiel* mostly refers to conceived space. *Materiel*, however, can also influence perceived space as meaning can be attached to the construction and use of the material created.

Representational space for Lefebvre has an “effective centre” such as “house, church, square”, which are “directional, relational, situational-qualitative, fluid and dynamic” with its connection to time (1991, 42). Central space can thus be connected to architectural typologies of named places. Within the urban grid these typologies form centres; depending on the social group or boundaries for a particular religious group the church may be a centre, and a house will only be a central point for the inhabitants of that particular residence. These centres are connected to time for social groups and users change along with power relations, thus altering the centre. Due to the changing nature of centres, the relationship between the centre and periphery is complex with constantly changing boundaries (Lefebvre: 1991, 332). For a centre to exist it must simultaneously “include and exclude” and form an attraction and “distance” (Lefebvre: 1991, 386) between other centres and social groups. These centres of inclusion form points of accumulation as spaces of “gathering-together and meeting of whatever coexists in a given space” with “coexist” meaning everything that can be “named and enumerated” (1991, 331). This accumulation could be either social or metaphysical “to concentrate wealth, means of action, knowledge, information and ‘culture’” (Lefebvre: 1991, 332).



With particular reference to the study, community centres are seen as gathering spaces for diverse social groups within the community, concentrating related activities. Although these centres are seen as publicly accessible, restrictions might still persist, formed by social, economic or other issues. Considering the relationship of community centres to the immediate environment, Lefebvre describes centres as a point of accumulation with possible infinite points surrounding the core (1991, 331). With these points being measured from the centre, surrounding space could either be “full or empty” and “infinite or finite” (Lefebvre: 1991, 331). Within the macro-context of the community, other points can be evaluated according to their “compactness and density” along with other “constraints and a bearer of norms and values” (Lefebvre: 1991, 356).

Considering the apartheid city model, the city centre was cleared of all non-Europeans with the Group Areas Act of 1950. Lefebvre described this notion as “to organize the centre as locus of decision, wealth, power and information; to find allies for the hegemonic class within the middle strata and within the ‘elite’; to plan production and flows from the spatial point of view” (1991, 378). In the concluding chapter of TPoS, Lefebvre describes the form of centrality:

“as a form, is empty, calls for content and attracts and concentrates particular objects. By becoming a locus of action, of a sequence of operations, this form acquires a functional reality. Around the centre a structure of (mental and/ or social) space is now organized, a structure that is always of the moment, contributing, along with form and function, to a practice. ... Any centrality, once established, is destined to suffer dispersal, to dissolve or to explode from the effects of saturation, attrition, outside aggressions, and so on. This means that the ‘real’ can never become completely fixed, that it is constantly in a state of mobilization”. (Lefebvre: 1991, 399)

Lefebvre describes objects as “markers for rhythm, as reference points, [and] as centres” (1991, 211). As RoS, these objects are perceived through sensory experience, thus being subjective and relating to bodily experience, the perceptions of objects are marked by “relationships of opposition and contrast”. These contradictions include “right and left, high and low, central and peripheral, demarcated and oriented space, near and far, symmetrical and asymmetrical, and auspicious and inauspicious” as well as “paternity and maternity” (Lefebvre: 1991, 211).





“Objects touch one another, feel, smell and hear one another. Then they contemplate one another with eye and gaze. One truly gets the impression that every shape in space, every single plane, constitutes a mirror and produces a mirage effect; that within each body the rest of the world is reflected, and referred back to, in an ever-renewed to-and-fro of reciprocal reflection, an interplay of shifting colours, lights and forms. A mere change of position, or a change in a place’s surroundings, is enough to precipitate an object’s passage into the light: what was covert becomes overt, what was cryptic becomes limpidly clear (Lefebvre: 1991, 183).”

In the above quote Lefebvre makes three important points regarding objects. He personifies objects as *reflective*, and when referring to objects in the context of RoS, reference is no longer made to space but to place. As a personified object, sensory experience is ascribed to physical elements, thus being able to perceive ‘their’ own environment. Through this sensory experience, reflexivity is possible, thus objects can portray multiple meanings on the other. Furthermore, mirage also refers to the “shifting colours, lights and forms”, thus how the objects are capable of altering the context within a specific relationship. A contextual relationship is thus very important hence the use of ‘place’. Through this personification and projections of the particular objects, meaning and change are ascribed to the context. This meaning is specific to environmental and seasonal changes, thus to the place.

2.6 Conclusion

Lefebvre’s spatial triad was thus utilized to investigate the central research question that explores the spatial production of community centres. Furthermore, each of Lefebvre’s spatial constructs was investigated to consider the secondary research questions. First, the relationship between the use of space by community members (SP) and the two-dimensional representation thereof as designed by architects (RoS). Second, the relationship between users’ perception (RS) and architects’ intent (RoS) of symbolism, images and signs. Third, how community centres, in the macro context, reconfigure boundaries, form and function (SP), as well as areas of centralization, condensation and displacement (RS).

SP investigates the use of space in the community centre and the surrounding macro-context. This utilization of space explores the direct lived reality and how it is perceived by community members. Through this exploration the focus is on peripheries, social aspects





and what constitutes a community. RoS corresponds to the design and intent of the architect. These representations were explored through the aspects of displacement, condensation, archetypes and centrality. Lastly, RS focuses on the perception of meaning. These terms refer to community members' constructs of identity formation. To answer the third question, the reconfiguration of SP (the relationship between SP, RoS and RS) is explored in the community's immediate vicinity.



Chapter 3 Research methodology

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3.1 Introduction: Research approach in relation to theoretical framework

Architectural structures are created and reproduced in acknowledgement of the spatial framework of communities. This spatial production is explored through the following three questions. First, what is the relationship between lived reality of community members (SP) and the two-dimensional representation thereof as designed by architects (RoS)? Second, what is the relationship between users' perception (RS) and architects' intent (RoS) of symbolism, images and signs? Third, how do community centres, in the macro-context, reconfigure boundaries, form and function (SP), as well as areas of centralization, condensation and displacement (RS)? The purpose of the chosen research methods that will be discussed, is to visually represent data of continuous spatial transformation through Lefebvre's (1991) triad. The methodology needs to consider the community and architects' perception of the relevant contexts, to note users' activities, and to identify social areas and networks linked to the structure. Furthermore, the rationale behind these perceptions and structural formations should be determined. The research method should thus focus on the relationships between lived space, the perception thereof and social formations formed therein.

The methodology chapter is divided into three sections. Section 1 presents an analysis of key studies that form the basis of the chosen methods (3.2). Section 2 describes two pilot studies which tested the chosen tools as outlined in section 3.3. Section 3 explains the final methodology applied, tools, sample selection, the ethical process and protocol (3.4) followed by the selection of participants (3.4) and case studies (3.5).

3.2 Literature study on investigated methodology

This section interrogates literature that has used relevant methods of sort-charts, mapping, historic analyses and different observation techniques. The purpose of this investigation is to identify a possible methodology, investigate other multi-method approaches and explore the limitations. Chosen studies include published work in public domain and Ph.D. dissertations. The selected authors incorporated multiple methods, focused on spatial or urban aspects, and explored perception or meaning.

Literature on environmental studies that focused on the perception and use of public space in urban environments began with the study of Kevin Lynch. In *The image of the city* (1960) Lynch explored the relationship between orientation, visual elements, memory and meaning to establish a correlation between elements and movement within the urban environment. Three cities were investigated: Boston, Jersey City and Los Angeles. Boston was chosen as Lynch was situated within the city, Jersey for being perceived as devoid of





character and Los Angeles for being a motorised city. Methods included observation and interviews. Interviews were mostly conducted with middle-class employed professionals. In Boston 30 interviews were conducted, and in Jersey City and Los Angeles 15 each. Interviews varied, some included sketching of cognitive maps, narrative descriptions of a specific environment and photographic recognition of visual elements. Information was analyzed and plotted onto area maps, translating data into legible codes on location plans.

These methods have been widely used (Tang & Ding: 2013), but have also been criticised for the small sample size, selection of the sample and sketching of cognitive maps (Lynch: 1995). Although the sample size might be too small, in-depth data was collected from 30 participants in Boston. The problem with the sample is not the size, but the fact that participants comprised mainly of middle aged professionals. For the purposes of this study on the production of space, the demarcated area of the case study can be reduced to suit a smaller sample size. A diverse sample can possibly be identified to ensure that an array of age and social groups is incorporated. Cognitive maps provide two problems, one being participants' ability to sketch and the other being the translation of the mental image into two-dimensional lines (Lynch: 1995). This limitation is addressed through methods used by Anne Lusk (2002) who incorporated visual aids into the interview protocol. Lynch's research is most applicable for the themes identified from data collected and the application thereof on area maps. These maps provide a visual analysis of a city's legibility through the use of codes. It is this representation of data that can be used to indicate identified themes and network formation as visual codes.

Since Lynch's research on the city's image more research has been carried out that focuses on user's perception on the environment. Methods that have been used that can contribute to this particular study include sort-chart, maps and historical analyses. After Lynch, the most significant author is Tridib Kumar Banerjee with his thesis titled *Urban experience and the development of city image: A study in environmental perception and learning* (1971). Banerjee completed the thesis under Kevin Lynch, then a professor at the Massachusetts Institute of Technology, Department of Urban Studies and Planning, a decade after the first publication of *The image of the city* in 1960. Banerjee used sort-charts to organise images of different elements into self-determined (direct-sort) categories. Sort-charts can be categorised into two different groups, direct or free-sort. With direct-sort the categories are pre-determined by the author according to themes or the particular research question. Free-sort, on the other hand, allows participants to form their own categories. By forming their own categories, concept formation can be tested or determined (Canter: 1996). The purpose of this method was to evaluate the interviewees'





urban knowledge and to determine themes. Banerjee noted that fifty photographs provided sufficient information without becoming a tedious process. By adopting this method, predetermined themes can be formulated to gather data on perception and meaning of a certain space. These categories can be refined further to determine preferred aspects as opposed to negative experiences.

Through the process of identification on existing maps, Banerjee was able to locate areas of familiarity and to test knowledge of the environment and to identify different social groups. This method can also be used to indicate social structures such as connectivity to communal groups, circulation routes, opposing collective groups, areas to be avoided and influential nodes impacting the urban environment.

Two more recent studies that investigated perception and the use of space were done by Anirban Adhya (2008) and Lusk (2002). Both these theses were submitted to the University of Michigan under the supervision of Prof. Linda Groat. In accordance with Canter and Brown (1985), Groat developed sort-charts as a method to gather data on perception of architecture and the urban environment. Groat's initial research methodology, which incorporated sort-charts investigated perception on post-modern architecture (Groat & Canter: 1979; Groat: 1982). Participants were required to group images of different architectural styles to determine how non-architects perceive architectural styles.

Adhya's (2008) empirical study on public space investigated multiple-forms understanding the perception and use of such spaces. The study aimed to measure form, meaning and function of public spaces with a multi-method approach. Four North American cities were used as case studies, Ann Arbor, Athens, Tallahassee and Lansing. In turn, the four most popular public spaces in the category of a street, park, book store or shopping mall were chosen. Eight interviews were conducted at each chosen location. The multi-methods included an historical background analysis, space syntax study, sorting-tasks supported by open-ended interviews and observations. Information on the historical background was gathered through historic maps and former master plans. The latter indicated land use, infrastructural development, open space and built mass. Through this analysis the morphological, temporal, topological, geometrical, geographic and spatial properties were investigated. Demographic information provided additional insight into the understanding of the four case studies. The geographic location, city population, city area, ethnic groups, gender, age and relation to the city described the case studies in depth. For the analysis of data, demographic information can assist in finding correlations or anomalous sections





between case studies. Space syntax studies were used to document the physical attributes of the case studies. Software was used to process data of the urban environment.

Sort-charts were used during the interview process. The first round consisted of free-sort allowing for own categorisation. The second round consisted of a direct-sort with predetermined themes. This method allowed Adhya to gather information on participants' perceptions and determine their views on public spaces. The sorting process was followed by open-ended questions. From these interviews sufficient data was gathered providing information on participants' cognitive processes. This combination of sort-charts and interviews is useful in this study to add qualitative data to what would otherwise be purely quantitative.

Sort-charts have been selected to establish participants' spatial perception of the chosen community centre. Due to interviewees' lack of spatial understanding, these concepts should be elucidated with visual material. According to Canter, Brown and Groat (1985) "an understanding of the categories people use and how they assign concepts to those categories is one of the central clues to the understanding of human behaviour". This process determines participants' perception on a specific area, within and surrounding the community centre by grouping images thereof into predetermined groups.

Categories formed can differ from predetermined groups to free-sort. Canter (1996) suggested the use of both methods allowing participants to form several categories to ascribe different concepts each time. It is within participants' own categorisation that the authors can begin to comprehend human behaviour and perception. Research has been done on the multiple sorting process and image categorisation to determine whether images are sorted by content or by the experience of space (Scott & Canter: 1997). In the first sort-process, participants were asked to group images taken of their residential environment and group them into own categories referring to content of the photograph. For the second sort-process, participants were asked to group images into their own categories of experience and meaning of the particular place. Through the latter, it was found that the description given by the author is crucial for the appropriate group formation. The emphasis should, therefore, be placed on the spatial perception and not the content of the image. This can be done by describing the purpose of the study and explaining the meaning of each predetermined category or concept of spatial perception. Through this descriptive process the distinction between content and perception can be made, gathering qualitative instead of quantitative data.





Michael Brenner, Jennifer Brown and David Canter (1985) noted that open-ended interviews yield results, but that the analyses tend to be complex. They, therefore, suggested the use of sort-charts to provide structure to interviews. Interviews and sort-charts were combined by Groat (1982) to determine participants' perception and preference on post-modern architecture. However, questions should remain open-ended for thorough explanations of concepts formed through self-determined categories and to test their validity. An adaptation of this method has, therefore, been chosen to determine participants' perception of spatial qualities of community centres and immediate context through a sorting process.

The study of greenways by Lusk (2002) identified the qualities and nature of elements and nodes along corridors utilised for physical activity. Six case studies were identified and grouped into three themes of rural, urban and rail trails or greenways. For each case study a minimum of 20 surveys was completed. The sample consisted of an equal gender ratio that was using the routes for diverse recreational activities. After considering several methods, Lusk used stickers, which participants applied to base maps to indicate the starting point of the route, destinations, directional views and non-preferred places. Written notes on maps were encouraged. These maps were supported by additional sheets requesting preferred nodes along with the features thereof.

The method is interactive, allowing the participant to choose certain codes and apply them to the relevant area on the base map. This process had two limitations, the first being the lack of comprehensive data due to its quantitative nature. The second question relates to the participant's interpretation skills to orientate him/ her on a large scale map and to identify familiar areas. The latter might result in an incorrect application of codes to the base map.

By way of this mapping process with codes (stickers), one might possibly be able to investigate participant's representation of space. For this research, mapping was investigated by conducting a pilot study to determine the relevance to spatial production of community centres. Pilot study 1 is discussed further in section 3.3.

Identifying connections and determining knowledge or preferred qualities of the physical environment have been used for research on spatial experience, perception and planning settlement patterns. Spatial experience and the use of space have been investigated by Zeisel and Griffin (1975). They used base maps to identify social spaces in retirement homes. Participants were asked to indicate routes and social spaces most often used. Questionnaires supplemented the maps to gather information regarding reasons for their





spatial preference. Kaplan (1976) incorporated games played on base maps to investigate way-finding in a natural environment. Twelve year old learners were familiarised with the map through several questions, after which they had to identify missing routes. Both above-mentioned participatory methods engaged participants through a mapping process without gathering data on the map itself. The use of predetermined codes or coloured renderings could assist with direct data recording. Research on communities, mainly by NGOs involved in community development, has incorporated coding strategies (NOAA Coastal Services Center.: 2009). Cognitive maps have been used by Amsden and van Wynsberge (2005) to gather data on youths' spatial value of health care facilities and by Vajjhala (2005) to determine objective and subjective characteristics of residents in communities. The first relied on participants' ability to draw while the latter provided codes or images to be drawn representing nodes on the route. These representational codes helped participants to communicate visually without being restricted by their drawing abilities.

Vajjhala (2005) used indicators (stickers) to indicate positive and negative spaces or areas where change was suggested with colour codes. Data gathered provided information guiding future development in Wilksburg, PA. Indicators could be replaced by notes, providing supplementary descriptions (Pathways through Participation: 2010). Mapping proved to be beneficial whilst conducting research where children were involved (Amsden: 2005). The quantity of codes or indicators should however, be limited for communicative legibility. In this precedent, maps could be replaced when information of codes becomes too layered or vague. Furthermore, open-ended questions were incorporated in most of the above-mentioned mapping processes. Participants explained their reasoning whilst applying stickers or drawing their mental maps.

Space syntax, described by Bafna (2003) as "...strategies of description for configured, inhabited spaces (of buildings, settlements, or building complexes) in such a way that their underlying social logic can be enunciated", is another research programme that investigates lived reality.

The benefit of this method for the proposed research is the correlation between the physical environment and data collected. Spatial aspects of the connections made can be identified and discussed with interviewees. This method is also highly interactive and visually orientated, allowing children from the age of thirteen to participate. Furthermore, drawing of mental maps can be reduced with the application of codes. Additional information can be added with diagrammatical lines.





The historical analysis is based on spatial aspects such as topography, scale movement patterns, organisational composition, the relationship of geometric form to the context and a Nolli diagram (compiled by Giambattista Nolli 1701-1756) illustrating the ground representation of built space. Spatial aspects are organised according to the work of Geoffrey Baker (1989) to move beyond a formalistic analysis towards lived contextual integration. Traditional architectural analysis focuses on form and function (Clark, R.H. & Pause, M., 1996; White, 1983) disregarding the effect of lived space and contextual relationships on a three dimensional level.

3.3 Two pilot studies conducted

Two pilot studies were conducted to determine the time required for interviews and surveys, test the quality of data collected, refine the protocol for clarity and investigate whether the chosen methods and the type of case study correlated. Apart from the last mentioned purposes, the pilot studies also tested whether the chosen methods answered research questions. The first pilot study was conducted June 2013 at three public facilities: the Ubuntu community centre in Zwide, NMBM; the Red Location Museum in New Brighton, NMBM; and the Belhar community centre in the Cape Town Metro. The second pilot study was conducted in January 2014 at the Lourierpark community centre in Bloemfontein.

Pilot study 1: Ubuntu community centre, Zwide, Port Elizabeth; Red Location museum, New Brighton, Port Elizabeth; and Belhar community centre, Cape Town Metro.

The purpose of the first pilot study was to determine and locate users' physical activities, investigate preferred and less favoured spaces, and determine the quality of these spaces. Two methods were tested, surveys of the structure and mapping of activities. The survey was written on the framework of a Physical Activity Research Assessment Instrument (PARA) compiled by Understanding Neighborhood Determinants of Obesity (UNDO) projects (Lee, Booth, Reese-Smith, Regan & Howard: 2005). The PARA assessment gathered data on accessibility, physical features and amenities provided and 'incivilities'. These aspects were rated on a scale of not present (0), poor (1), mediocre (2) or satisfactory (3). 'Incivilities' were rated as poor, bad or horrendous. Ratings for the survey were predetermined by the UNDO group, describing the positive or negative qualities of each amenity or facility (Appendix VI). One PARA survey per site was completed by the author during fieldwork (Appendix V).



The second method applied during the first pilot study gathered data of community members' use of space, determining their spatial preferences. Each participant was given a base map to complete. Demographic information such as age, gender, occupation and language were requested. Participants each received a set of indicators (stickers) to apply to the site plan. Base maps were supplemented by written instructions. The first sticker identified the location of the participant in relation to the base map (Figure 1). The following indicators numbered from 1-27 identified the participants' appropriation of space. The arrow was applied to indicate the participants' direction of approach. The last star shaped indicators were applied to the most preferred spaces (1/ gold), preferred space (2/silver), space disliked (-1/red), and space most disliked (-2/ green). Participants were then probed as to why these spaces were perceived as such.

At the Ubuntu community centre eight base maps were completed, and six each at the Belhar community centre and Red Location museum. Each base map took between 15-20 minutes to complete. Respondents found the process interactive and were willing to participate in the research. At first they found it difficult to familiarise themselves with the map, but the placement of the sticker to identify their current location bridged this problem.

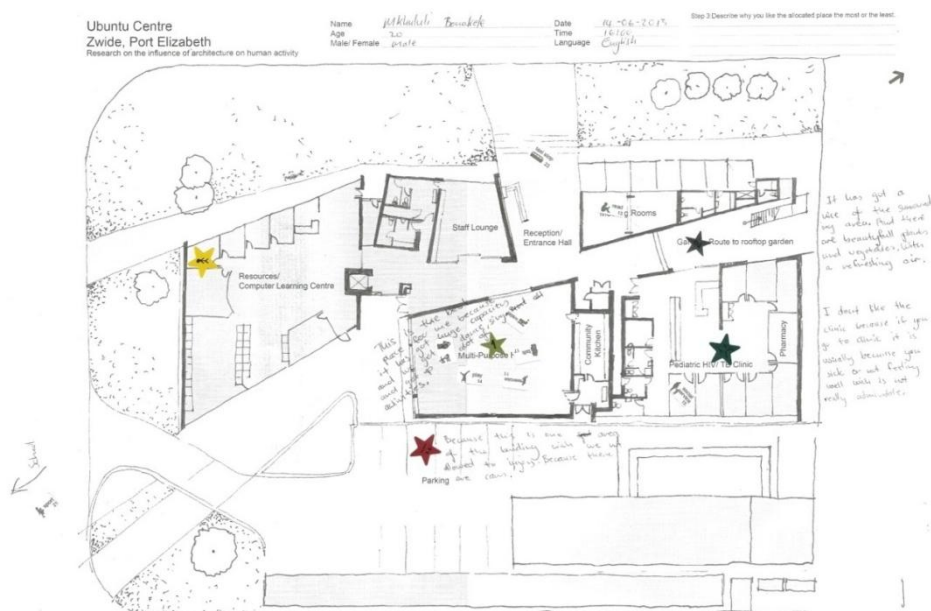


Figure 1. Pilot study 1: An example of a completed document of Ubuntu community centre.



Several limitations became apparent, the first being that the survey on the quality of spaces analysed the physical environment and not the spatial perception of it. This method provided quantitative information, which could be used for suggestions on site improvements or development of prospective infrastructure. The current state of facilities was given without providing insight into reasons for neglect or use of space. To gather appropriate data on spatial perception, community members needed to provide their viewpoints of these facilities. Community participation was crucial to gather data on perspectives of lived experience and not from subjective observations of the author.

Completed base maps of sites provided sufficient information on utilisation of space within a limited time frame opposed to the observation thereof. However, the identified spaces and related activities therein provided little data on spatial perception. Indicators representing more or less preferred spaces, accompanied by verbal descriptions proved more valuable.

From this study changes and recommendations were made to be tested in the second pilot study. Meaning allocated to each code needed to describe a perception of the participant as was done with the emotive codes (stars). Perceptions needed to be further investigated through interviews.

Pilot study 2: Lourierpark community centre, Bloemfontein.

The purpose of the second pilot study served, foremost, to improve data collection on spatial perception. Problems identified in the first study were addressed by focusing less on physical attributes and more on spatial representation. The pilot study was conducted at a community centre in Lourierpark, a low-income residential area on the southern periphery of Bloemfontein (Figure 2). This particular community centre was chosen for ease of accessibility and the possibility of recurring site visits. Although the community centre has been published (Phaidon.: 2008), it was not submitted for award consideration and was, therefore, not included in the final selected cases. Methods tested included free and direct sorting, mapping of lived space and observation of activities as perceived by users and envisioned by the architect.

Before commencing with surveys at the chosen pilot centre, the architect of the facility, Anton Roodt principle of Roodt Architects, was interviewed. This process included free and direct photograph-sorting and mapping of initial spatial intent. First, the architect categorised images into his own identified groups known as free-sort (enclosure or security, gathering, non-place, place and symbolism or identification); thereafter the



interviewer provided the interviewees with predetermined groups known as direct-sort (public or open space, private or enclosed space, power and hierarchy, periphery or edge and social areas). These themes overlapped and resulted in a duality. Interviews with community members were thus limited to a direct-sort with predetermined categories. Determining spatial influences during the design process was more successful with an interview process. Aspects such as design constraints, client requirements and site restrictions became apparent.

Participants were selected randomly during field work and included primary users such as staff, students and community members occasionally utilising the facility. The first three

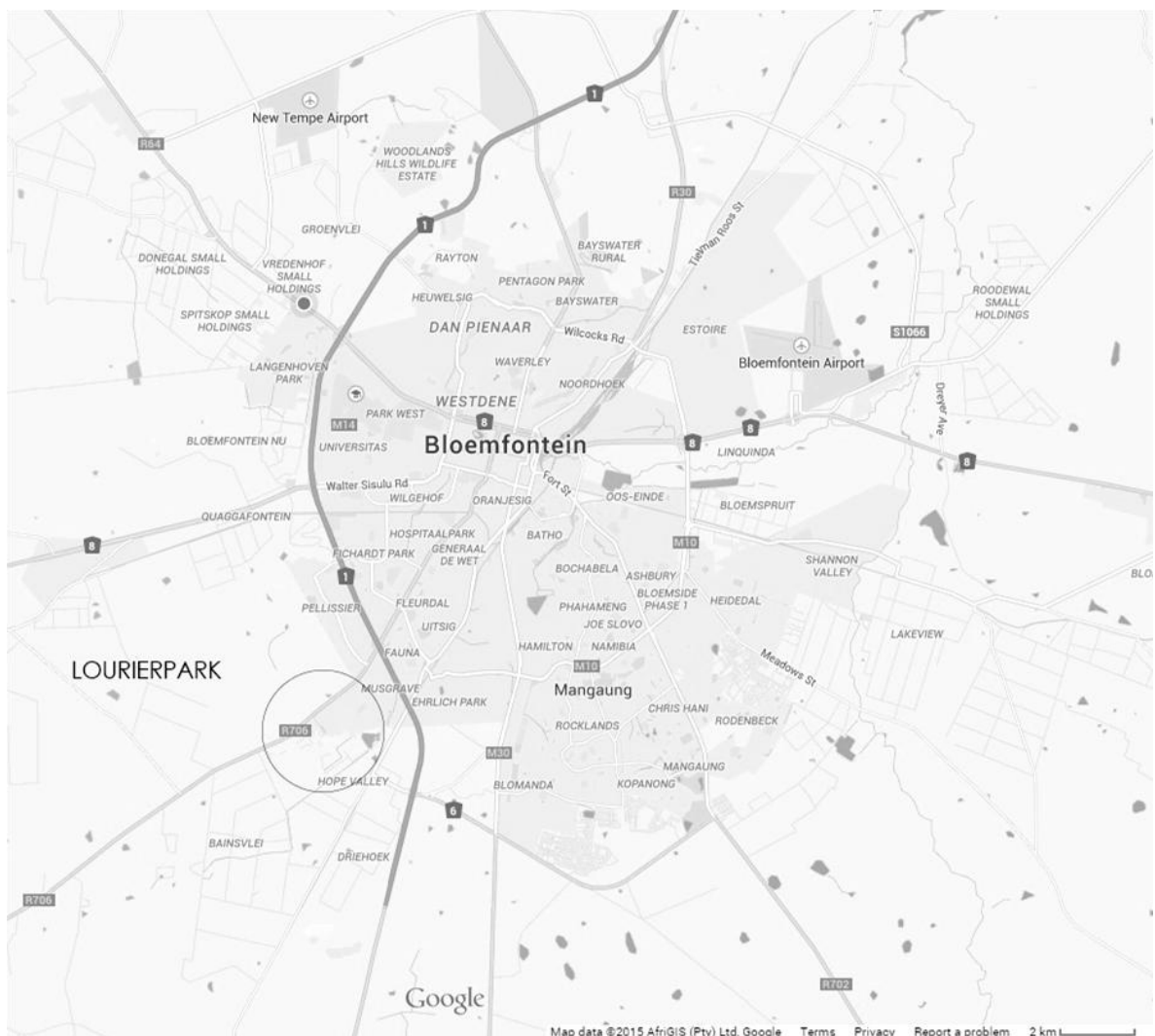


Figure 2. Map of Bloemfontein indicating the location of the Lourierpark community centre.

participants were asked to sort images into self-determined categories after which they were asked to organise them into predetermined groups of public or open space, private or enclosed space, power and hierarchy, periphery or edge and social areas. During the free-sort process it became apparent that participants lacked sufficient spatial sensitivity to structure their own groups, as categorisation mainly consisted of functional classification (groups formed included inside, outside, building, community and electricity). Predetermined categories for the direct-sort helped participants comprehend the concept of spatial perception. However, each category required thorough explanation and clarification. This method proved useful to set a foundation where knowledge of field-specific terms was insufficient to conduct an interview. This process was further supplemented with an open-ended interview to investigate participants' thoughts underlying the processes behind categorisation. After completing the two sort-processes, participants completed the area maps on which social areas or networks were identified. Codes to indicators were applied according to participants' own preferences.

The sorting and mapping process was further refined before being tested on three more participants. Initial participants only completed a direct-sort process to eliminate functional categorisation. After completing the sort-process with the first three participants, photographs were reduced to 28 to avoid repetition of images and expedite the process. For the identification of social areas on the site plan, stickers were allocated by predetermined codes. These codes allowed for more accurate data collection and further comparison.



Figure 3. Lourierpark community centre, Bloemfontein. A: The circular reading room. B: Covered walkway leading to the library entrance. C: A courtyard formed by covered walkways.



Lessons deducted from 2 pilot studies

1. Allow 25-30 minutes per interview for users of the facility and 60 minutes for the interview with the relevant architect.
2. Include a maximum of 20 images for the photograph-sort process.
3. Formulate direct-sort categories for users from text of TPoS (thus excluding direct-sort for primary users).
4. Compile open-ended questions to investigate spatial perceptions associated with each category.
5. Conduct an open-ended interview with the architect to determine constraints, client requirements and site restrictions. Data can be mapped by the author on the site plan for comparison with maps completed by users.
6. Allocate predetermined codes to indicators for mapping process. Codes should address social or gathering spaces, areas of preference, hierarchy, identity formation, ascribed meaning and change.
7. Conduct open-ended interviews with the users of facilities to investigate the spatial impact of the community centre on networks and social areas.
8. Select sample equally distributed across age, gender and occupation (users and staff members of the chosen facility).
9. Complete between 15-20 interviews per case study. Visualise sort-charts on base maps to form an overlay of social areas, networks, perception and spatial use (Figure 5).
10. Form multiple layers of visual data to compare the architect and users' perception (Figure 6).
11. The number of base maps completed should be increased to ensure a more varied sample selection.





Figure 4. Pilot study 2: Participants indicating spaces of preference. Louierpark community centre, Bloemfontein.

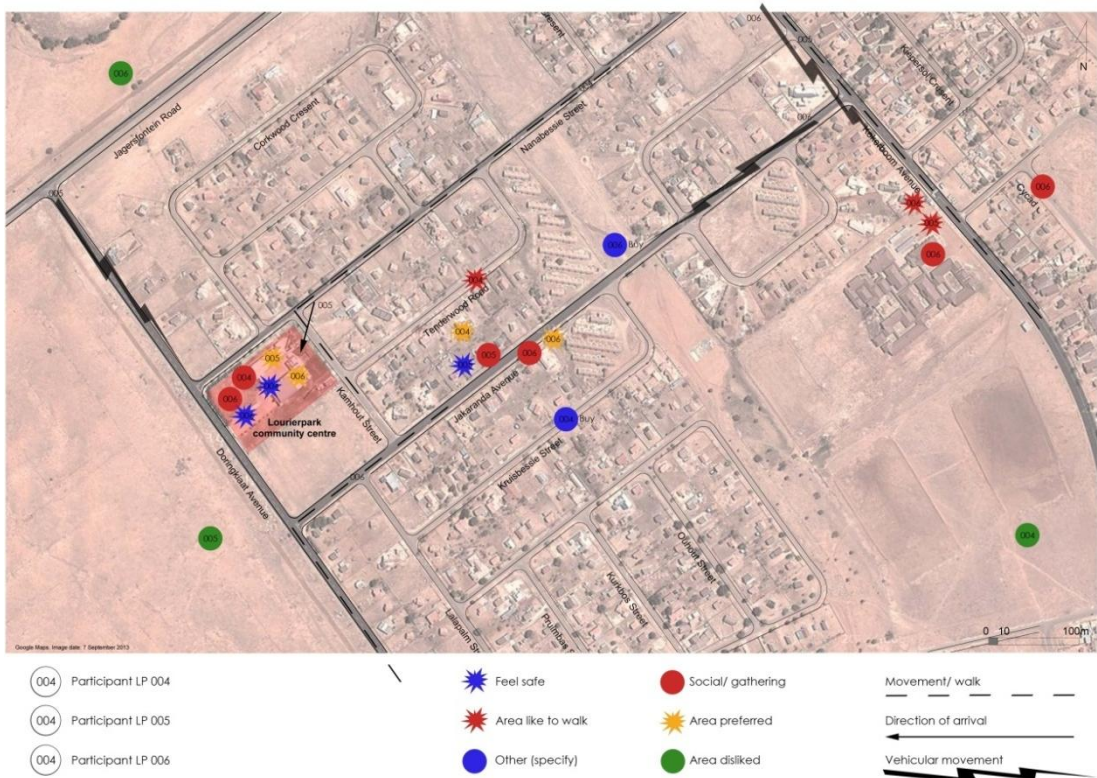


Figure 5. Mapping process indicating spatial perception with codes. Louierpark community centre pilot study 2.

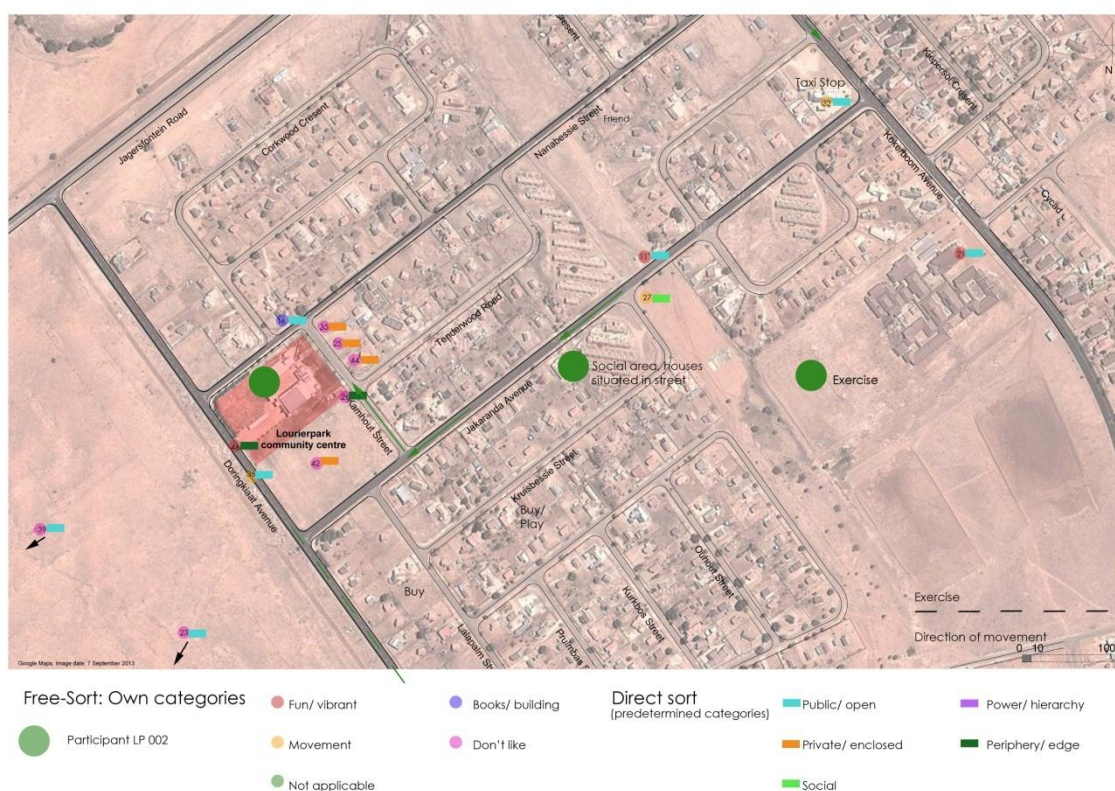


Figure 6. Free and direct sort map overlay of own and prescribed categories of one participant. Lourierpark community centre pilot study 2.

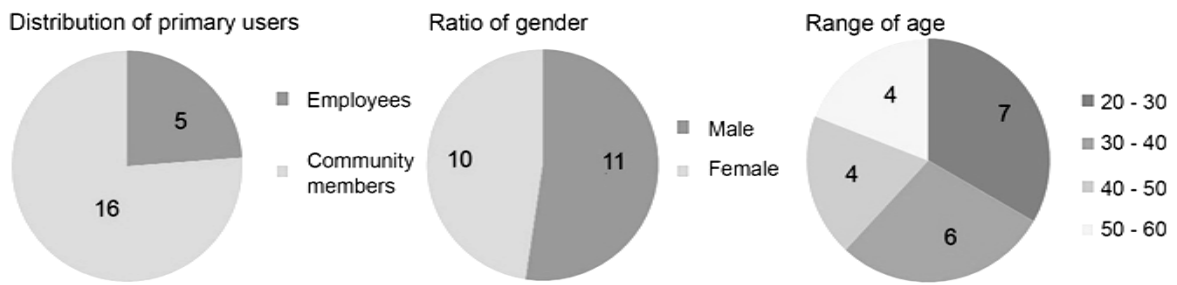
3.4 Selection of participants

Participants at the relevant centres were selected from a convenient sample of primary users, which included staff and community members (Also explained in Figure 7). Although the selection process had occurred ad-hoc on site due to the informal nature of the context, the sample had to include an extensive representation of the community. Before commencing with the interviews, participants were asked whether they reside in the community and if they are familiar with the particular community centre by visiting it on a regular basis. Twenty interviews were conducted at the Ubuntu community centre, and 21 at the Helenvale resources centre. Participants at Ubuntu community centre included 9 males and 11 females of which 4 were clients and 16 staff members. People within a 7km radius of the Ubuntu centre, applied to become part of the Ubuntu programme and were henceforth clients. Through this application process the use of the facility was screened and controlled. Staff members of the facility were mostly from Zwide or the immediate surrounds. Interviews with clinic patients were prohibited. Of the 20 participants, one was aged 13-18, eight 18-30, six 30-40, four 40-50, and one 50-60. Participants at the Helenvale resources centre included 10 males and 10 females of which 15 were



community members and 5 staff members. All staff members were residents of Helenvale. Community members using the facility depended on the programmes presented, or the availability of the counsellor for consultation. Of the 20 participants none were aged 13-18, seven 18-30, six 30-40, four 40-50 and three 50-60. The two case study samples differed substantially due to services provided. The Ubuntu community centre focuses on education and health (especially HIV infected people) with the help of a Non-profit Government Organisations (NGO), the Ubuntu Education Fund. The Helenvale resources centre only provides space for different community activities. Staff members manage the facility and do not facilitate any programmes. Furthermore, this centre is government funded with fewer resources than the Ubuntu community centre which is privately funded by a NGO. Several services which were intended with the initial brief, such as social services, computer access and after school programmes for learners, are still not being provided.

Participants selected at Ubuntu center



Participants selected at Helenvale center

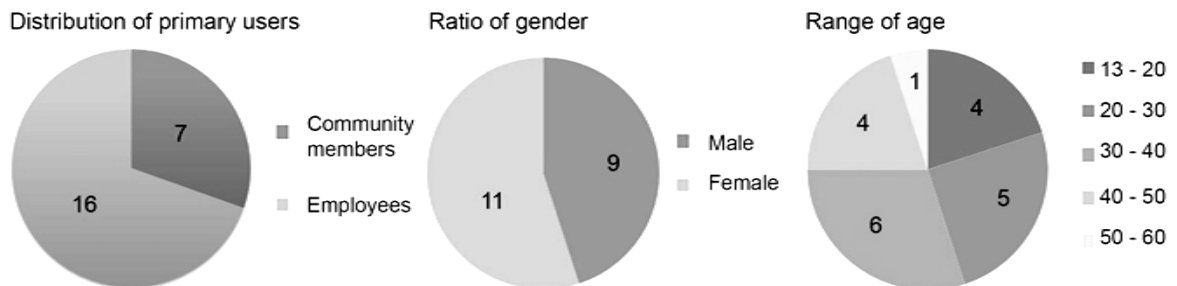


Figure 7. Participant ratios: community involvement, gender and age.



Ethics

Ethical consent was received from the University of the Free State to conduct semi-structured interviews with community members. Participation in the study was voluntary without compensation. Prior to the interview, the purpose of the research, the interview process and the reason why the participants were chosen were explained. The interview, time required, as well as mapping and sort-process was discussed. Participants were further informed that the interview was going to be recorded. Consent forms were signed by all participants on accepting to participate in the study.

3.5 Selection of chosen case studies

The selection of case studies was done according to the following criteria namely: architectural awards received, geographic location, typology and time of construction. The following Table (1) indicates the list of possible structures:





Table 1. List of case studies which received National or Regional Awards.

Province	SAIA Award of Excellence	SAIA Merit Awards	Regional Community Awards
Eastern Cape	Ubuntu centre Field Architecture 2011 Zwide, Port Elizabeth [management by NGO's]	Helenvale multi-purpose community centre The Matrix cc... Urban Designers and Architects 2014 Port Elizabeth	Nelson Mandela youth & heritage centre [BKIA] Stauch Voster 2007 Qunu
			Tricircle pavilion [BKIA] Smale & Partners 2010 East London [Located in residential estate]
Western Cape		Westridge civic hall Graham Parker 1979 Cape Town	Tsoga environmental centre [CIFA] Collis and Associates 2007 Langa
		Belhar community hall Uytenbogaardt & Rozendal 1987 Belhar	Khayelitsha multipurpose community centre [CIFA] Makeka Design laboratory 2009 Khayelitsha
		Paternoster community centre Jaco Visser 1999 Paternoster	Ikhaya trust centre [CIFA] kr2 Architects 2011 Stellenbosch [private ownership/ management]



North West		Bopitikelo community & cultural centre Peter Rich Architects 2001 Molatedi [dysfunctional]	
Northern Cape		Steinkopf community centre Uytendogaardt & Macaskill 1985 Steinkopf [in disuse]	

Architectural awards: To be considered for inclusion in this study, selected projects should have received at least one peer acknowledged architectural award, either on a regional or national level. This ensures that all buildings have been peer acknowledged or the design has been commissioned by a panel of members as is done in the case of design competitions. Information on the projects will also have been published in industry publications.

Architectural honours awarded include regional or national acknowledgments. Regional awards are also peer acknowledged on a provincial level such as the Border-Kei Institute for Architecture (BKIA) and the Eastern Cape Institute for Architects (ECIA), both in the Eastern Cape Province, and the Cape Institute for Architecture (CIfA), in the Western Cape Province. National recognition is made by the South African Institute of Architects (SAIA). Recognition granted is by national award of Merit or Excellence. Both regional and national awards have been considered to ensure a wider selection of projects representing a diverse group of the community.

Geographic location of case studies: Community centres are situated in developing areas or townships lacking infrastructure. Developing areas were chosen to investigate the spatial impact of infrastructure on settlements. Furthermore, research can guide possible future development in other rural areas and townships. Selected case studies are limited to a geographic area to lessen cultural differences. By choosing a geographic area,

case studies can also be conducted within the limited time frame. The two chosen case studies are located in the NMBM area, in the Eastern Cape.

Chosen typology: Gathering spaces, with specific reference to community centres, have been chosen as they represent a wide spectrum of the public in terms of age and are relatively accessible. Schools, libraries, clinics and sports facilities are restricted for certain members of the public for task-related activities and are, therefore, excluded. The case studies used for this study are limited to community centres. Their structure and management could be funded by either the public or private sector to include a diverse selection. Although the case studies are limited to community centres, the methodology could be applied to other institutional buildings for further research.

The selected community centres have slight functional differences such as one being more focused on education and the other on community functions. Case studies are selected for their differences rather than similarities to test spatial perception amongst different functional types.

Time of construction: Construction of facilities should have commenced after 1994. All facilities are thus built after democratisation and thus within a similar ideological framework. Community centres built earlier are excluded as they were built with other ideological intentions. However, structures built prior to 1994 are included in the historic and typological study of public gathering spaces.

Selection criteria not considered: Factors that are immaterial to the selection criteria are functional differences, size of facilities, style and construction methods of the structure, managerial factors or ownership of the facilities as well as private or public funding bodies.

3.6 Description of the two case studies: the Helenvale multi-purpose resources centre and the Ubuntu community centre

To investigate the relationship between SP, RoS and RS two case studies were chosen, the Helenvale multi-purpose resources centre and the Ubuntu community centre. Both these centres are located within the boundaries of the NMBM (Figure 8). The Helenvale centre is situated in the previous Coloured Group Area and Ubuntu in the Black Group Area. As described in section 3.5, these case studies were chosen from an extensive list of public buildings according to their geographic proximity.

The Helenvale centre is described as a multi-purpose resources centre were as Ubuntu's as a community centre. Public funded projects, especially in the NMBM area, have functional distinctions. Community centres are referred to as multi-purpose resources centres as functions and services provided differ between health, social and sports activities. Functionally, these spaces ought to be appropriated for multiple uses. On the other hand, the Zwide community hall, discussed in section 4.4, only has a small gathering space and makes no provision for service delivery (resources). Ubuntu's community centre has several resources such as the clinic and educational programs. However, the gathering space is only utilised for related activities and cannot be rented for private functions, as is the case with Helenvale.



Figure 8. Location of the Helenvale multi-purpose resources centre and the Ubuntu community centre in relation to Port Elizabeth.

Description of the Helenvale multi-purpose resources centre

Site discussion

The construction of the community centre formed part of the Helenvale Urban Renewal Program (HURP) for the NMBM, focusing on infrastructural development. Later the developing agent changed from HURP to the Mandela Bay Developing Agency (MBDA) (Williams: 2011). The HURP framework proposed the upgrade of roads and pedestrian walkways, which included lighting and adjacent public spaces (De Jager: 2012). New public buildings were further proposed, which included the resources centre and an Early Learning Development Centre at the Helenvale Primary School. Research on this development include that of Emely Lundahl and Nina Södergren who suggested the reconsideration of housing, street networks and the provision of public spaces (2008).

The initial brief provided by the NMBM stipulated the location of the site. The proposed resources centre was to be constructed on the corner of Leith and Baadjies Roads, also the location of the existing community hall. This hall was deemed inappropriate as it was considered to be too small for the community's needs. Initially the architects, The Matrix Urban Designers and Architects, considered retaining the existing hall, but after thorough consultation with the community, proposed that it should be demolished.

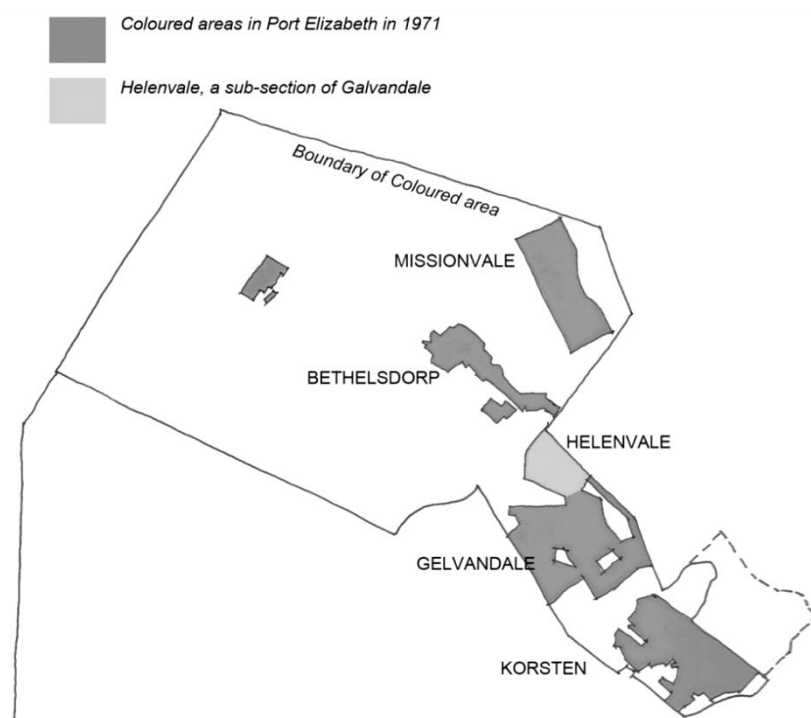


Figure 9. Coloured Group areas by 1971 highlighting Helenvale. Redrawn from Phillips (1971) p.17.

In the aerial photo of Helenvale (Figure 11), the existing community hall (now demolished) is visible adjacent to Leith Road. No other infrastructure was provided on site apart from a park with barbeque facilities. Although the community centre was fenced (Figure 12), the remaining public spaces, including the park, had no boundaries resulting in security issues.

As the site had no restrictions, two main pedestrian routes developed across the site. These were later utilised as the main 'community street' as organisational element for functions (Herholdt: 2013).



Figure 10. Roads and networks surrounding the Helenvale multi-purpose resources centre.



Figure 11. Site of the previous Helenvale resources centre. Google Earth image: 2004.



Figure 12. The previous Helenvale resources centre which was demolished to make way for the new structure. Google Earth image: 2009.



Figure 13. Corner of Baadjies Road prior to the construction of the new facilities. Note the power station that was integrated into the design of the public space. Google Earth image: 2009.



Figure 14. Leith Road prior to the urban renewal project. Google Earth image: 2009.

Footprint/ Nolli diagram

Initially, Helenvale consisted of duplex housing with two bedrooms each. However, these units have been enlarged, either through additions or by adding temporary structures on site (Figure 15). Between 10 and 15 people now reside on one plot due to overpopulation and the lack of housing. As some houses have 15 occupants with a densely built up site, little open space is provided for outdoor activities. Streets and sidewalks are consequently used for physical and social activities, regardless of vehicles. Children playing in streets unattended are a major security and safety issue.

The scale of the Helenvale centre, located between the school and commercial centre, is in stark contrast with residential units (Figure 16).

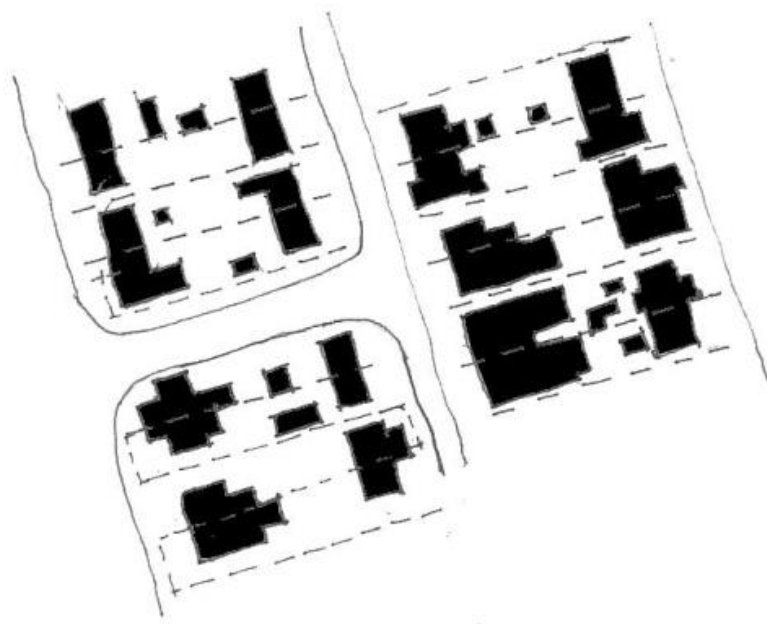


Figure 15. Boundaries, scale and footprint of residential units, Helenvale.

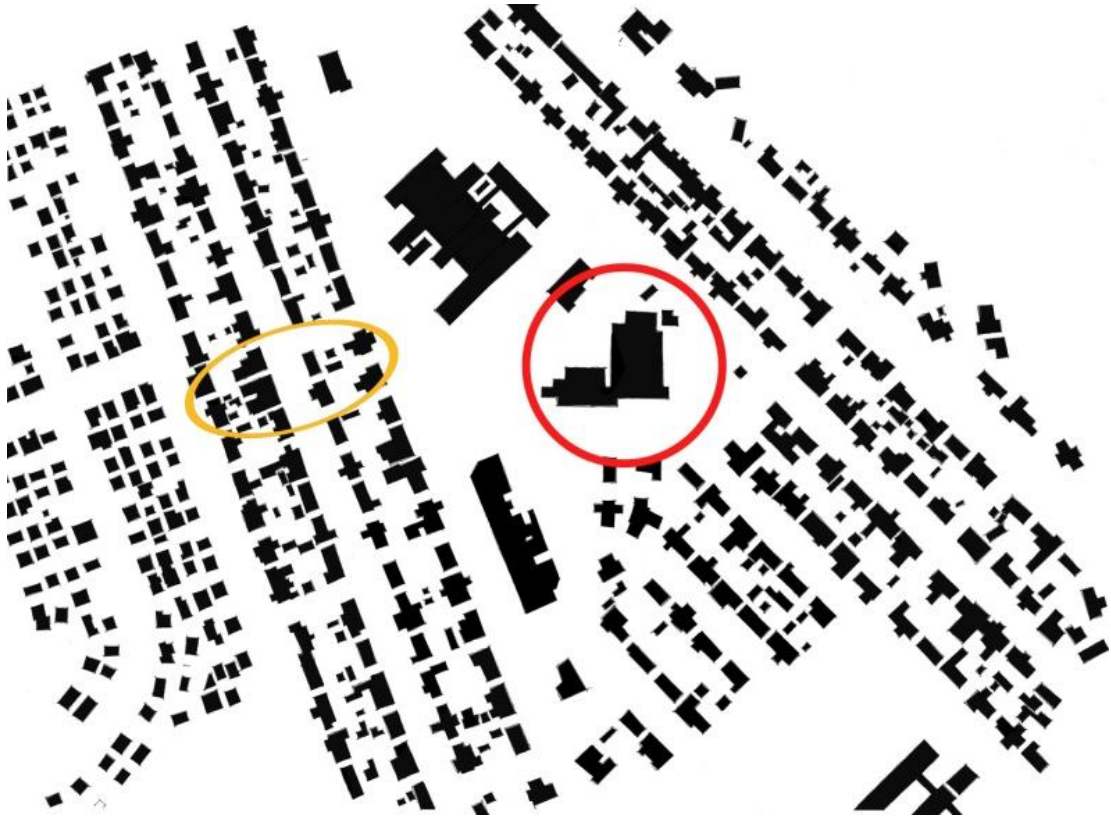


Figure 16. Nolli diagram indicating the Helenvale multi-purpose resources centre (red circle) and the residential units (orange ellipse) investigated.



Figure 17. Helenvale resources centre during construction. Google Earth image: 2013.



Functional programme (plan)

The centre is divided into three main areas of circulation, gathering and public space (Figure 18). Circulation space, in the form of the community street (2), is the organisational element with adjacent functions such as the offices, community hall and multi-functional space. Waiting pods in the 'street', opposite the offices, facilitates activities in the street, while services (10), accessible from a secondary circulation route, also flows from the community street. A concrete column and beam structure further extends from the street to form a link with the secondary entrance (16) accessible from Baadjies Road.

From the community street, two enclosed gathering spaces are provided, the community (6) and multi-purpose hall (7). The community hall consists of a sub-dividable space that can open to a semi-enclosed outdoor space. This hall is used as a training facility by government organisations or could be rented for private functions. In turn, the multi-purpose hall is used for larger community gatherings or for sport activities. Currently, activities or gatherings are only organised by external organisations, with no programmes facilitated by staff members.

In front of the entrance, relatively accessible public space is provided in the form of a community plaza (1). Terraced levels with newly planted trees provide pedestrian access and informal seating. This space is connected to the urban park by a pedestrian crossing, thus extending the public space across the road. The urban park is connected with walkways to the pedestrian network, forming a strong connection between the community and the centre. Parking is provided parallel to the road, with an access controlled gate adjacent to the tower (4). The tower, an important landmark in the community, also doubles as the security checkpoint.

A caretaker apartment (11) is provided toward the eastern, more secluded section of the site. The small apartment consists of a living space, two bedrooms, a bathroom and storage space. Although the unit is not fenced, a semi-private space for outdoor activities toward the southern side is provided.

Client requirements stipulated that the centre and surrounds should be fenced. The architect, however, convinced the client to have no boundaries around the community plaza.

As the building has only been occupied since 2013, little functional or structural changes has been made.





Figure 18. Ground floor plan of Helenvale multi-purpose resources centre indicating functional organisation.



Figure 19. A: Closed entrance from Baadjies Road. B: The secondary entrance accessible from Baadjies Road, which is used instead of the main entrance.



Figure 20. A: Doors of the hall opening onto the sport field. B: The multi-purpose hall with a stage and tiered viewing area.



Figure 21. The market tower as security point with adjacent vehicle access also used as pedestrian entrance. B: The community street with waiting pods in front of the offices.



Figure 22. Main entrance to the community centre accessible from the public plaza. B: The axis from the entrance connecting with the sculpture.



Figure 23. A. Sculpture forming part of the Helenvale precinct plan. Image obtained from <http://www.thematrixcc.co.za/>. B: Mural at the entrance of the Helenvale centre forming part of RS. Image obtained from <http://www.thematrixcc.co.za/>.

Description of the Ubuntu community centre

Site discussion

Although the Ubuntu Education Fund was established in 1999, a purpose built structure was only constructed in 2009. Prior to the construction of the Ubuntu centre, an existing hall was used. To commemorate the growth of Ubuntu, the new structure was built opposite the existing hall.

Initially, the existing hall was chosen as it is adjacent to a public school and library, allowing close interaction between these institutions. The hall, consisting of storage and smaller gathering spaces, is positioned on the southern corner of the site. No sport facilities or library were built as it was envisaged utilising the existing facilities. Currently, the Bus Rapid Transit (BRT) system is also constructed in close proximity in Spondo Street, for better connectivity with Port Elizabeth.

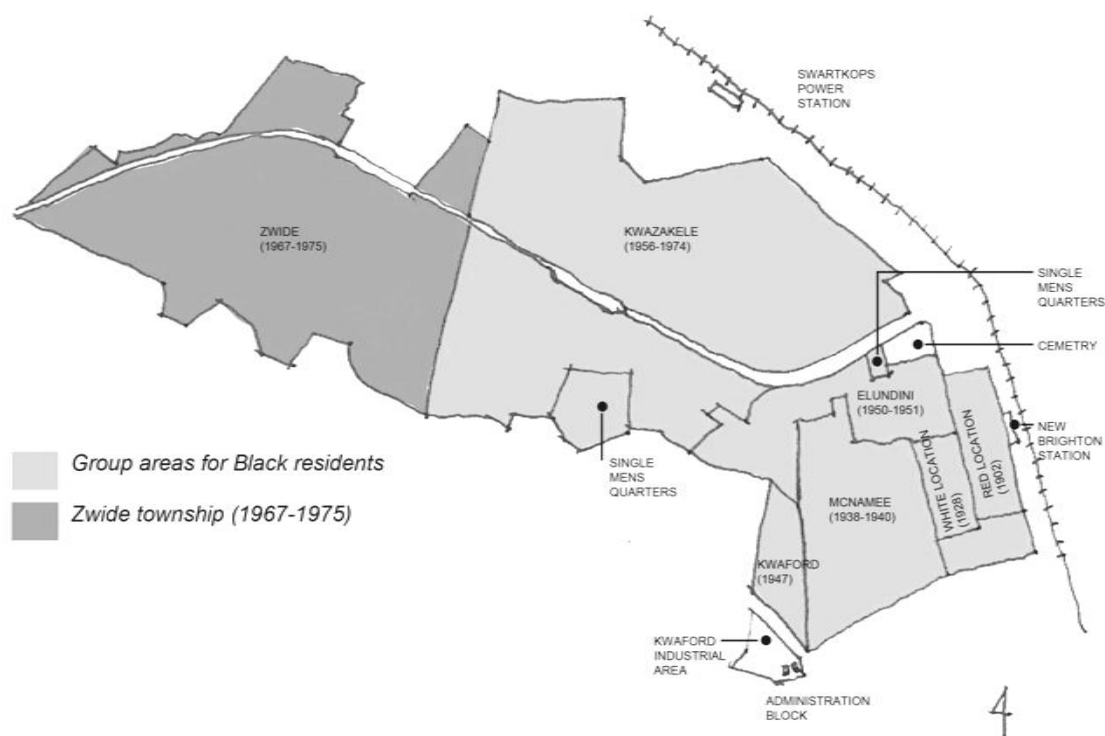


Figure 24. Development of Zwide between 1967-1975. Edited by author from Davies (1996) p.156.

Previously, there was a post office on the site, which was burnt down by the community during political unrest. From the original structure, only the foundation and a delivery post remained on site, visible on the northern boundary of Figure 26. The delivery post was incorporated into the design, positioned across the entrance of the new community centre. The vacant land on the other side of Qeqe Street is privately owned and used as an informal dumping site for residents' refuse.

The public library is positioned north of Qeqe Street with the primary school on the southern side. Comparing Figure 26 and Figure 27, commercial development can be noted on the corner of Qeqe and Spondo Street. Business related activities include a fuel station, tavern and cafe.

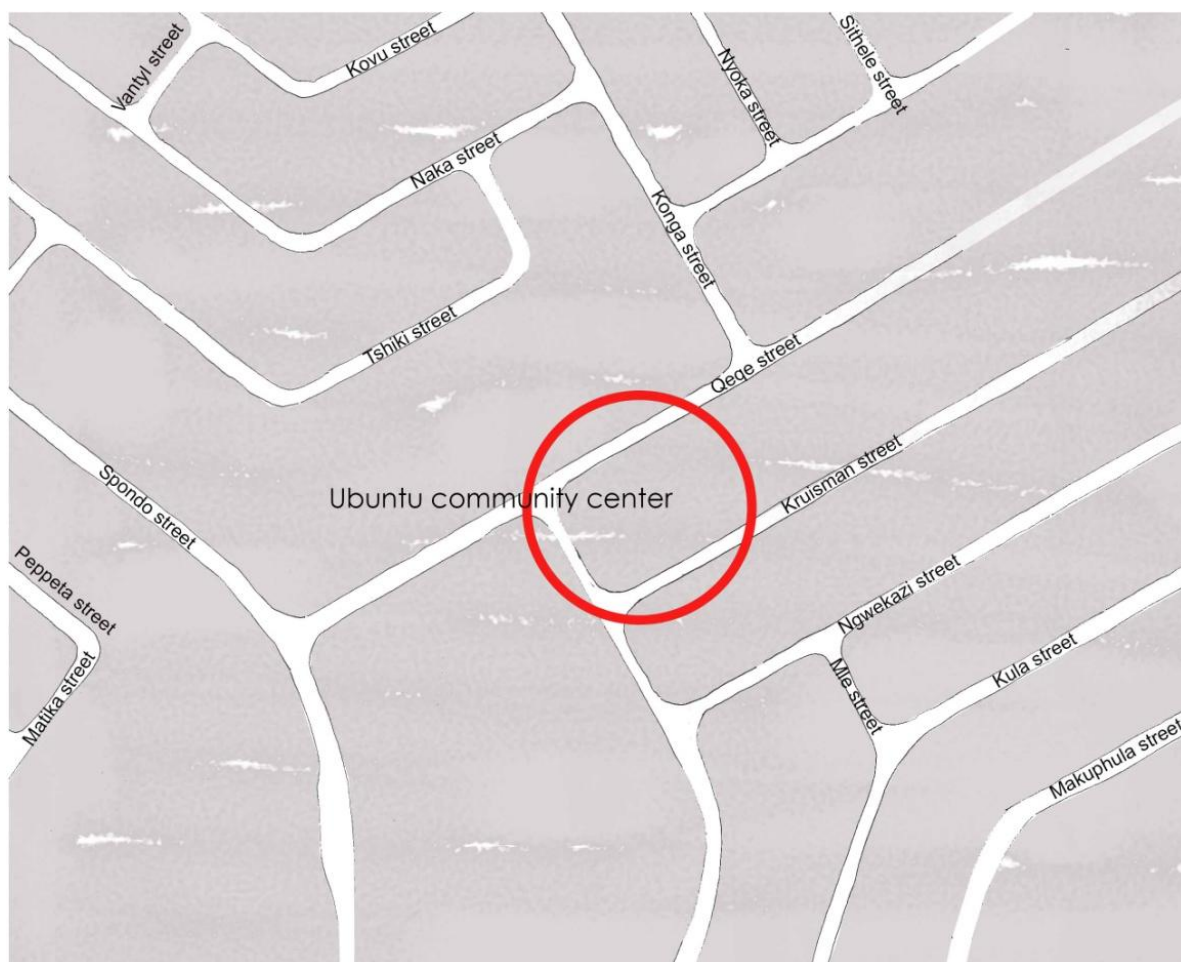


Figure 25. Roads and networks surrounding the Ubuntu centre.



Figure 26. Site of the Ubuntu community centre. Google Earth image: 2004.



Figure 27. The Ubuntu community centre after completion. Google Earth image: 2013.

Footprint/ Nolli diagram

Similar to Helenvale, the housing in this area of Zwide consists of two bedroom duet units (Figure 29). However, as seen in Figure 30, the additions to housing units in Zwide are of a more permanent nature and with fewer corrugated iron shacks.

The footprint of the Ubuntu centre, in comparison with residential units, is denser (Figure 29). However, the fragmented nature of the structure does somewhat minimize its scale in relation to the context of the residential units.

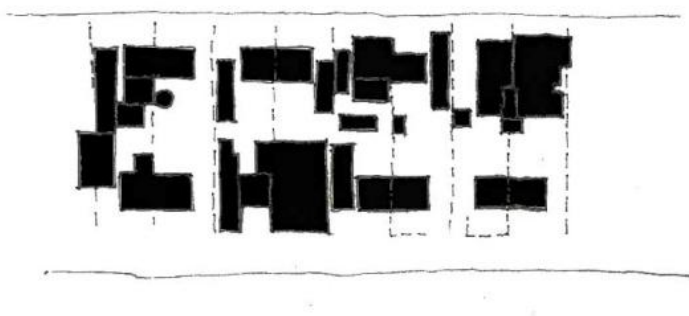


Figure 28. Boundaries, scale and footprint of residential units, Zwide.



Figure 29. Nolli diagram of the Ubuntu centre (red circle) and the residential units (orange ellipse) investigated.

Functional program (plan)

The functions of the centre are organised around the provided health and educational facilities. From the entrance, different functions can be accessed from the corridor. A clinic, with an open waiting area (11) flows into consultation (12) and counselling rooms (9). Other related health services provided include blood testing, a pharmacy and doctors consultation room.

Educational facilities include crèches (6) with a play area and a computer room. General gathering spaces utilised for educational, health or community gatherings include the multi-functional hall (7), the flexible meeting space (2) on ground floor and another subdividable multifunctional space (19) on first floor. In the rooftop garden (21) vegetables are in planter boxes for educational purposes and to supply the kitchen (8).



Figure 30. Houses adjacent to Qeqe Street as seen from Ubuntu's rooftop. Note the additions to the original duet units.

For the staff, a lounge (4) is provided on the ground floor with offices (23) on the first floor. Due to the large amount of employees, currently more than 60, sections of the multi-functional space (19) has been organised into more offices (20). Adjacent to the offices (23) is a boardroom (22) for Skype conferences and staff meetings.

As the building has been occupied since 2010, several functional changes have been made. These changes are indicated on plan in light grey. As there was a need for a second crèche (6), general meeting rooms in the resource centre have been adapted. In the multi-functional hall (7), also called the theatre, a sound booth has been installed. For the clinic, two changes were made. Underneath the stair (17), at the entrance of the clinic, a gate was installed to provide an enclosed space for children to play while their parents receive treatment at the clinic. In the courtyard (16), initially designed as a garden, more seating was provided with overhead coverage as the waiting area for the clinic became too small.



Figure 31. Pedestrian routes as design generator and figure ground drawing of context. Image obtained from <http://issuu.com/ubuntueducationfund/docs/designing-ubuntu>.

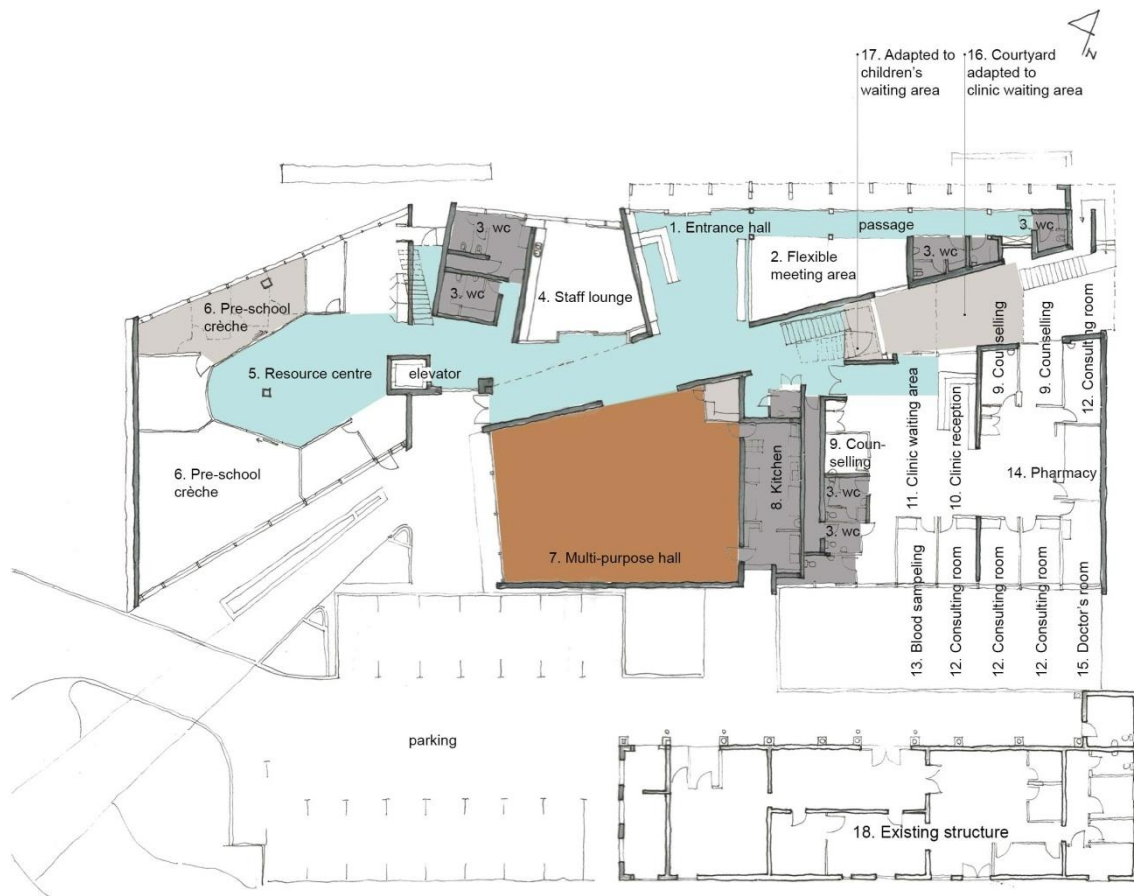


Figure 32. Ground floor plan of Ubuntu community centre indicating functional organisation.

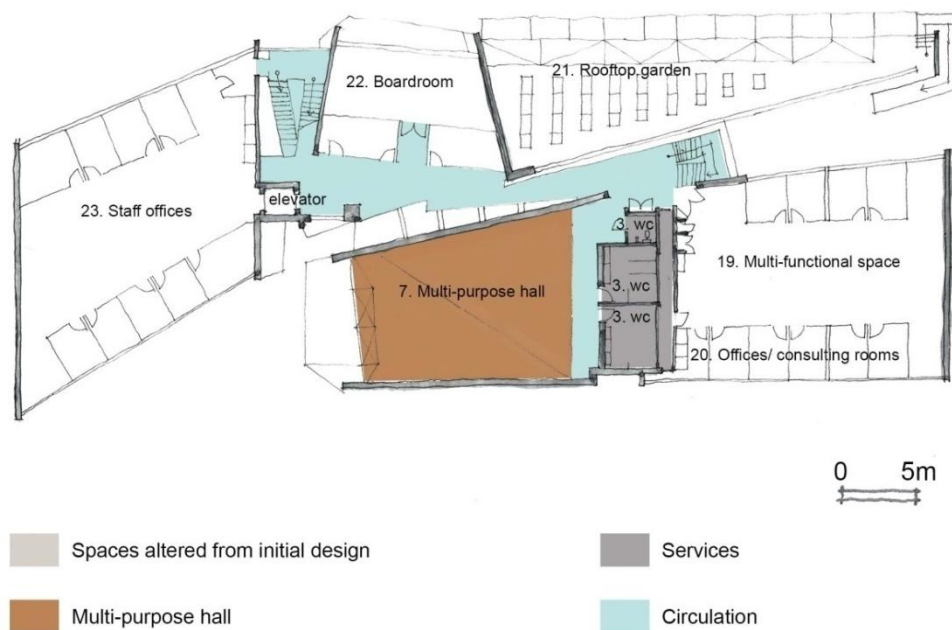


Figure 33. First floor plan of Ubuntu community centre indicating functional organisation.



Figure 34. A: Entrance to the community centre emphasizing the existing post delivery point. B: The Ubuntu centre as seen from the corner.



Figure 35. A: The dumping site as seen from the Ubuntu centre. B: The public library as seen from the rooftop garden.



Figure 36. A: Waiting area of the clinic. B: Clinic reception with abstract mural.

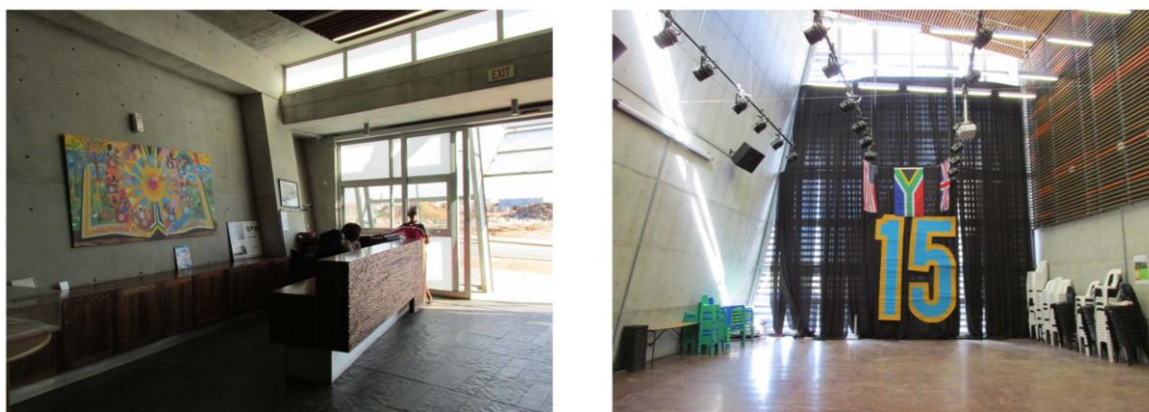


Figure 37.A: Reception of the main entrance. B: The multi-functional space referred to as the theatre.



Figure 38. A: Space in the courtyard converted to waiting areas. B: Adjacent to the clinic, the space under the stair has been converted into a play area for children whose guardians visit the clinic.

3.7 Discussion of three chosen methods: Semi-structured interviews, mapping and sort-charts

From the five studies investigated in section 3.2, three methods have been identified. These include semi-structured interviews, mapping and sort-charts. Each method is discussed to explain the procedure followed, the response of participants and how data was analysed. Lastly, the ability to answer the posed research questions is discussed.

Semi-structured interviews with the primary users of the two community centres

Process and tasks conducted at the two case study communities

Whilst completing both the sort process and indicating codes on base maps, participants were requested to explain their thought processes. Interview questions are included in the protocol in

Appendix XIV. Both mapping and sort-charts were thus used to structure the interviews and focus them on architectural issues.

Interviews at the Helenvale multi-purpose resources centre

Interviews at Helenvale were conducted in Afrikaans as 93% of the residents are Afrikaans speaking (Appendix XIX). Quotes were then transcribed in Afrikaans and translated to English. For clarity, both English and Afrikaans (Appendix XXI) transcriptions are provided. Specific local Afrikaans words have a rich description that should be taken into consideration for spatial explanations. One such example is the word 'onse', directly translated as 'our'. 'Onse' describes ownership and is not just to indicate a group or collection.

Interviews conducted at Ubuntu community centre

The language in which the interviews were conducted was a key consideration. According to the 2011 Census most of Zwide's community members' first language is isiXhosa (Appendix XX). As the author is not isiXhosa speaking, an interpreter had to be considered. However, as semi-structured interviews were conducted, investigating participants' reasoning behind choices, the author felt that important information would be lost. Interviews were thus conducted in English. Participants were all able to convey their spatial interpretation of the images and maps. Again, the visual aids of mapping and sort-charts aided the interview process.

Documenting and analyzing the data

With the permission of participants, interviews were recorded after, which they were transcribed and translated. Transcriptions were then coded with the aid of ATLAS.ti, a computer programme that aids with digital codification of data. Coding was carried out deductively through predetermined themes from the theoretical investigation of RS and

SP. Themes were defined as SP (lived reality), RoS (conceived space created by architects) and RS (perceived). Categories for SP include form, function and structure. RoS categories include fragmentation, subdivision spatial context and texture, and construction technique. Categories for RS include archetypes, effective centres, condensation and displacement. Each of these categories was then further sub-divided into more detailed descriptions. Distinctions between themes as primary constructs and categories as secondary subjects was implemented from the literature of Miles and Huberman (1994). Qualitative content analysis of data was then structured as narrative through verbatim quotes (Silverman: 2011).

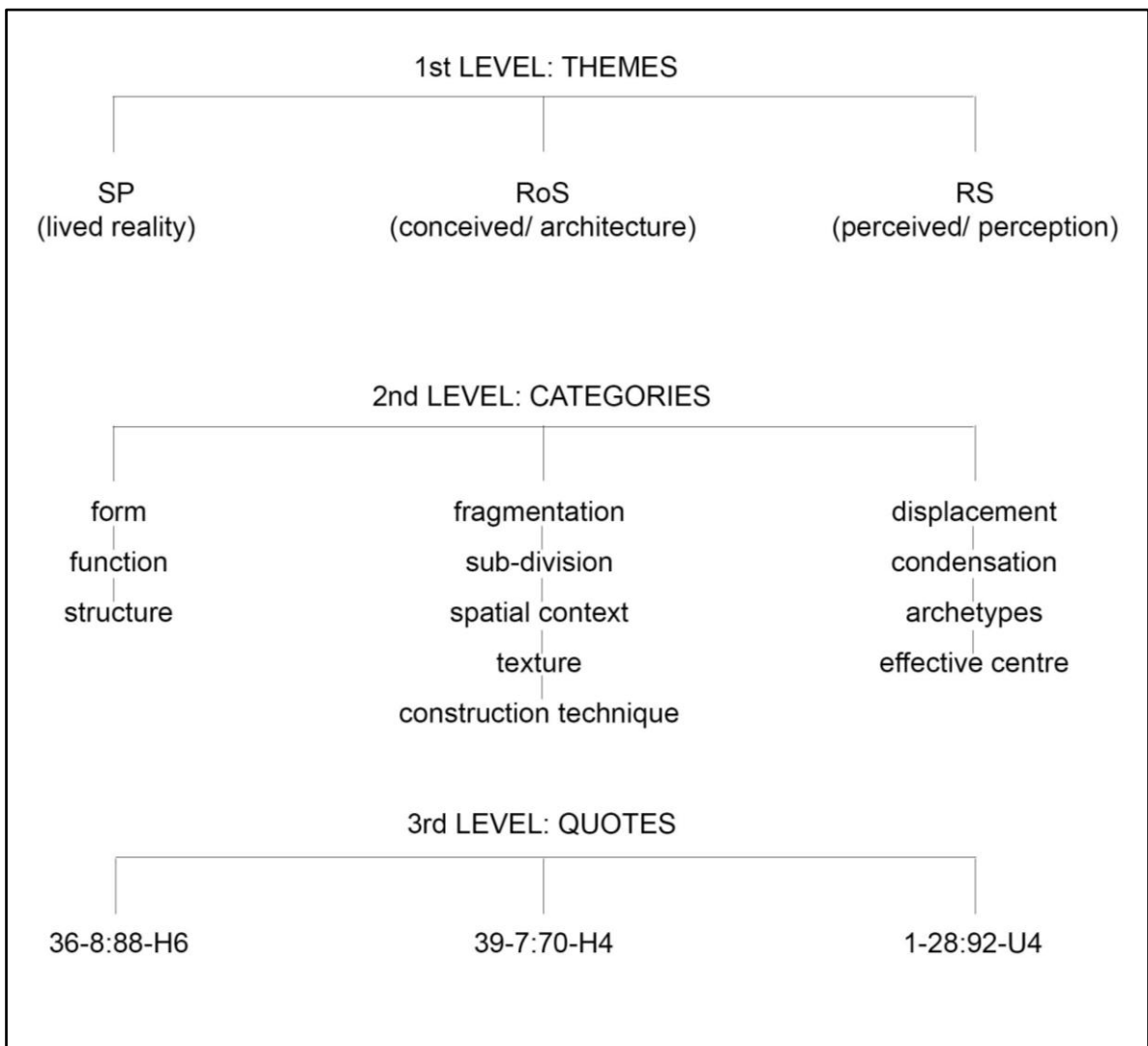


Figure 39. Diagram indicating levels used for coding the interviews.

Semi-structured interviews with the architects of the two community centres

Process and tasks conducted during the semi-structured interviews

Two interviews were conducted with the respective architects of the community centres. First was an interview with The Matrix Urban Designers and Architects. The interview was conducted with the principal architect, Albrecht Herholdt and the project architect Miles Hollins at their offices in Port Elizabeth. The second interview was with Stan Field, the principal architect of Field Architects based in Palo Alto, California. Due to logistical problems, a Skype interview was conducted. Both interviews were unstructured, allowing the architects to elaborate on the design, function and contextual integration of these centres with the respective community. Interviews were also recorded to allow for accurate transcription.

Documenting and analyzing the data

Interviews were recorded digitally and in the case of the Skype interview, with appropriate software. Recorded interviews were then transcribed through a professional transcription service. Transcriptions of the architects were then coded with ATLAS.ti, allowing comparisons between data of participants. Codes have been determined deductively through the theoretical investigation of Lefebvre as discussed in section 2.5. These codes (all forming part of RoS) include fragmentation, subdivision, spatial context and texture, and construction technique. In some cases reference has also been made to themes categorised under RS and SP such as function and structure.

Mapping

Process and tasks conducted at the two case study communities

After completing the sort process, each participant was requested to indicate areas of significance on a base map. Base maps consisted of Google Earth maps which indicated the community centre and surrounds in a radius of 2 kilometres. Areas of significance were then indicated with codes (stickers). Each code was numbered and further consisted of text and a visual description or image. Codes included positive (1), negative (2), important (3), change (4), identity (5), meaning (6) and social (7). Participants thus indicated which areas in and around the community centre were perceived as such.

Through the semi-structured interviews, participants were probed to explain why specific spaces were identified and what it was in these areas that made it to be perceived as such.

Documenting and analyzing map overlays

The 20 data sets from each case study were documented on a transparency in order to superimpose information. Numerical values of each code were documented, indicating the significant areas and connotative meaning. The superimposed data were then colour coded to indicate density and distribution. Qualitative data from the semi-structured interviews were further connected to each identified nodal area to describe the spatial perception. With these descriptions a connection was formed between the community centre and its immediate surrounds.

Superimposed information from data sets was placed on area maps indicating the spatial perception. From this data, significance was identified according to the density and distribution of codes. Groups were thus formed around nodes and structures, indicating the perception. Information from the semi-structured interviews then indicated the connection to the community centre.

Sort-process

Process and tasks conducted at the two case study communities

A sort-process for each case study consisted of fifteen images that had to be sorted by each participant into predetermined categories. The fifteen images consisted of photographs taken by the author prior to conducting field work. Images were chosen to represent all the different spatial qualities of the structure as well as contextual references. Images were further numbered for ease of data capturing. Participants were then required to group these images into categories which were predetermined by theoretical themes. Categories included identity, enclosed, community, symbolism and inclusion. This five categories were chosen to investigate aspects of SP and RoS. Identity and symbolism investigates displacement and condensation, and community effective centrality, all aspects of RoS. Enclosed and inclusion focuses on SP in relation to the form, function and structure. Only predetermined categories were used as direct-sort. For the sort-process, groups referred to the categories formed by participants, into which q-sets were organised. Q-sets, in this case, consisted of images taken by the author of different characteristics of the community centre. Two sort-processes were initially used, free and

direct-sort. Free-sort allowed participants to form their own groups with specific classification, whereas with direct-sort the author presented predetermined categories.

During the pilot study it was found that when participants were required to complete free-sort (forming their own groups to categorize cards) groups consisted mainly of functional aspects. Groups were formed organizing q-sets into internal or external spaces, infrastructural elements such as roads or walls and uses of space. Participants could thus not form their own categories according to spatial experiences or perceptions. Therefore, the sort-process for the final study consisted of a direct-sort. Each category of identity, community, symbolism and inclusion was explained to participants so that they would clearly understand the intent.

During the process participants categorized the q-sets into the different categories. Whilst completing the process, they were required to explain their reasoning behind choices through a semi-structured interview. Participants were mainly probed to explain why a certain category was chosen and then to explain what aspects in the image informed the decision. Participants were only required to sort the q-sets they were familiar with or could identify. Q-sets that had not been used were categorized separately as 'not-used'.

Documenting and analyzing data of sort-charts

After completing the sort-process the author tabulated the code of each q-set (Table 4 and Table 5). Codes were thus directly linked to a specific q-set, spatial aspect of the structure as well as a group. Codes were further linked to quotations collected in the interview process that explained categorization.

Data from different participants were recorded on output charts noting the degree each q-set was categorised into each group, including the category of 'not-used'. Data collected was analyzed with a correspondence analysis, aided by the *STATISTICA* programme. Through the correspondence analysis, data was plotted on a two-dimensional plain allowing further associations and comparison to be made.

3.8 Conclusion: Methodology answering the research questions

Aspects considered in the research methodology chapter include a literature review, two pilot studies conducted, the selection of participants and case studies as well as the methodologies applied. The literature review investigated related research conducted on perception and the functioning of public space. Literature discussed engaged community participation methods through visual aids. Methods considered in the review were then

tested through two pilot studies. The first pilot study was conducted at public spaces and infrastructure in the NMBM and Cape Town Metro. Aspects investigated included physical activity through a PARA analysis, and spatial use through an interactive mapping process. The second pilot study was conducted at a community centre in Bloemfontein. Methods investigated included semi-structured interviews supported by two visual aids. The first visual aid consisted of base maps on which participants indicated spatial preferences; the second of sort-charts which were grouped into categories. Throughout both these activities participants were probed to explain their thought processes through the semi-structured interviews.

Final field work was conducted at the two chosen case studies, the Helenvale multi-purpose resources centre and Ubuntu community centre, situated in the NMBM. Methods used at each case site included semi-structure interviews, a sort-process and mapping. In the methodology chapter each of these methods was discussed in terms of processes and tasks conducted, as well as documenting and analyzing the information collected.

Methods were chosen to substantiate the three research questions simultaneously, and not each question individually. The first two questions were explored through data from both participants and the two respective architects. Information from the sort-process combined with the semi-structured interviews was compared with the architects' interviews. The third research question was answered by all three methods with the focus on constructed maps.

To conclude, the methodology chapter highlighted background information of the methodologies chosen and outlined the specific approach followed. With the selected methodology, it was important that the focus is on community members' perception and the architects' design intent. The significance lies in the spatial perception of community members and not the author's observation.

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Chapter 4 An overview of gathering spaces: From global to local

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4.1 Introduction

The first section of the chapter describes the development of public spaces from city halls and civic centres to community halls or centres. Each section briefly discusses this development in England, America and South Africa. The South African section elaborates on specific examples that have received either a peer acknowledged architectural award or has been selected through a design competition. The second section focuses more on public infrastructural development in townships with reference to Port Elizabeth. The discussion aims to highlight the spatial distribution of public infrastructure and typological diversity. The third section compares typological, structural and aesthetic aspects of gathering spaces such as community, cultural and heritage centres. Through the comparison, the two chosen case studies can be contextualised with South African precedents.

4.2 Development of gathering spaces

Public gathering spaces developed according to various needs in settlements. Some of the initial gathering spaces developed along the market space in medieval cities. The Palazzo del Broletto at Como (1215) is one such example used as a government building. Consisting of two levels, the ground floor served as a covered extension of the adjacent market and the first floor as town hall or law court (Pevsner: 1976, 27). Later in England and Germany town halls were used for governance. In the late 19th century, city halls were gradually used for community gatherings or educational purposes. In the 20th century two other public gathering spaces developed; civic and community centres. Community centres were built around the time of World War I and II, while civic centres began to appear in newly developed settlements. Both these typologies made provision for the growth of public space.

In the following paragraphs the development of gathering spaces is discussed. First city halls are discussed to identify characteristics, use and contextual reference. Thereafter a description of civic and community centres follows. Each description focuses briefly on international examples after which the development in South Africa is explained. The purpose of this section is to understand public gathering spaces and to contextualise community centres.

From the city hall to civic and community centre

Cities adapt and mutate to political and economic changes. As cities transform, typological changes can be observed in public infrastructure. The rate of transformation, either on the



scale of the city or on individual buildings, depends on the local circumstances. In some cases the transformation is minor so that change cannot be clearly observed. However, in history some events provoked major spatial changes. These events are usually marked by turmoil such as World Wars I and II, or dominating political power. Parallel to unrest and politics is the economy, often directly influenced by the latter.

Prior to the dramatic changes instigated by World Wars I and II, city halls were utilised as primary public gathering spaces and administrative centres. In England, the St George's hall (1851) in Liverpool by H.L. Elmes is an example of combined facilities. It comprises a large hall, a smaller concert hall, a civil and crown court (Pevsner: 1976, 54). In parts of Europe such as Germany, these administrative structures were known as the Stadshalle, centrally located in each town for municipal purposes. In America, the town hall was often used as a municipal administrative centre. In general, the town hall complex consisted of offices and a central gathering space for council meetings or other related events. This gathering space was often utilised for cultural and civic activities although the main purpose remained administrative.

In South Africa these structures were part of a colonial tradition established in several new towns established after 1652. When comparing South African examples to their British and European equivalents, they contain similar typological and morphological characteristics. Structures are contextually dominating forming nodal points often erected on a raised plinth. Furthermore, these structures were built as individual objects without being contextually integrated. In some cases they were even surrounded by a structured park, creating a green barrier between the street and public infrastructure. These halls were often built in neo-classical styles like the Cape Town city hall (1905), designed by Henry Austin Reid and Frederick George Green in an Edwardian style. Other Victorian structures include the city hall in East London built in 1987. The Bloemfontein city hall was also designed in a neo-classical style, by Gordon Leith and construction was completed in 1936. This city hall had an administrative wing to the east and west for municipal functions. Its predecessor, the first town hall, was located in Charlotte Maxeke Street (formerly Maitland Street), completed in 1883 and designed by Richard Carl George Theodor Wocke, which was later demolished (Figure 40). The new town hall was built to form part of the historic President Brand Street which housed other political structures and the seat of the Orange Free State Republic. In 1992, the town hall was no longer suitable for municipal administration due to the lack of space, and a new civic centre was planned. The centre was launched through an architectural design competition. Although this building's aesthetic quality has been criticised it does provide a public space in front of the

entrance which is often used for public demonstrations. This public area forms a spatial relationship with the historic town hall, although the architectural language does not correspond.

From the 1940s onward, especially after the founding of the Republic of South Africa in 1961, several new towns and urban areas were developed. Along with this development came the need for new municipal structures. The neo-classical typology of the city hall was no longer appropriate and structures addressing changing times were required. The civic centre was now deemed appropriate to create a focal point in the urban fabric. These centres were mostly built in Brutalistic style influenced by the geometric structures of Louis Kahn. They were further influenced by the Bauhaus and International style shaped by architects such as Le Corbusier and Mies van der Rohe.

Four structures are examples of this development, the Welkom town hall, Sasolburg, Johannesburg and Westridge civic centres. The typological development of the buildings, their contextual integration and the contribution to later development of community centres is discussed. They were chosen as each has received either a peer acknowledged award of Merit, project award or has been chosen by way of a design competition. These structures are published and information about them is obtained.

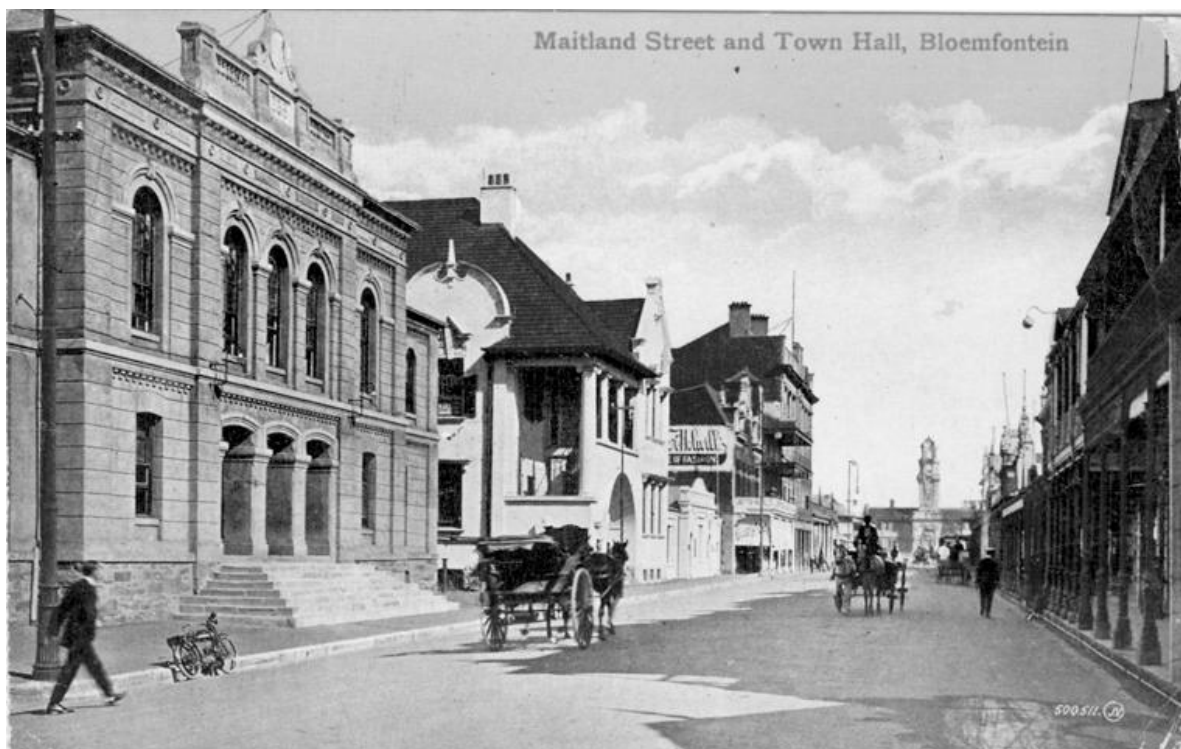


Figure 40. Bloemfontein town hall constructed in 1883 (status: demolished). http://www.artefacts.co.za/main/Buildings/image_slide.php?type=9&bldgid=7300&rank=1.

Welkom, a town in the central Free State, had a civic centre built along the main road. The structure was designed by Kantorovich & Barnett architects and construction was completed in 1955. The project was awarded to the architects by winning the design competition. Although this complex is referred to as a town hall, it marks the typological transition from the city hall to the civic centre. Situated along the main road and parallel to the park opposite the street, a public space was created in front of the complex. It is further organised by a clock tower placed centrally, which forms a landmark when viewed from the road. Traditionally, the tower (or in some cases two towers) would be placed over the entrance of the town hall or in the case of a second tower, over the secondary entrance. At the Welkom town hall, the tower was dissociated from the main structure to form a nodal point, changing the typical use of the archetype. Currently this tower is used as an information kiosk, an appropriate function for of this landmark.



Figure 41. Welkom city hall, Welkom. A: The tower as axis. B: The tower as reference point in relation to its context. C: Image of town hall's structure.



Figure 42. Johannesburg civic centre, Johannesburg. A: The administrative section of the civic centre. B: The civic centre positioned in a park environment. C: Public space is provided although the scale remains inhuman.

The complex is further divided into three separate structures of the civic hall, theatre and the administrative wing. Both the civic and theatre hall flank the public space to form a public promenade toward the street. The administrative block is set toward the back of the public area which is accessible from the secondary street and northern entrance. Materials used include brick and Clip-lock roofs. Originally the roof sheeting consisted of copper panels, but after extensive problems had to be replaced with galvanised sheeting. To match the original roof, sheets were painted green. Stylistically, neo-classical elements associated with town halls, were limited. The complex is somewhat reminiscent of Paul Rudolph's brutalistic style, especially with reference to the use of bricks. The significance of this structure thus lies in the break from the traditional typology of a town hall into separate structures forming a complex. With the design of this complex, public space was created to integrate the structure into the urban fabric, although most civic centres were still being built with little contextual reference.

The Johannesburg civic centre, designed by Monte Bryer & Rodd, Watson, Peiser & Grobbelaar and P.L. Schwellnus in 1969, resembles the civic centre typology most. Compared to the Welkom town hall, this complex is not contextually integrated, but becomes an object in an extensive park. The urban landscape is dominated by brutalistic geometries, again following a certain stylistic approach. This assemblage of geometries forms the civic complex raised on a plinth to give it stature. The building seems inaccessible due to the scale and elevated structure (Figure 42, B). From Joubert Street, a terraced public space was created to form a threshold between the street and actual structure (Figure 42, C). Typologically, little reference to a city hall remains as spaces are functionally dislocated and classical references are limited.

In 1951 Sasolburg, a newly planned town was developed along with the chemical extractions from coal. Municipal services along with other public structures were required. In 1965, För's architects designed a civic centre for Sasolburg consisting of an administrative section and a gathering space or hall. The centre received a project award during the construction phase. Even though public infrastructure was transformed after democratization, the signage in front of the entrance still reads 'stadskouburg' or as translated, civic centre (Figure 43, C). This signage is reminiscent of the apartheid legacy as access for some racial groups were prohibited. The structure, built on a plinth which is connected with a ramp, consists of strict geometrical cubes. Horizontal concrete elements and the brise-soleil show the strong influence of modernism. Adjacent to the civic centre, on a lower level, a public library and hall were built later. The ramps connecting these structures with the civic centre are significant as they refer to Le Corbusier's Carpenter

Centre for Visual Arts completed in 1963, in Cambridge, Massachusetts, connecting the different spaces with the concept of man as a machine (Figure 43, A).

Although these three civic structures were not built simultaneously or by the same architects, a civic complex was formed. In comparison with the Welkom town hall, there is little relationship between the different structures or significant public space but rather a modernistic approach of the object in the landscape, in this case a tree filled park. An attempt was made to form a connection with the street through the raised veranda directly parallel to the street, but with no direct access. One has to follow the barricaded route twenty meters from this point .Furthermore, the initial entrance was from this veranda, but later on was moved to the (western) façade, creating wasted space and removing the connection with the street.



Figure 43. Sasolburg civic centre, Sasolburg. A: The ramp connecting the centre with the public library. B: Access to the centre provided by a ramp which is isolated from the street.



Figure 44. Westridge civic centre, Mitchell's plain. A: Lowered central gathering space with surrounding circulation. B: Possible public space utilised as parking space. C: Entrance to the centre accessible from the parking area.

A transitional structure from civic to community centre is the Westridge civic hall, built in Mitchell's plain, in the Cape Town Metro, designed by Graham Parker and completed in 1979. This structure won an ISAA award of Merit (now SAIA). The structure was initially built to provide space for municipal services, although little administrative office space was provided. The building is flanked by a library constructed after the civic centre, forming a complex. In front of the centre is a parking lot, which can double as public gathering space although little street furniture is provided apart from trees (Figure 44, B). What is significant in this case is the gradual shift from a civic to a community centre. There are two administrative offices with the focus on the central gathering space. This space allows for multi-functional utilization, being connected to the foyer and surrounding circulation (Figure 44, A). Furthermore, a stage and kitchen facility is provided allowing for community functions. The gathering space is the heart of the design connecting all the other spaces. Currently, the centre functions as a community centre rather than a civic centre with permanent staff managing community projects. These projects include after-school care and holiday programmes for children as well as developing programmes such as arts and crafts for the elderly.

This typology of civic centres was critical in providing public gathering spaces and municipal services in newly built human settlements. Civic centres can be associated with urban development and were rare after the construction of new cities or town centres since the 1970s. These centres differed in scale, and as with the case of Westridge, also in function. The significance lies in the combination of municipal and public functions to provide a complex for educational and cultural development as well as service delivery. Cultural and public activities have moved from these central spaces of the city centre to occasional festivals. These spaces should be revived once more to restore the civic presence of the structures.

The community centre

On an international level, literature is available on the development of community centres in America and Britain. These publications on community centres were investigated to determine how and where the typology originated, what the functional intentions and the initial motivation were.

In America, the development of community centres from 1907 in Rochester, New York was well documented by Stubblefield and Keane (1994). According to them, the 1911 conference on social centres, sponsored by the Wisconsin Bureau of Civic and Social

Development, organized by the Extension Department at the University of Wisconsin, played a significant role in the development of community centres. During this conference social activity as a means of transformation was discussed. One aspect of the conference focused on facilities for these activities, which were held in schools or other available spaces. Although the subject was contested, centres for these activities were approved. Between 1918 and 1919, community centres were built in 107 American cities and increased to 240 cities in 1930 (Fisher: 1994). In 1916, the National Community Centre Association was established, after which many centres have changed from social to community centres (Fisher: 1981).

After World War I, the need for accessible structures designed for social gatherings and further education, unrestricted by other activities, was growing. Community centres thus increased rapidly providing space for educational, social and welfare activities (Smith: n.d.).

In Britain, community centres developed due to large suburban developments where few services were provided, and which had high unemployment rates. Centres thus provided further education, job opportunities and search facilities for vacancies. The New Estates Community Committee (NCSS) published a definition defining the role of community centres in the *New Estates and Community Councils Paper 1*, as follows:

“A Community Centre may be defined as a building which (1) serves a community organized in an association which is responsible for the management of the building; and (2) provides facilities for the development of the recreational, cultural and personal welfare of members of that community; and (3) constitutes a meeting place for voluntary organizations or other groups in the community which need accommodation.

A Community Association may be defined as a voluntary association of neighbours democratically organized within a geographical area which constitutes a natural community, who have come together either as members of existing organizations or as individuals, or in both capacities, to provide for themselves and their community the services which the neighbourhood requires.” (Mess & King: 1947, 73)

The space could thus either be an existing structure such as a school utilised at different times for different functions, or a privately managed facility like a church or a purpose built

community centre. These centres were managed by the community and did not rely on the local government for support. Mess and King further identified two important factors that determined the success of community centres in Britain. First was the quality of the structure and second the management of the centre. They established the importance of a large meeting hall along with secondary spaces available for recreational activities. These facilities had to be well managed to maintain the structure, but, more importantly, to provide recreation and education programs for community members.

Community centres were seen as a method of solving some of the post-war social problems and were defined by a Ministry of Education publication (1944) as:

“A community centre should be regarded as an essential amenity of normal community living in normal circumstances; the provision of communal facilities for the rational and enjoyable use of leisure is a necessary part of the country’s education system; and voluntary effort, unaided, is quite incapable of meeting the needs for social and recreational facilities.”

In Britain, the number of community centres grew to 300 in 1947 and to 929 in 1960 (Smith: n.d.). Along with this growth the focus of centres shifted from social to educational development. Furthermore the maintenance of these structures became more important, as Twelvetrees (1976) indicated in a study of four community centres, in that the ‘growth of identification’ depended on how events are organised by staff.

In South Africa, the concept of community centres began with the initial development of townships in the 1940s, although the design focus of these centres shifted in the 1980’s⁶. During apartheid’s decline, the focus of infrastructural development gradually shifted to townships which often had little infrastructure. This development included educational and social structures such as schools and community centres. Similar to the American and European reaction to social problems, community centres were seen as a possible architectural typology to provide public social spaces in South African townships. From the 1980s onward there were two architects mostly involved in public township architecture that won several peer acknowledged architecture awards. Jo Noero designed structures

⁶ This was determined by drafting a diagram of gathering space including city halls, civic centres and community centres. Unfortunately little published information exists and is often only of buildings awarded through a competition or which obtained either a project, commendation or merit award on a regional or national level.

for educational purposes such as the Katlehong resources centre (Ramakonopi, Katlehong, 1989), the Duduza resources centre (1993, Duduza, Nigel), and the Soweto career centre (1993, Soweto). Roelof Uytendogaardt, on the other hand, designed several community centres in the Western Cape Province. These structures include the Steinkopf, Belhar and Salt River community centres (see Table 1 for location, dates and architectural reward received). Due to the nature of this study, only the community centres are discussed in more detail.

The Belhar community hall forms part of the greater development of the Belhar district which includes residential units, public parks and nodes situated in the proposed urban framework. Unfortunately, only sections of the proposed urban development were built due to economic constraints. The community centre built adjacent to a school and opposite a public park, form part of the urban precinct. Initially the design consisted of a walled public courtyard flanked by a hierarchical entrance. From this hierarchical element the structure would have been entered through the main western entrance and from two secondary gatehouses accessible from the street. From the main entrance, access is provided to the major hall, two minor gathering spaces, ablution facilities as well as a kitchen. The major hall opens onto two smaller courtyards on the eastern and western sides. Shaded parking was provided on the eastern side of the centre. Unfortunately, the programmatic use of the structure changed drastically mainly due to security reasons. The two secondary entrances are no longer used and are barricaded with barbed wire. Furthermore, the central entrance has been opened to provide vehicular access to the courtyard, now used as a parking area. One of the secondary gathering spaces is now utilised as the caretaker's office and the other is used as a social space for the elderly. From the kitchen, meals are provided daily for elderly citizens. As part of a community



Figure 45. Belhar community hall, Belhar. A: The entrance to the centre altered for vehicle access. B: The boundary wall surrounding the community hall restricting visual access. C: The more open public play area opposite the Belhar hall.

programme, the elderly have started a community garden in one of the secondary courtyards adjacent to the main hall. The centre is managed by the local municipality and is mostly rented to public organisations and for private use of the community. The central courtyard along with the secondary walled spaces creates severe security problems and is often vandalised. The spaces are too inclusive restricting visibility. Furthermore, due to it being managed by the local municipality, maintenance is neglected and structural repairs are needed. Regardless of security issues and the alteration of the courtyard, the centre was a precedent for other community centres to follow. The significance lies in the scale of the structure, provision of the public courtyard, as well as the entrance connecting different functions. Even more significant is the integration of the centre into the greater community along with the creation of other public spaces such as the play area opposite the Belhar community centre (Figure 45, C).

The Salt River community centre, in the Cape Town Metro, also designed by Uytendogaardt was built in 1988 through private funding of the Blackpool sport club (no author 2.: 1988). Although the main function was for soccer training and tournaments, other public facilities were designed for community development. The centre was built in the middle of the site with a soccer field to each side (Figure 46, B). A covered veranda on the northern side provides shelter for spectators. Initially the design included a linear entrance connecting a library, ticket office, a courtyard and ablution facility with the caretaker's residence on the first floor. From this entrance the main hall is reached, which has also been designed to accommodate other sport types with tiered pavilions for spectators. Unfortunately the library and courtyard have not been built, resulting in an architecturally undefined entrance. Furthermore, due to the private ownership of the centre, no community development other than soccer is provided, thus nullifying it as a true community centre accessible for social and educational purposes. As a community centre, the structure is not integrated into the urban fabric as the entire site is fenced off with no visual access. The ineffectiveness of this centre does not rest on the architectural design, but rather on managerial issues. However, the structure could have contributed to the urban fabric of Salt River allowing network formation.

The Paternoster community centre, completed in 1999 by Jaco Visser, is a good example of a catalytic structure, whilst addressing the local vernacular architecture. The site is located between the low-income residential area, commercial activity and middle-class residential area. Being so centrally located, it is also situated along the main vehicular route providing access to the town from Saldanha. Because of its locality, the centre provides a central nodal point for reference and orientation. A taxi or bus terminus on site

also reinforces the centre as a nodal point. All along the west coast, from Langebaan to St. Helena Bay, small fishing towns developed. These towns developed according to the local vernacular, built with available materials and unskilled labour. Settlements were built to follow the topography and were not planned developments. Residential units consist of low scale dwellings with two to three rooms and an adjacent veranda, often facing the shore. The architectural language reflects the local vernacular, with white plastered walls (originally white washed with lime), flat roofs and sculptural geometries (no author 4.: 2000). The structure was subdivided into two separate sections with library and main gathering spaces, which are connected by the hall, entrance and ablution. The height of these structures was kept to a minimum to correspond with the existing scale. Pure geometries such as rectangles were further used with circular domes. Plastic vitality, typical of this area, was enhanced with the two domed structures, in which the stage and



Figure 46. Salt River community centre, Cape Town. A: Adjacent to the sports field is the covered veranda for spectators. B: The entrance with a rentable unit for the care taker in a run-down state. C: The entrance to the central multi-purpose gathering space.



Figure 47. Paternoster community centre, Paternoster. A: facilities provided include the library on the left and the gathering space on the right. B: Low walls create public space or seating whilst defining the entrance. C: The gathering space opens into the public amphitheatre shaped by low retaining walls and rocks.

services were housed. No fences or boundaries were built except low walls that double as seating and shape the amphitheatre. Due to the geometrical nature and use of white washed walls, these structures respect the vernacular in scale and form. By restricting wall heights, the sculptural quality of the community centre is enhanced. Furthermore, access to the centre and to the external public spaces is unrestricted, allowing informal use. Unfortunately little urban street furniture or landscaping is provided in these external spaces other than barren earth. Due to the harsh environmental conditions, landscaping is difficult and would in some cases, arguably, be impossible.

Community centres found in developing areas in South Africa, structurally address some critical issues on both an urban and infrastructural level. The appropriateness of the suggested solutions is still questionable but at least there is an inquiry to provide possible answers. Although there are still some vague concepts to resolve, the typology of community centres is significant as a social gathering point and space of contestation where little public space is provided. Developing on from the city hall and civic centre, a typology based on the community, and not on the municipality or authorities, is aimed at.

In the following section public infrastructure is investigated in developing areas. This section is followed by an in-depth discussion on the typology of community centres.

4.3 Public infrastructure in developing areas

With the initial planning of townships, provision was made for public infrastructure such as administrative and social buildings. Prior to the enforcement of the Group Areas Act, these facilities were mostly for the white administration to control the residents. Structures included a post office, a residential unit for the officer, and in some cases space for commercial activity. Later planning included other recreational facilities such as parks or open spaces and community centres. Three types of community centres were recommended; social, recreational and educational (Mathewson: 1956, 152). The major problem with these structures was financing, as is the case with most developments. Davies noted that residential units, schools and commercial structures are of the utmost importance and should be included in the first construction phase. He further stated that other structures such as community centres and parks are often not financially possible, but that space should be allocated for these facilities (Davies: 1971).

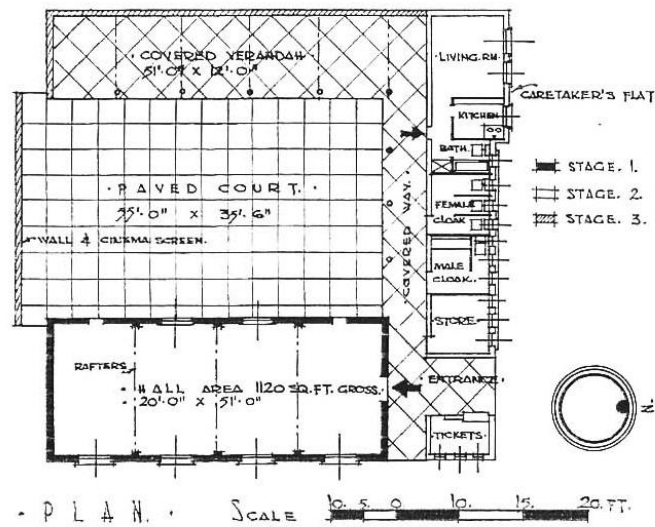
Two thesis publications, that of Calderwood (1953) and Connell, Irvine-Smith, Jonas, Kantorowich and Wepener (1939) investigated early township development. Calderwood's doctoral thesis *Native housing in South Africa* (1953), explores non-European residential

development before and after 1947, when the National Party was elected. The focus was on the spatial planning and typological variation of residential units with specific reference to Witbank's township, then newly completed, in 1951. The Witbank case study is significant as it incorporates the natural topography, a civic centre, residential areas, and open space for future developments such as schools and parks. In these open spaces green areas or parks were suggested. By providing amenities the monotony of identical housing could be broken and structures for recreation and social interaction built. In the Witbank Township, the civic centre was located adjacent to the three residential blocks. Each of the three blocks was then further grouped around a public space on which the school, crèche and churches could be built.

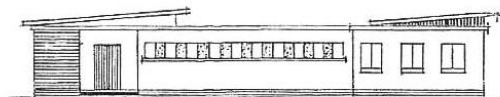
Calderwood states that the following should be included in a community centre: "club rooms, offices, [a] library, restaurants and a hall; space should also be provided for certain open-air functions associated with the main hall" (1953, 72). To acquire funds for the construction of these structures, Calderwood suggested that funds should be raised from 'beer profits' (1953, 173). The suggested programme and fund raising seem elaborate considering the conditions and need for more residential units due to over-populated townships. In a later discussion of the Kwa-Thema scheme, at Springs, Ekurhuleni municipality, a more realistic structure was proposed and built. The initial structure consisted only of a rectangular hall 66x167m which could be extended at a later stage. The extensions included two wings, a covered veranda and service wing. Both these additions flanked a paved courtyard as public space (Figure 48). The service wing included the caretaker's flat, storage space, toilet facilities and a ticket office that in turn formed an entrance to the hall. This proposal is modest and seems more viable to manage and finance. Considering the layout of the civic centre (Figure 49), the hall positioned adjacent to the market and opposite the cinema and entertainment section, contributes to the social sphere of Kwa-Thema. Unfortunately the aesthetic qualities and scale of the structure does not provide a civic presence or a definite identity for the Kwa-Thema community. This is perhaps on par with the apartheid ideology where structures and residential units were seen as temporary. Although different typological structures were proposed, the elevations remained visually monotonous.

In the Witbank Township, the community hall was planned adjacent to the social and administrative functions, thus becoming the link between the two sections. Social facilities included a park, sport facilities and a church, whereas the administrative section included administration offices, a clinic and police station. Again, as was the case with Kwa-Thema, the town hall was positioned around a public space flanked by a covered veranda,

services and the hall. Again, the market was situated opposite the town hall to form a civic centre. Note that the civic centre was not planned along the main road although centrally located, but the majority of the road was flanked by row houses and single residential units. The superintendent was situated at the entrance of the township, at the beginning of this main road, thus exhibiting control.



. EAST ELEVATION. .



. NORTH ELEVATION. .

Figure 48. Plan and elevations of the town hall proposed for townships.

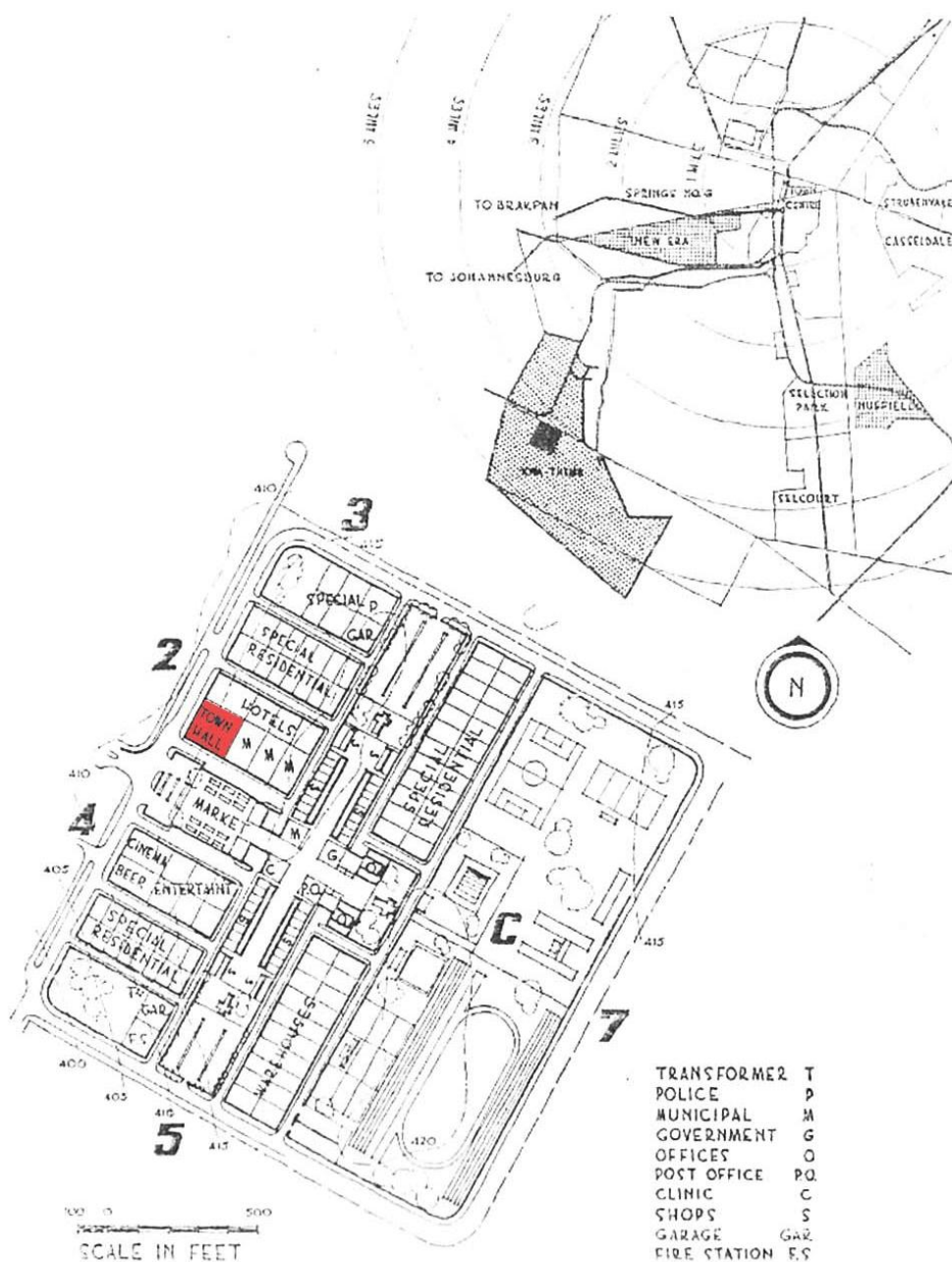


Figure 49. Position of the town hall in relation to Kwa-Thema.

As with the residential units, community centres were also built on basic guidelines with small variations. The town hall described by Connell et al. (1939), also proposed public space flanked by three wings, although initially three halls were suggested. A strong reference was made to the urban planning of Le Corbusier, such as his Ville Radieuse (1935). This is visible in the vast parks with dissociated high density structures. Furthermore, the residential units, especially the ‘flats’, also portrayed the stripped elevation associated with the work of Le Corbusier. These planned townships are based on modernistic planning principles, radical for the time. Unfortunately this left residents

with vast undeveloped spaces, modular units (often not providing for an expanding family), and little contextual reference.

In their thesis, a centre as the cultural precinct, was described. The cultural centre consisted of three spaces connected by an enclosed corridor on the first floor, which could be accessed by a double volume foyer (Figure 50, Figure 51 and Figure 52). Adjacent to the foyer was a double volume theatre space with adjacent change rooms. Two other smaller spaces were provided as cinemas and a third as a restaurant, serving separately to the public and theatre or bioscope. These spaces formed part of an axis which connected with other public functions such as the commercial piazza, technical college, hotel, sport facilities and stadium.

From the literature, it can be concluded that public infrastructure were planned along with the initial development of low-income settlements. However, due to economic constraints these facilities were often not constructed. Apart from financial constraints, structures were often designed in an inhumane modernistic fashion. The scale, construction methods and local tradition or culture were furthermore disregarded with the aim of creating a machine for living. It is thus apparent, that even though public infrastructure was considered, the proposals were not suitable.

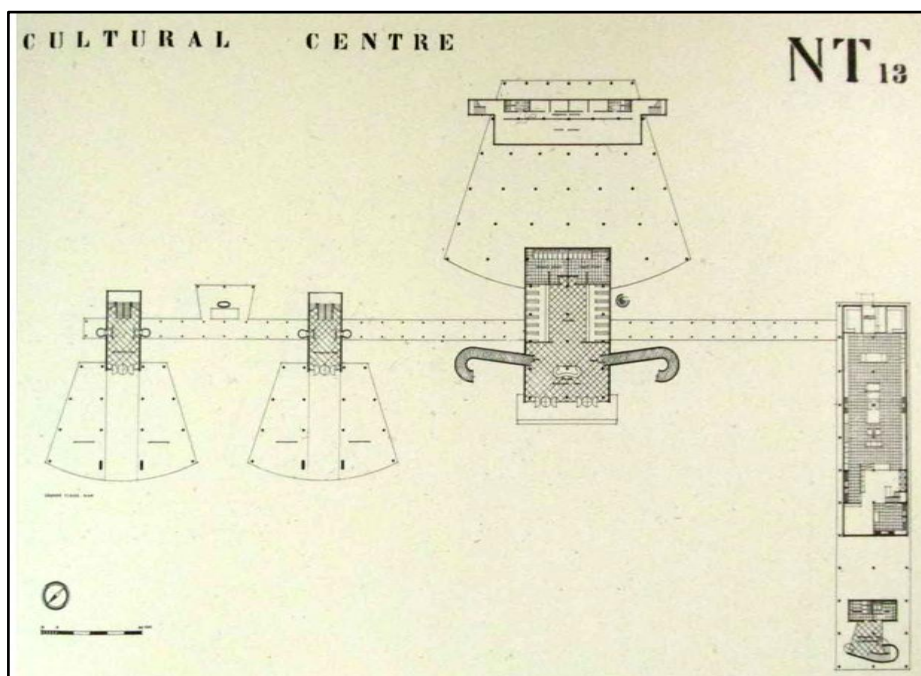


Figure 50. Ground floor providing access to the raised facilities of the proposed town hall in Kwa-Thema.

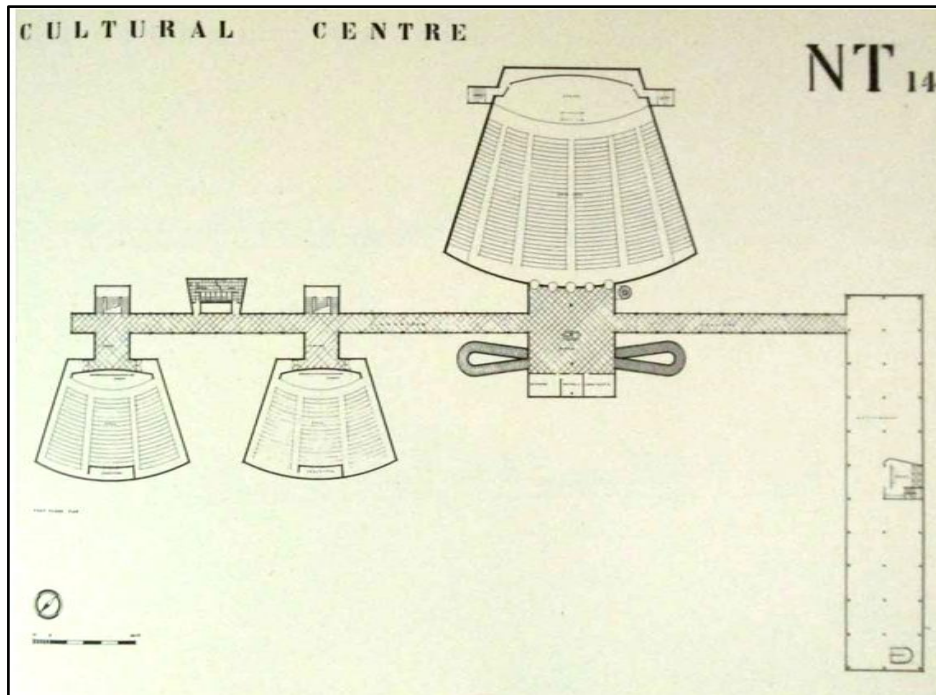


Figure 51. First floor of the proposed town hall with theatre spaces.

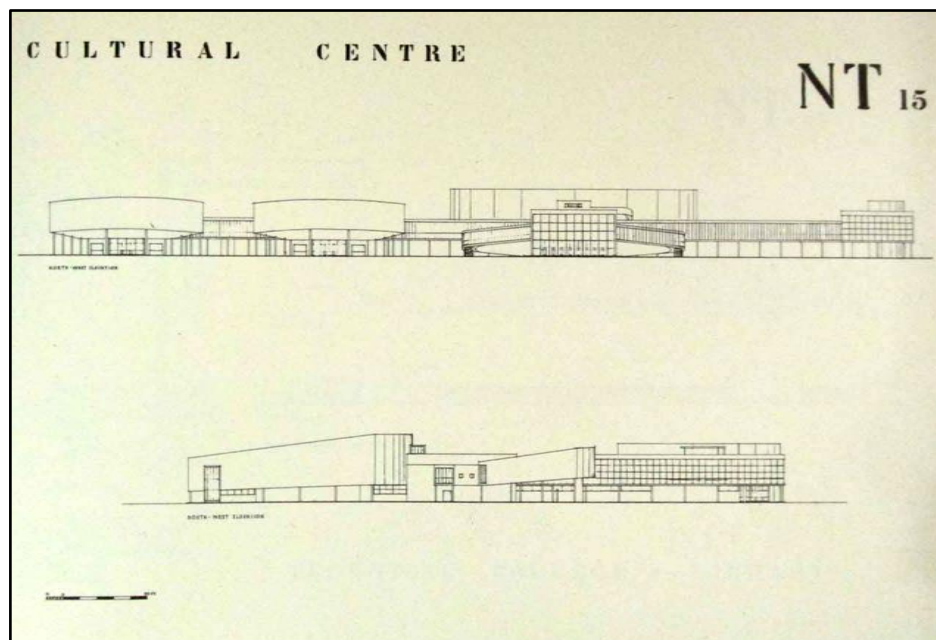


Figure 52. Elevations of the proposed town hall indicating the raised theatres.

Public infrastructure in Port Elizabeth

Literature on township development in previous Group Areas investigates the quality and requirements of public infrastructure. These facilities included educational, social and recreational, commercial and health related structures. Although these structural developments were described in detail and sites were allocated, most were never constructed. Limited available funds were allocated for residential units and service delivery such as water and electricity connections. Although funds were allocated for basic needs, most residents lived in undesirable circumstances in over populated units with shared ablution facilities. In Port Elizabeth infrastructural development in the Coloured and Black Group Areas included hospitals, churches, community centres and halls, schools, swimming facilities and sport stadium complexes. Two of the first gathering spaces were built in Korsten and New Brighton.

One of the first public buildings used by all racial groups in Port Elizabeth was the Korsten town hall, opened in 1923 (Figure 54). Plans for the structure were drawn by R.N. Pennacchini, the Chairman of the Management Board of Korsten (Heraldine: 1996). The hall made provision for a gathering space accommodating 450 people, as well as administrative offices for the board. By 1934, Korsten was incorporated into the Port Elizabeth municipality, after which the hall was sold (Heraldine: 1996).



Figure 53. Map indicating the location of the Korsten area in relation to Port Elizabeth.

In New Brighton public infrastructure was built between 1926 and 1930, that included a post office, public ablutions, electricity connections and administrative offices from which municipal control was exercised (Robinson: 1996, 103). In 1937, the T.C. White Hall was built, with library services in one room (Davies: 1971, 190). Later, in 1962, the Centenary hall was built with separate facilities for the library, which then moved from the T.C. White hall. The Centenary hall, now known as the Nangoza Jebe Hall, provides a gathering space seating 2090 people with another three multi-functional spaces seating 200 each (Figure 55). The Nangoza Jebe hall was built in a post-modernistic style with little contextual reference and fenced in, restricting the formation of informal public space.

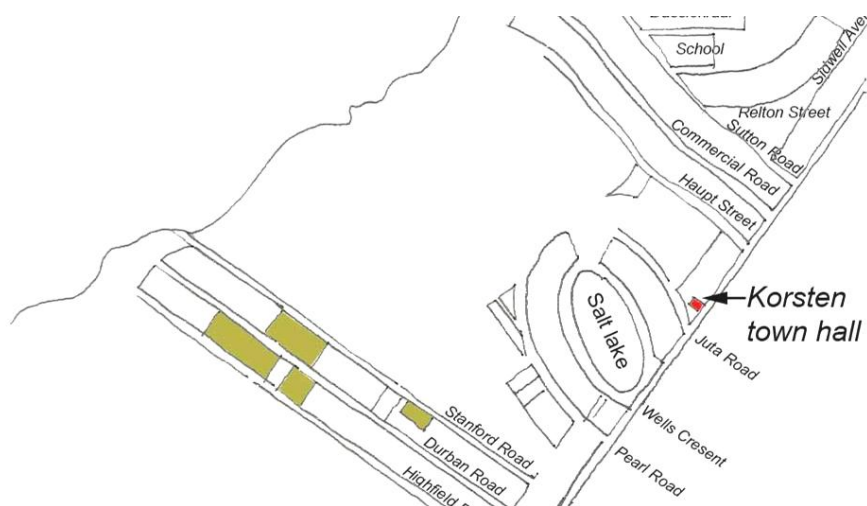


Figure 54. Location of Korsten town hall built in 1923. Edited by author from Robinson: 1996, 121.



Figure 55. Centenary hall, also known as the Nangoza Jebe Hall, New Brighton, Port Elizabeth.

By 1969, there were ten community halls or clubs (Figure 56) built in Port Elizabeth's Group Areas. In the area allocated for the Coloured community four centres were constructed, of which two were located at Gelvandale and two at Shauderville. In the Black community there were six by 1969, of which one is on the border between Kwathamela and Zwide, then a newly established township. According to *Standard Space Allocation Requirements in Non-White (Non-European) Urban Townships* (Davies: 1971, 189), 2000m²/10 000 people should be provided for community centres in Coloured and Black townships (as different areas were allocated for racial groups, they also had different spatial allocations for public infrastructure, for Coloured townships additional spaces were allocated for libraries whereas with Black townships this should be included in the 2000m²/10 000 people allocated for community centres) (Davies: 1971, 189). Although space was allocated for libraries, these facilities were not provided for in most townships. Space assigned for recreational activities differed further in that 5260m²/1000 were provided in Coloured communities as opposed to the 13152m²/1000 people in Black townships for sports fields.

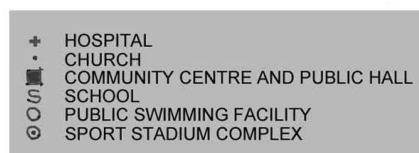


Figure 56. Recreational and social facilities allocated in Black and Coloured Group Areas, 1969, Port Elizabeth. Edited by the author, from Davies: 1971, 192.



4.4 Typological development of community centres

In this section, public gathering spaces are investigated typologically. Information on community centre typologies highlights contextual solutions, spatial organization in relation to the functional programs which in turn frames the two case studies in relation to other projects. Precedents for the analysis include relevant projects that have been published and designed by professional architects. Project descriptions are not limited to community centres as semantic differences occur between named places. For the purpose of the analysis, projects should be in developing communities and have a gathering space, regardless of their size, scale, management or funding. Structures thus include community centres and halls along with educational and administrative functions.

The analysis examined the typology, structure and architectural language of the gathering spaces similar to the grid proposed by Lefebvre (1991, 366). With reference to themes identified in TPoS, typology and structure refer to aspects of conceived and lived space, whereas architectural language refers to perceived space. Typologically, the plans were studied to determine the spatial relationship between different functions and geometries. Spatial relationships further include the circulation patterns in relation to gathering spaces. Through the analysis, categories were formed to group plans with similar spatial organizations that indicate a possible outline for the design of community centres. In the process, it became apparent that there are no two identical structures, and therefore it should be stressed that the design of these facilities should remain contextual as was the case with each precedent. The intent of categorizing the typologies is to determine if there is a possible contextual solution. Typologically, city halls were designed with less variation and these gathering spaces are commendable for their site specific solutions. Structurally, the relationship between tectonic and stereotomic elements was explored in relation to the facility's function. Again the circulation, functional and gathering spaces were examined in relation to their tectonic and stereotomic structure. This part of the analysis indicated the relationship of the interior to the exterior as well as aspects of inclusion and exclusion (often also referred to as solid and void). The architectural languages of the gathering spaces were investigated briefly to establish contextual references, material use and identify formation. All of the chosen structures have been built in existing communities with established identities. This analysis therefore investigated how insertions impose on or mimic the context to form nodal spaces for public gatherings.



Typology

Through the analysis five categories have been identified that classify different typologies of gathering spaces. Note, however, that in some cases the gathering space can be grouped into two of these categories, again exemplifying the diverse possibilities of this specific typology. The five categories include fragmented (1), central circulation with a courtyard (2), central circulation with adjacent functions (3), central circulation (4) and lastly a linear plan (5) (Refer to Figure 57 for a diagrammatic illustration). Categories for this classification have been determined by the relationship of the central gathering space to circulation through the building or spaces. First, the fragmented organisation has no clear circulation route and the different functions are scattered on the site. Although the circulation space is not the main organisational element, as is the case with the other four categories, structural elements are organised into a cohesive composition. This approach relies on space created between the building elements as it is designed as a Gestalt. Second, the gathering space and services are organised along the central circulation space from which the facility can be entered. All spaces, either public or private, can be accessed from this one central space. These spaces are further organised to form a courtyard, or in some cases multiple courtyards. Third, gathering spaces and services are organised adjacent to a central circulation space. Generally, the circulation space can be accessed from both ends with one side designed as the main entrance. Fourth, the gathering spaces and other functions are grouped around a central linear 'spine'. Often, this linear space differs in porosity, being enclosed in some places and in others only consists of a covered or exposed walkway. This layout is in some cases more accessible and dispersed across the site. Fifth, a linear plan with adjacent functions, but in this case it forms the central gathering space and not the circulation through the facility. Services are organised adjacent to the gathering space with circulation restricted at each end of the gathering space. This spatial organisation limits circulation routes and is often used where space is restricted.

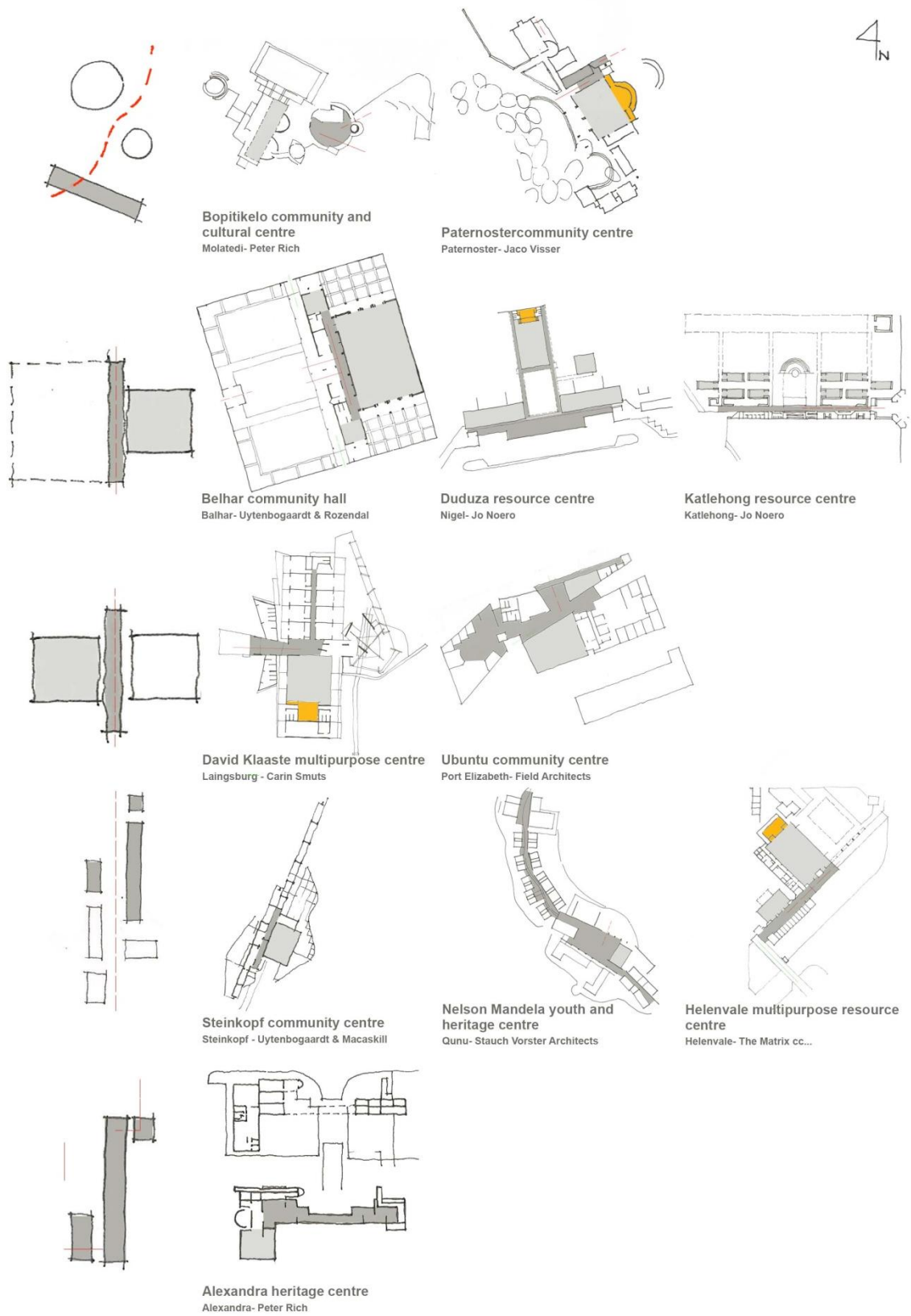


Figure 57. Analysis of public gathering spaces: Five identified typologies.

These five categories can be applied to South African examples, with some aspects overlapping. The Bopitikelo community and cultural centre in Molatedi by Peter Rich architects completed in 2001 and the Paternoster community centre in Paternoster by Jaco Visser completed in 1999 are examples of fragmented organisation. At Bopitikelo, spaces are organised into different geometries with the entrance and services being circular and the gathering space, the covered and uncovered, rectangular. These define external spaces, forming additional areas for public gatherings (no author 3.: 1999, 157). An 'African spatial tradition' is applied that considers form, scale and context (no author 5.: 2002, 21). On the initial plans, access to the facility ought to have been from the parking area through the circular entrance. From the entrance a walkway leads to the stage area, a raised terrace, which connects the basketball court and covered gathering space. The kitchen and traditional narration court are positioned adjacent to the covered gathering space with the ablution facilities as a separate structure. Spatially the buildings are scattered across the site, with no clear circulation area that connects different functions. Although this spatial organisation may seem peculiar, it is particular to the site. Distanced from other developments or established residential areas, the building becomes part of nature rather than part of the settlement. The Paternoster centre consists of two main structures, the hall and an adjacent library. These two facilities are not connected but function as separate facilities. The library has its own entrance that connects to administrative offices and the hall has its own centre with adjacent toilets. Apart from each structure having its own entrance, there is a walkway that connects both entrances. Although this structure is not as fragmented as the spaces at the Bopitikelo centre, they still function separately and also pose clear geometrical solutions. These two examples are appropriate in less dense and safer environments where access to the premises does not need not to be restricted as in other urban environments.

In the second category are the three examples of facilities with central circulation and courtyards. The examples include the Belhar community hall in Belhar by Uytenbogaardt and Macaskill completed in 1987, the Katlehong resources centre in Katlehong completed in 1989 and the Duduza resources centre in Nigel completed in 1990, both by Jo Noero. At the Belhar community hall, space is organised along the central circulation area that connects the services, the main gathering hall parallel to the circulation and at both ends a secondary multi-purpose hall (no author 1.: 1986). In front of the circulation space is a covered veranda that connects the main entrance and the two secondary entrances in the eastern and western walls. Three courtyards were created, the first in front of the main entrance formed by walls and two secondary courtyards that flow from the main gathering

space enclosed by boundary walls. In turn, at the Duduza resources centre a central circulation space has been used to organise services and gathering spaces parallel to it. A major difference in comparison to Belhar is the courtyard formed by the structure and not by boundary walls. The main gathering space is not connected to the circulation area, but is rather linked with covered walkways, thus forming the courtyard. With the courtyard only accessible from the central circulation area it is protected to form a semi-public space. Belhar's main courtyard is too accessible and leaves users, who are most often elderly, vulnerable. Due to the courtyards being insecure, they have recently been utilised as parking areas. Staff and users have no visual access beyond the boundary walls and prefer cars to be parked in the unused courtyard. The Khatlego career centre is similar to the Duduza resources centre in that services are grouped along the central circulation area but the courtyard and gathering spaces differ. Smaller gathering spaces are provided to the left and right side of the central circulation area. These spaces can be accessed by secondary corridors which flow from the central circulation area. Between the spaces, an uncovered courtyard is provided with an amphitheatre framing it to the northern side. Again the space is framed by the structure itself and not boundaries. Furthermore, as is the case with Duduza, the space is only accessible through the central circulation area, creating a more protected semi-public area. This example thus highlights the use of a central circulation area to form, along with other functions, a courtyard as uncovered gathering space.

In the third category are examples of public gathering spaces organised adjacent to a central circulation area. These examples include the Dawid Klaaste multipurpose centre in Laingsburg by Carin Smuts completed in 2005 and the Ubuntu community centre in Zwile, NMBM, by Field architects completed in 2009. To form a category, both these centres have a central entrance from which services and the gathering space can be accessed. However, there are slight differences. The Dawid Klaaste centre's circulation space is more defined than that of the Ubuntu centre. At the Dawid Klaaste centre the circulation space divides the gathering space from administrative functions, whereas at Ubuntu the circulation space divides the smaller multi-functional space and clinic from the hall and other educational facilities. Ubuntu's circulation space also moves from the central entrance to a more linear organisation as is found in category four. Although there are similarities between the Ubuntu centre and category four, it is not placed there as the circulation space is only internal with no contextual reference. The internal corridor further defines informal meeting spaces as is the case in front of the class rooms and IT centre on the ground floor. The corridors remain compact with services extending from them. At

the Ubuntu centre there is no clear definition of what is serviced, educational or administrative space. This is mainly due to the limited office space for staff, resulting in areas such as the multi-functional room on the first floor being refurbished to provide more space. In both these examples circulation spaces provide a central point from which users can be navigated. Security is also a priority as one central access is provided. At the Ubuntu centre, the second entrance, accessible from the parking area, is only open to staff members through electronic control, thus strengthening security. This control however alters the initial design intent where access is provided on that route (Figure 31).

The fourth category that describes elongated circulation areas has for its three examples the Steinkopf community centre in Steinkopf by Uytendogaardt and Macaskill completed in 1985, the Nelson Mandela youth and heritage centre in Qunu by Stauch Vorster Architects completed in 2007 and the Helenvale multi-purpose community centre in Helenvale by the Matrix...cc Urban designers and Architects completed in 2013. These three examples all have a linear circulation element with functions parallel to it. As opposed to the third category's shortened circulation area, the fourth's areas are decidedly elongated. Furthermore, these circulation areas form external spaces to emphasize the entrance as was the case with Steinkopf and Helenvale. These promenades organise the external space and form a relationship with other public places as was done in front of the Helenvale centres entrance. These circulation spaces further become other informal gathering spaces allowing for social interaction. At the Nelson Mandela centre the circulation area starts with a covered public space which is formed by a workshop, community hall and restaurant. This courtyard space hints on the second category, but in this case the courtyard is part of the actual circulation route opposed to an individually defined space. From this central space the route either extends to historic ruins on the left or administrative and accommodation units to the right. The extended route is curved, following the natural topography. The Nelson Mandela centre can further be compared to the category of fragmentation. Each function is considered as a separate structure, but in this case is either connected, by the large roof covering the courtyard or the curved walkway (Figure 57).

The fifth category of linearity is similar to that of elongated circulation areas, but is considered as a functional space. An example of such a linear space is the Alexandra heritage centre in Alexandra by Peter Rich completed in 2008. The centre is built on two sites with a road running in-between which is connected by a linear bridge element (Fitchet: 2009). This element does not function as the entrance, but rather as the connection between the two functional areas located opposite each other. The linear

element in this case is not of circulation but rather connection. This space is utilised as museum or gallery space, ideal in cases where a great deal of circulation can be expected. In this category there are limited examples as it is determined by particular site-specific solution. Although a specific solution was suggested, it is relevant to consider as vacant land is becoming limited and more restricted requiring these types of innovative solutions (Figure 57).

Structural analysis

With the structural analysis the tectonic and stereotomic character of buildings was investigated to determine the spatial relationship of the interior to the exterior and of inclusion to exclusion. These aspects are connected to the thematic investigation of conceived space as users' perception on all the precedents could not have been gathered to associate it to RS. For the structural analysis each centre's or facility's gathering and circulation space was grouped into either tectonic or stereotomic solutions. After this categorization, structural elements were investigated for contextual relationships. The tectonic or stereotomic elements were thus compared to the site to determine contextualization through aerial photographs.

The Bopitikelo community and cultural centre can be categorized as a tectonic structure due to the gumpole framework of the gathering space's roof. Screens were built as non-load bearing elements with no clear indication of a circulation route. With the site being in a natural landscape on the edge of the river, the tectonic structure allows integration of interior and exterior spaces. As there is no clear circulation route, spaces between structures are further utilised as informal gathering spaces, avoiding barriers that would usually be created. Generally the structure only creates space of inclusion, formed by services such as the ablution and a kitchen. More contrast between inclusion and exclusion can be created to heighten spatial experience. The unbuilt arrival centre could have contributed to spatial exclusion, creating a threshold to the gathering space. Contextually, the tectonic structure relates to the bushveld although the scale of the surrounding trees is much less imposing than the gum pole structure. Opposed to Bopitikelo's tectonic structure, the centre at Paternoster is stereotomic due to its mimicking of the vernacular construction techniques. In the village, most structures consist of small scale residential units with no more than two or three rooms. The centre is built with this scale and reduced footprint in mind. This structure is thus divided into smaller sections, with the library and gathering space functioning as two separate units. Although it is inclusive with little reference to the exterior spaces, external spaces were created.

The first is in the relationship of the library with the taxi stop, and the second is the external amphitheatre formed by natural rocks. These two public spaces enable the structure to relate to the environment. The position of the site is also important, situated between the low-income and more developed area, thus forming a transitional space between the two areas divided economically (previously racially). From these two examples, contextual integration is important, but even more relevant is the choice of site, allowing integration into the residential fabric.

The gathering and circulation spaces of the Belhar community hall can both be categorized as stereotomic as the walls are structural. However, the covered veranda, in front, provides a tectonic transitional space into the enclosed interior. As opposed to the heavy stereotomic structure, circulation spaces in both the Duduza resources centre and Katlehong career centre are tectonic. The gathering space of the Duduza centre is also tectonic with the Katlehong centre's smaller gathering space being more stereotomic. This distinction between the more stereotomic and tectonic structure is mainly due to contextual references. At the Belhar centre, walls are of brick, relating to the plastered residential units in the area. In contrast, the structures by Jo Noero are mostly steel structures with corrugated iron panels, relating to 'shacks' in the vicinity. Through these contextual references the structural elements are determined, although more clues might be derived from the context. Considering the Belhar centre, most residential units were not usually built with boundary walls, but when provided, they were lower allowing visual contact. Along with the boundary wall, the centre is thus too inclusive. From the outside, the wall creates a strong boundary with no further contextual integration. On the other hand, the tectonic circulation spaces of the Katlehong and Duduza centres create inclusive transitional spaces between different functions, although still acting as a buffer between the internal and external spaces.

The Dawid Klaaste multi-purpose centre and the Ubuntu community centre are both organised around a central circulation space. At the Dawid Klaaste centre the central circulation and gathering spaces are both tectonic due to the steel structure clad with corrugated iron, but could be considered as a more inclusive space. To the southern side of the building tectonic circulation spaces were created which incorporate a windmill and re-used train trucks. This becomes a sculptural element, in contrast with the more enclosed functional spaces. At the Ubuntu centre, the whole structure was built as a heavy stereotomic mass, constructed with off-shutter concrete. Large openings with glazing were in turn covered with gum pole laths, which double as sunscreen and burglar bars. These provide a tectonic element to the dominant stereotomic structure. Both these

centres are relatively inclusive, with little transitional spaces to the exterior. Considering the harsh environments in which community centres are often built more robust structures are often needed. However, the key to contextual integration lies in the placement on site. The Dawid Klaaste centre is situated on a large piece of barren land, previously a sports field, far removed from other infrastructure. Furthermore, the edge of the site is fenced, creating another barrier apart from isolation from other activity. The problem here is not structural inclusion, but rather the contextual relationship. Similarly, the Ubuntu centre is an inclusive structure, but has a different contextual relationship. Here, the building was built adjacent to an existing structure that housed the original facilities of the Ubuntu Education Fund. Furthermore, the site is much smaller and situated within a dense residential area. External spaces are thus designed to form publicly accessible areas connected with the street. These spaces have no boundary walls as it was one of the design requirements. Both these structures are more compact solutions with limited circulation spaces. These circulation spaces are both used to divide functions such as the administrative and gathering spaces at the Dawid Klaaste centre, and the clinic and educational section at the Ubuntu centre. As both of these structures are more inclusive, the finding here is that they do not lie in structural solutions but rather in the contextual relationship of the structures.

With the structural analysis of elongated circulation spaces, the circulation spaces of all three precedents' can be considered tectonic, and the gathering spaces stereotomic. The tectonic circulation spaces are categorized as structurally lighter and connect with the parallel stereotomic functions. The Steinkopf centre was constructed with stereotomic walls with slender steel posts connecting with the roof, thus a combination of structural elements. At the Nelson Mandela centre, the roof covering the courtyard as well as covered areas over walkways, are tectonic. These structures act as binding elements connecting the fragmented structures on site. The Helenvale centre combines steel, timber and plastered elements to form the circulation space. At the entrance a galvanised steel structure forms a pergola to emphasize the entrance. Internal circulation is formed by timber columns and roof trusses. The internal circulation ends with a glazed section in front of the hall, forming a connection with the external space. This circulation route is extended with plastered columns that extend towards the other entrance toward Baadjies Road, on the Western side. All three examples use tectonic circulation routes with contrasting stereotomic structures. These community centres use their circulation routes as a design principle to organize the site and form a nodal point.

The Alexandra heritage centre with its linear plan consists of a tectonic steel structure with brick and corrugated iron infill. This construction method allowed for a solid structure whilst integrating local craftsmanship and material with corrugated iron panels. The tectonic structure further allowed for the construction of the bridge that connects the two elements built on each side of the street. The bridge element further creates a gateway, or threshold as transitional space.

Architectural language

Each of the chosen precedents as well as the two case studies has a unique architectural language and could therefore not form sub-groups. Due to this unique character, each building is discussed individually for contextual references and identity formation. Contextual characteristics refer to historical or cultural practices portrayed in the structure either through symbolism or material use. Identity as a social construct investigates how the structure is incorporated into the existing settlement and how new perceptions are formed around it.

At the Bopitikelo centre traditional construction methods are incorporated into conceptualising the new typology. Thatch roof and gumpole construction was previously used in small scale residential units, but not in public structures, thus applied in a different manner. Furthermore, the use of compacted earth bricks (CEB) is a new variation of the traditional wattle and daub construction. Functionally traditional cooking methods and the oral tradition of narration were captured in use of spaces. The use of materials and traditional functional spaces helps with identity formation. Traditional construction methods are often replaced by more cost-effective Western techniques. At the Paternoster centre, traditional construction techniques of pure geometry, reduced scale and a small footprint with white washed walls create a plastic vitality, also used in local vernacular craftsmanship. Traditionally these walls were white washed with a lime mixture but, commercial paints are used recently. As opposed to Bopitikelo, the Paternoster centre is much more integrated as the local construction techniques have been preserved. The construction method thus does not celebrate bygone days only, but rather an ongoing tradition. As the Paternoster centre was constructed at the entrance of the small fishing town it is crucial as a nodal structure to strengthen identity formation. Identity and contextual reference as traditional narrative is important; here one is portraying historic values and the other an ongoing vernacular. The questions unfolding here are whether this is still the appropriate language and how communities portray their identities in an ever changing society.

Four of the structures used steel portal frames with corrugated iron infill panels. These structures include the Katlehong career centre, the Duduza resources centre, the Dawid Klaaste multi-purpose centre and the Alexandra heritage centre. All four examples are built in townships where housing consists predominantly of RDP units or self-constructed corrugated iron structures (shacks). These shacks provide the opportunity for community members to extend their RDP units, providing rentable space or in some cases temporary or permanent homes. The use of corrugated iron in these centres immediately creates a contextual reference. The steel structure further simplifies construction within a limited time frame. The use of colour is significant in all three examples to either highlight the structure or to create visual variation on the façades but still limiting decorative elements.

The remaining buildings are mostly constructed of bricks, either plastered or face brick, with the exception of Ubuntu's concrete structure. Steel column and beam systems have been used in some cases for covered walkways. In general these structures are not very sensitive to the local vernacular or traditional construction methods. In the desert-like landscape, the Steinkopf centre became a beacon, organizing the landscape. This centre contrasts with the existing vernacular architecture, creating a new language which was possibly rejected by the local community. The Ubuntu centre also contrasts the immediate contexts with the intent of providing 'hope' to the community. Here the management of the structure is crucial to create an atmosphere of inclusivity as the image of the building could possibly oppose these ideals. The Belhar centre should be considered on individual merit as it is part of a newly planned residential area. Its identity thus corresponds with the designed environment, but here one must ask the question of whether it was not imposed on the community and how distinct characteristics have formed around these newly built structures. The Nelson Mandela and Helenvale centres are both contrasting, but have elements that incorporate the context. The Nelson Mandela centre is not built as one structure, but is rather broken down into smaller masses, thus considering the scale of the residential area. With the Helenvale centre, the scale of the context is not considered, but rather becomes a lived reality by the introduction of a street. This street corresponds with the lived space as most children and community members are found to socialize and play there. Streets thus become the living rooms of these community members and a playground for children.

With the typological, structural and aesthetic analysis the two case studies could be contextualised by investigating other relevant typologies. Budgetary constraints have, however, been excluded from the analysis although it has a significant impact on the construction of the projects under discussion. With the exception of the Bopitikelo

community and cultural centre and the Ubuntu centre, other facilities were funded either by Local or National Government. Although these projects were privately funded, resources were still limited with the Ubuntu centre an exception with its R70 million budget. The Helenvale multi-functional community centre, on the other hand, had a budget of R38 million, which included sculptures for both public spaces.

Comparing the two case studies with the precedents, functional aspects can be categorised along with the other geometric and circulation solutions. A significant difference lies with the architectural language. Each project proves to be unique relating to the relevant context. Projects that are in the same city even differ considerably when comparing the Helenvale multi-purpose community centre, the Govan Mbeki multi-purpose sports and community centre, the Zwide community hall and the Ubuntu community centre (see Figure 58 for location of the four centres in Port Elizabeth).

The designs of both the Helenvale and Govan Mbeki centres were guided by the NMBM's guidelines for community centres which require a market tower. The Zwide community hall, whose client is also NMBM, was designed with different guidelines as the structure is of a much smaller scale. Similarities between these centres include the use of face brick with plastered elements and sheet metal wall finishes. The layout plans differ considerably – Helenvale is organised along linear circulation whereas the Govan Mbeki centre is more fragmented. The Zwide centre on the other hand is a clustered unit with a central circulation space.

Findings for the precedents can however not be generalised as their locations within communities differ. The suitability lies in the application of the theoretical constructs investigating each building within its unique community.



Figure 58. Location of the four public gathering spaces in the NMBM area.



Figure 59. Zwide community hall, Port Elizabeth. A: The entrance of the Zwide hall as seen from the street. B: The small gathering space provided. C: Access to the centre is provided from a secondary street.



4.5 Conclusion: The reciprocal relationship between historic events and the development of public infrastructure.

To conclude, a relationship has been identified between political and economic events and the development of public gathering spaces. This relationship, however, differs between countries, such as America, Britain and some parts of Europe, where change was instigated by the ending of World War II. Spatial change of suburban and urban sprawl resulted in little infrastructural development for educational and social purposes, prompting the development of community centres.

In South Africa, the impact of World War II did not have a marked influence on urban planning, which was influenced by political events. With the establishment of new settlements, civic centres were constructed for municipal and social services. Community centres, compared to civic centres, were built or planned in low-income areas such as townships. Initially these centres were built as standardized structures, or in most cases planned but never constructed due to the lack of funding.

With the construction of the Belhar community hall, the first public gathering space to receive an architectural peer acknowledged Award, the impact of these centres shifted. In the analysis of community centres, typological differences, structural implications and identity formation has been investigated to determine the influence of these centres on communities. These structures are significant as catalysts of gradual change and spatial integration. Centres provide public spaces in areas where little infrastructure has been provided, forming central social nodes. Even more significant though, is continuous identity formation, providing meaning in areas with few reference points.





Chapter 5 Analyses of the two case studies: Open-ended interviews with the respective architects of Helenvale and Ubuntu

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5.1 Narrative of quotations on thematic categories of conceived space

To understand SP and RS, interviews were conducted with community members to determine their spatial perception of the completed structures. RoS on the other hand, involves the architects' perception and actions during the design process and construction of the projects. Aspects investigated through the open-ended interviews with the respective architects consider RoS features such as design intent and contextual references. These include the client brief, design and construction process, context and texture, subdivision and fragmentation.

The open-ended interviews are discussed in the form of a narrative to explain their relevance to the study. Each architect's interview is discussed individually after which a comparison between the two is made in the findings and conclusion section 5.2.

Helenvale multi-purpose resources centre: RoS as perceived by The Matrix Urban Planners and Architects

In 2005, President Thabo Mbeki visited Helenvale as it was one of the most impoverished communities in the NMBM. During this visit several issues were raised of which one was the need for a larger community centre, as the existing hall was deemed insufficient (Masondo: 2009). From the document, *Environment and Neighbourhoods (August 2012)*, it was found that community centres evolved either from a thriving community, or as was the case in Helenvale, from violent disturbances (Matavire: 2007).

According to the principal architect of the project at The Matrix Urban Planners and Architects, Miles Hollins, planning commenced as early as 2008, as a community participation project. The initial brief provided by the client that was drafted by representative, Ms Debbie Hendricks from HURP and ward committee members, required three different spaces. These included a large gathering space, a smaller sub-dividable hall and offices. As it was a community participation project, ward committee members were involved throughout the process. The architect, however, commented that during one meeting community members asked "why aren't they designing the building?" (See quotation below, 13-2:47). Although several meetings with different community members were held, some still felt that they were not consulted enough. As an aspect of RoS, this can lead to fragmentation, creating a contextual disconnect and troublesome actualisation.

"...generally our primary response is to respond to a brief. We were involved in the community participation programme which started

many years ago. I think this project started in 2008 if not slightly before that, indeed before I joined this practice. When I was here we had quite a few community participation meetings, some of them quite heated, in fact in one we all got uneasy and thought we had better leave because we were getting questions like why aren't they designing the building, which was quite heavy. Fortunately the counsellor had sufficient composure to calm them down. First, it was a response to a brief where they ask for a thousand-seater or a seven hundred and fifty-seater hall space that they could use for sport as well as other functions. A secondary hall space they will use for smaller community-based functions and they wanted that to be sub-dividable so that they could have two smaller spaces, and then also community offices was the third element. Therefore there are three elements. There are the two halls and the offices (13-2:47)."

Although the brief stipulated the three main components, the architects felt that some aspects of the brief were not clearly defined.

"...has never been totally nailed down by the brief, was to provide flexible low occupancy time office space (13-13:72)."

Two other requirements were stipulated by the NMBM, a tower element and a fence around the space should have been provided. These two elements had an influence on the form and final design.

"So you know the space, and obviously for functional reasons you have to enclose it otherwise it would have been just an open space, but imagine it like a mall. We made that quite open and light so that there was a feeling of out sidedness while you are inside, and the glass wall which is another item we came up against quite a bit of, not opposition, but concern about its survival in this area in terms of vandalism (13-11:68)."

Not only were there functional requirements but also a predetermined site and footprint size. These two aspects had an impact on the allocated budget as the site was rocky and had a steep slope. The site location was determined by the location of the existing community hall.

“The size is predetermined and we didn’t know that. The choice of the site – that was the site that was allocated (13-3:48).”

“An expensive site because it is very rocky (13-5:50).”

Another influential factor was the client changing in the midst of the process. Initially the representative was Ms Debbie Hendricks, which changed to the NMBM. The NMBM, stipulates that all community centres should have a directional tower element.

“Well first of all the tower, initially I was against it because I saw it, primarily I needed it to have a function. Whether it is a clock or whatever, a bell tower or someone blasts a trumpet out there in medieval times, I needed it, but it did not have it. I kept trying to find ways, can we not put water tanks in there for water pressure. Is there a water pressure problem here? Can we, maybe, help by putting water tanks up there? Nothing came out. The water pressure was fine and they had no other needs, but the fact is that the part of the brief for a community centre by the NMBM, which I imagine is related to a larger requirement by national government. I don’t know how the process came by but we got the brief, and it has to have a market tower. It has to have a tower, so I tried to give function to it, but when I looked at it again, I kind of knew you would see it in the community but it is quite cool now. Even when you are turning in down at the bottom here, it helps you find the centre.

I2: It is a real marker.

I1: Especially at night because it glows.

I2: Yes, usually in townships in P.E. they are flat. This one is different and that would have broken the monotony in any pancake township, but here maybe the priority is different.

I: The road network here is quite a view. Once I turn down the wrong narrow road, ‘gees’ I am going to get lynched in here, how am I going to find my way out of here? Oh there is the tower and I knew where to go. From that point of view, the tower I think turned out, besides not

having some kind of function that require height, it turned out well as a marker (13-30:134-138).”

“Unfortunately we never had the support of the original visionary, leader of hope, because she had moved on now to something else. We worked well with her and her vision for Helenvale, but alas, anyway (13-20:86).”

After thorough consideration the architects felt that it was not feasible to restore the existing structure, and that it should rather be demolished.

“The community hall itself, honestly, the first few schemes we attempted, we retained that building. Then we sort of worked around it but it had a few spatial issues in that it was in a funny position on the site. It was really oddly placed so it was wasting space. That building there is maybe three times its size and it would have had to, because of its placement, it would have had to have been pushed down here somewhere, where the site is sloping most. First of all the cost of building, either cutting in so much, and or filling up so much, plus if you are at street level, the scale you would have created would have made it an inappropriate challenge to try and pursue. It is not that we didn’t try and retain that building but it just wasn’t worth it. It wasn’t an architectural jewel.

It wasn’t built in 1900 and some famous social icon from Helenvale wasn’t born there, and a treaty wasn’t signed there. It didn’t have any cultural significance. The community didn’t like it, I think largely they didn’t like it because of the counsellor, but it wasn’t considered. Then the rest of the site quite honestly was quite barren. It was a shocking place for children to play. Kite flying was very big there. It is very strange. That telephone wire had quite a few kites attached to it. That telephone wire wasn’t working and it was moved. It had no function. There were once braai facilities on the site but they were never used. We found no reason to retain them, although we did, obviously when you are first faced with the challenge of the site in this context, you obviously look at retaining things, or you look at what is there. It was worse maybe shifting some and improving others (13-23:94-96).”

After the decision had been made to demolish the existing structure, the first design was proposed. As described by the architects, the design was much more compact and consisted of two stories. The client, however, felt that the installation of a lift and its maintenance could be problematic. Part of the initial scheme included high density housing but was opposed by community members. This opposition is significant as it indicates the symbolic importance of spaces.

“Well, the initial scheme, it is unfortunate I cannot show that to you now, the initial scheme was much bolder than this. If one had to look at the overall urban plan initially for this scheme, which I imagine somewhere along the way got opposition from the locals, this would all become high density housing, along here. This would all be demolished for high density, this space, in fact this road went straight through here, and this whole area here was given over to community precinct, but you had people saying their father’s father’s father lived in that house and they are not moving. You have to drive over me with a bulldozer, so I think that was a compromise. As for elements on the site to work with, I am not necessarily going to say we didn’t consider them, but you are maybe clutching onto of bit a straw to say that that is worth saving as an element, but its function would be replaced by for instance that football field (13-22:92).”

Following the client’s concern on the structure’s multiple levels, a different design approach was followed. The architect then considered the concept of a community street that linked existing pedestrian routes.

“Well and don’t accuse me of post rationalising, look here the fact is, the one thing is, one of my earlier schemes actually also had two flaws. I was trying to compact the building so that I didn’t have to deal with the slope. Client said no, we don’t want to service a lift, because you need a lift for wheelchair accessibility to the upper floor. You obviously have to take some parts of that scheme that you liked and rework into something else and I came up with this idea of this community street. Partly as harking back to this route that went across the site to the original community centre, but also the fact is, these are separate functions that somehow need to be linked (13-24:98).”



The final design of the structure was explained by the architect as follows:

“We have this community street that links to the primary public space and also across the site to a secondary space. You can come in from both sides so it draws you in from everywhere. Historically there was a footpath that they kind of developed up the site, so we kind of harked to that. You can connect from the top and the bottom to the site, which I think is a great thing, then the community spaces feed off it, so the smaller hall which has got the suspended wooden floor and the subdividable acoustic wall, so you can either have one larger space, or two smaller spaces. Somewhere along the way they want to provide aftercare for students, for school. I don’t know if that has ever really happened, but when HURP was still a part of it, it was kind of part of their agenda. They wanted to be able to halve that so that one half could still be used for primary function and the other could be used for after school. Then obviously as you ferried through the space, you have got the other community function which is the big hole. Actually if you look at the requirement for sport, the minimum say five a side indoor pitch, street football is very big in Helenvale, so we kind of responded to that, or the community required that. You are not going to do a seven hundred and fifty seater hall. It is going to be more like a one thousand two hundred seater hall to actually fit the sport in; otherwise the sport court is not going to be big enough. It also has a stage and some seating area, tiered seating for either watching the sport or if there is a function on, you have created extra seating and as part of that, because the footprint is so big, we needed to start sloping down the side otherwise you would have this thing sticking up there in the sky. We saw the opportunity to start tiering the building down so we have this level, then we have the ablutions on that level. The showers on that level and server room and kitchenettes and so on, on that level, and then it steps down, the seating inside the hall forming that first tier. Then you have the platform and then you have got another outside breakout area from that hall. The views there are absolutely amazing, of the city, and then it tiers down to an outdoor pitch as well, which is also a requirement. Then further sort of architectural landscaping tiers to get us breakdown scale towards the



bottom corner. We then decided to articulate those buildings in the same way, those components because they have a similar function and we chose the dark metal roof that wraps over it. It is kind of explained in this diagram, it shows you that those two buildings there belong to the same formal group. Face brick walls, metal roof that wraps around, and the other function which is on this side, which is, I will be honest, has never been totally nailed down by the brief, was to provide flexible low occupancy time office space. Small offices that would be used for an infrequent period a week for social services, so from social development to FAMSA, cannot remember there are a whole lot of them.

Correctional services, parole, all of them would have a stake in that office space and it was never really fully nailed down but it became part of the business plan for this centre which went to National Treasury for funding. We had to do interviews with all the different potential user departments and see what their interest was along with Rory Redden from Dojon Financial services. He compiled the business plan for the building and that was quite a lengthy process too but it became part of the funding model. I think since then really what has happened is the MBDA are using the office space (13-14:72).”

Contractual obligations of the project required the construction company to appoint Small Medium Macro Enterprises (SMME), opposed to appointing staff from the community.

“The other interesting thing about this project was the construction process. Now that is a layer of integration that you don’t see as you see it in the end product, but part of the application to National Treasury was a decision to facilitate the experience for small to medium enterprises. By that they really mean small enterprises. In the building industry you get different grades of contractor, 1GB, 2GB. The main one had to be 7GB so that said what level of building it was, but we had to allocate I think two and a half million rand (13-20:86).”

This SMME appointment process created several problems as community members were not as involved as they had hoped to be, and construction workers were generally unskilled.

“I have a feeling it was two and a half million rand for the contractor. He had to lie for that in his tender, to employ, not people but companies to do packages. Not a brick layer, come here and lay some bricks for me, you as a business of brick layers, you must come here and do these walls. It became quite a challenge for him because a lot of them didn't really understand the programme. They definitely didn't understand retention, so your money is retained until the project, or ten percent or whatever it was sliding scale down. They definitely didn't understand that. There were a couple of issues and I think somewhere along the way that is where the stone throwing incident happened because a SMME had been chosen over another one. There was obviously hostility towards that, but it was quite an interesting process for the main contractor to have local people who had some skill but not much. We know the building industry in South Africa is lacking in skill now, to work on this project, so that it became their bricks, their plastering, their plumbing became an integral part of this building, and they are part of the community. That added a level of pride to the actual process of creating this building. I think it was a great way to do it, we just struggled with, and it was expected, struggling with them in terms of their skill, their understanding of the programme, and their understanding of payment in terms of contractual requirements (13-21:88).”

After completion of the project, some feedback was given regarding the functioning of the building. The main concern was the maintenance of the structure's painted surfaces.

“The other guy said they are having a challenge, they haven't been able to lease out space for functions because no one from the greater area wants to travel through this volatile gangland to get there. Now I honestly believe that is beyond an architect's scope to change. We just build this and hope that it will make a difference (13-27:103).”

References made to context and textures as features of RoS include the location of the site and its connectivity to other areas, as well as the meaning of architectural elements. Contextual integration was made with adjacent public spaces. Connections created were made through the public space opposite the centre's entrance, which was part of the urban framework. The framework, also designed by The Matrix Urban Planners and

Architects, was part of another project to upgrade the public interface of Helenvale through pedestrian walkways, public gathering spaces and street lights.

“Also this kind of is, one can argue and I will get onto maybe a broader point now that it is kind of central to the Helenvale area. It is a fairly settled site; there is an existing, slightly ad hoc, commercial centre. I mean I don’t know how they work out their rental income. It is privately owned but it is where all the shops are and it is a gathering space. Behind it was a kind of disused green space. It was in bad condition and this is the broader point I am talking about, the office I work for, Matrix architects, we are also involved in the Helenvale urban upgrade of which this was one of the projects that was highlighted long ago. There are a number of new parks created, new sidewalks, main nodal interchanges identified in the area, that has been extended to like a phase three of that project and the subsequent virus prevention through urban upgrading funded by the German National Foreign Bank, or whatever it is, I am not sure. It is one project out of many that might happen and probably the most significant one in terms of scale so we tried to latch onto that and be part of that language. The park across the road is no longer an isolated incident, it is kind of part of our scheme, so we latched onto that. You have seen that arch work, that lovely arch work. That was actually part of our budget... (13-6:53).”

Apart from the centre being integrated with other public spaces and pedestrian routes, the site is also located adjacent to the planned primary BRT route.

“It is central to the area on what we identified to become the primary transport route through Helenvale. It hasn’t happened yet as you know the system of transport that they are looking at for the bus rapid transport, or whatever it is called now, what is it called now? Is it called BRT or it is called something else but they are actually doing it in Stanford Road already (13-9:59).”

Spatially, the two different spaces had to be connected, the public space opposite the road with that of the centre. As described by the architect, different pavement patterns were used to create similar textures across these spaces to suggest the idea of flowing



movement. This texture was described by the architect as a '*carpet*' for leading community members into the building.

"It is one space and within that space you need to then subtly mark the route to entrance. That is all leading to entrance of the building, but then just by changing the paving pattern in the one bay. I then said this is kind of a formal carpet that leads you from this space, across the road, into that space. Indeed if your taxi or bus stops here, that is kind of your formal welcoming carpet into the building. You can see what we did then is this floor finish here, the concrete, that is a slightly more luxurious finish, then when you go inside the building, this community street from outside to inside has the same floor finish (13-32:144)."

Functionally, services were separated with social activities adjacent to the road and public spaces parallel thereto. With the limited budget, aesthetic qualities had to be achieved with a proportional system for indicating functional differentiation.

"The social services if you like on that side of the building, on the street side, more public function, so put it on that side and articulate it in a different way. It is a flat roofed structure, crisp white walls, different window portions etcetera to just obviously add variety to the architectural language, but also to separate them (13-17:82)."

Functions and spaces were differentiated by the use of textures. The intent was not to create isolated fragmented spaces, but rather to indicate spatial hierarchy.

"It changes slightly just for wearing and cleaning on the inside. It has got an additive to it, but that was the kind of reason, just to concentrate energy in that portion of the bigger space. That was the reason there. I think it worked well. You are linking that space with that space across the road, not only by the pattern but also then by a more concentrated sub-pattern within the larger scheme. That is the reason (13-32:144)."

The architects further attempted to create contextual integration by placing the building parallel with the street in the first scheme. Criticising himself, he considers it to be a 'Eurocentric' idea. Perhaps this is not a 'Eurocentric' idea, but is rather inspired through contextual references. Residential units in Helenvale are in close proximity to the road, thus creating an intimate relationship with the street. The buildings not only contribute to



this relationship, but also to activities of children and adults observed on street. Most social activities and play occur in the street, thus becoming the stage. Therefore, the proposed blurred boundary would have been a true reflection of the lived reality of Helenvale's community members.

“I think what we then, or me as an architect conceded is it is just Eurocentric idea that we kind of have as white people. Everything must be right on the street you know. I wanted to have that sort of interaction. You could look into the space. Even at the hall I had glass on the street so you could see people playing sport from the hall, but that is when I had the two story scheme (13-35:176).”

The paint colour was another important contextual reference that was made. Initially the building was painted blue with the client's consent. Some community members belonging to political parties such as the African National Congress (ANC) complained that it represents the Democratic Alliance (DA). The building thus had to be repainted to a non-representative colour. It is important to note that the colour of the structure contributes to perception and identity formation. This notion of identity formation was further evident in an observation made by the architect.

“Without considering political context I just chose the colour blue because I like the colour. This sort of central spine element that is an organising principle for the building and flows from outside, inside outside and holds the scheme together, I had it in blue. No one had a problem. The client was happy. They painted the whole wall blue in fact and then the ANC elements within the community said, this is not acceptable. This is like a DA building.

Yes, then we chose this green that we are actually using on another scheme and it is not ANC green fortunately, so you cannot associate it necessarily with ANC. Well I am sure it would have made those people slightly happier. There are two ironies there. That cost an extra three hundred thousand rand I think, to repaint, and if you go there, stand here, and look somewhere over here, you will see a house that is miraculously painted exactly the same colour (Figure 60). Guess where some of that paint went. It is like, look, it is the same colour. I

think it is over here. It is either that house there or this one here (13-16:76-78).”

To diminish subdivision and create visual boundaries of inclusion rather than exclusion, a public space was designed as the connecting element between the newly developed urban framework and centre.



Figure 60. In close proximity to the Helenvale centre, some residential units have been painted a similar green as found at the centre.

“Ordering for the building itself really started with this space here, so we saw that potential and sort of seized it in that we gave over part of our site to not be fenced. It became a little bit of a focal point for community activity. There is an irony there and we somehow managed to avoid it. The user organisation or the managing, I don’t know if they are the user really, what are they, they are the managing agent right. They want to fence it off which is like ludicrous. The user client has changed as it was originally the Helenvale Urban Renewal Programme that had a director who had bought into the ideas. That has moved on to someone else who has different ideas. We can only control so much or attempt to guide so much and we have tried to convince them not to fence it off. So far so good but we have no control because the MBDA is now controlling all... (13-8:59).”

To minimize boundaries on site, fences were limited as far as possible. Unfortunately, due to client requirements, the parking and remainder of the area had to be fenced. The architects were, however, able to convince the client to create an accessible open area, connecting the two public spaces on either side of the road. This public space was seen as more formalised leading onto an enclosed community street (see Figure 18). This street in-turn provided visual access to the street and parking area.

“What we did was, with this in mind, the park leading into a more formalised public square, what we called the community plain. We then, partly because of the challenges of the site in terms of the slope, and partly because we wanted to respond to the street, so the building opened on there, we created an element that we called the community street. It was basically the mall for the community functions that led off it and that is the timbered space you can see (13-10:66).”

In the first proposal, the glazed façade was on the street edge, removing boundaries even further with direct contact to the street. Unfortunately, the client required parking space adjacent to the road, receding the community street.

“...actually [in] my initial scheme, I had this right on the street edge and I put the parking at the back but they didn’t want that. They wanted the parking on the street (13-34:174).”

According to the architects, the success of the public space was the installation of the sculpture on the opposite side of the street. Although the artwork was part of the project's budget, it was decided to place it in the park, thus outside the site boundaries. The sculpture thus forms the connecting element, limiting the boundaries of sub-division. The statue forms an important visual axis or link with the other artwork portraying children skipping. Through the axes, the external context is linked with the community centre to install meaning.

“There isn't a photo of it in here. As you can see here, this is the completed scheme, so that arch work, we actually gave it over to the precinct rather than make it part of our scheme. Because these spaces are so bound together by their spatial and their architectural patterns and so on, they formed one, so it didn't matter that it was not on our site (13-7:55-56).”

Meaning is further embedded through commemorative activities. Although the structure was erected prior to violent events that led to the death of several children, it became a memorial commemorating the children. Some of these deaths include a 19 year old girl hit by a stray bullet on 30 May 2011. Two others include a 13 year old girl on 30 December 2012 and a 16 year old boy on 6 July 2014 being under cross fire without being involved in the activities themselves (Wilson: 2014).

“Tragically a few months ago a little girl was killed here in gang cross fire and so the day we went there with the SAIA [South African Institute of Architects] panel, this whole area where that sculpture was, people had stuck flowers and photographs into the sculpture (13-29:125-126).”

Apart from the sculpture being appropriated as a monument of commemoration, it is also used as nodal point to mark joyous occasions. As RS, it is further re-named as the ‘small Madiba’, even though it was modelled on a child from the community.

“P1: On the other hand the guy on the kite and the circle, this is kind of the photo opportunity in Helenvale. Brides come there for wedding photographs and it is very popular. They call it the small Madiba.

P2: No, the small Madiba. It is actually, the sculpture is modelled on a little boy from the community (13-28:110-111).”

Three spaces of fragmentation with located specificities were identified as the circulation space, seating pods therein and the tower element. Lefebvre noted that fragmented space, which is prescribed to specific functions, forms a disconnection between spaces. Although the corridor could be such a specified space, it was rather used to connect other prescribed spaces such as the offices, community hall and multi-functional gathering space. By considering the *materiel* of the structures as well as the spatial qualities created, a space for opportunity was shaped.

“Also in that space then of course we have got the seating pods which also went through a lot of, I don’t have a photo of that. Also went through a lot of upheaval. Initially HURP, Debbie Hendricks, she had an issue with waiting for, like a lot of people just turn up there, they don’t book an appointment at ten o’clock on Wednesday. They just turn up and say; well I am here for this. My child was raped, whatever, so if for instance that service was offered here, she was worried that all these people might wait together, like you might get a child that was raped, and her friend is there on parole and they are from the same community. Imagine the trauma. She wanted to know, how I could create separation if I so choose and we created these seating pods which fed off the main space. You and your friends could sit together if you came for the same thing, or if you felt as if you wanted to be alone, you go sit in another one. Then we had a system where you would then obviously announce yourself at the reception, go and sit, and when it was your turn, you would be told where to go. Furthermore, if you were say a recovering alcoholic and you were embarrassed about your condition, no one could really see where you were going. When you go round the other side, no one can really see he is going into the AA office. Once again the onus changed, the brief changed, and this became maybe a bit of a watered down version of what it used to be. It used to be a lot more formal, bigger, and denser (13-18:82).”

Another space of specificity is the seating pods provided. These spaces act as waiting areas for community areas, or as planned in the initial brief as Information Technology (IT) areas with computer and internet access. Unfortunately these IT facilities have not been provided. Due to the specific function prescribed and the rigid nature of the pods, few other activities are allowed therein.

“I can either put, and the site didn’t allow me to put them end to end, so say community hall, multipurpose hall, and community offices. I couldn’t because of the slope, so I had to set them out next to each other. The fact that they were set out next to each other, provided me with a challenge. I have got this thing between them, what am I going to do. I could make it a dingy little corridor, or I could make it a light filled celebratory space that doesn’t only link isolated things, so you go in there and you use that, you go in there to use that. I somehow put an in between space which became the waiting area, so there was interaction. There was also a requirement at the time that the building had full Wi-Fi and that some of these pods, in fact the last one which is a smaller one, the one at the end which is this one here, it was going to become an internet station. There would be four or six work stations there. We had allowed for data connectivity to that particular pod, and power, but in the end there is no one to provide the computers. It was once again Debbie Hendricks’ vision to have this and there is no one now to provide computers. There would have been that element of sub-space that belongs to, not the others, but belongs to the central space. Primary reason is circulation route between the various elements, and then the way we chose as architects to treat it, is to not just make a corridor but to make it a more joyful, light filled space (13-25:98).”

The last element of specificity is the tower. As a prescribed function by the NMDA, a tower as a landmark had to be provided. The architect, Miles Hollins, was however reluctant to design a tower if it was not functional. It was thus designed as the security point, to control access to the parking area. During interviews with community members, participants felt that it is an important RS as an hierarchical point in the community. If this space was less dictating, allowing appropriation by the community, it could have provided more opportunity for interaction and representation.

“Anyway then that market tower obviously marks place of building in the context, but then also marks entrance to the building, main entrance to the building on the site. We added a bit of function to it by putting the security kiosk near it, which they kind of asked for. Therefore it gave some function to it even though it has got the highest ceiling in the world, I really see it as one space (13-33:144).”

To conclude, the narratives written on the interview with Albrecht Herolds and Miles Hollins, RoS aspects of fragmentation and subdivision were discussed. To that, contextual references and textures were added, contradicting some aspects of fragmentation and subdivision. The Helenvale centre, mainly designed from a RoS perspective, was primarily influenced by SP. Focal elements of SP in this case included function and structure.

Ubuntu community centre: RoS as perceived by Field Architects

The Ubuntu Education Fund (UEF), situated at the Ubuntu community centre, was not established with the construction of the building, but was already founded in 1998. When Jacob Lief, one of the founders of the NGO, considered the building of a new structure, the vision of the Ubuntu centre has already been established. Mr. Malizole Banks, the co-founder of the UEF, described the aim of the Fund as follows: “I don’t want an organisation where we actually impose on people – we need to work with people” (12-4:25). The centre’s brief thus grew from an already existing programme, from a strong RoS perspective.

As discussed in the previous section, Helenvale centre’s instigation was born from the concerns of a troubled community. In comparison, the Ubuntu centre started from the idea to provide hope through education and health facilities. Being an existing organisation, expansion of facilities was required due to the success of the programme. The vision of the Ubuntu Education Fund was for the structure to be different, thus requiring a specific architect.

“Okay, you know, let me just tell you, when they first started they were looking for an architect and the way they framed it, they said that they wanted a building, whenever they talked to an architect they were interviewing, they said they wanted a building that had never been done before. Most of the answers they got was that, could you tell us what you mean, and they immediately felt that that wasn’t the architect that they wanted because the whole point was it had never been done before, so we cannot tell you what it is and if you are asking us that, you are not the right architect (42-6:76).”

After Stan Field was chosen as the principal architect, the process began through several site visits and engagement with the community and staff of Ubuntu.

“Yes, you see, let’s put it this way that my first act was to go down there from here. I just left and went down there and I spent quite a long time just listening. That was really the most important thing and they were very pleased with that because they couldn’t believe that that was what I was doing you know, because nobody ever really listened to them. You know and it was just not the done thing. They were always told what to do so here somebody was actually listening and they said, you know what, that’s what we do. That’s what Ubuntu is all about, actually it is listening, so they were very excited that I was doing that and I mean, I grew up in Port Elizabeth and I knew, I just had a good sense of the place and the people and where, how things sort of had unfolded. For me it was just an amazing sort of architectural possibility because I believe that architecture has the ability to transform a mind-set and that it’s not just a building, it actually is a living thing (42-8:80).”

Through consultation, the vague programme was formalised into a workable design brief. The architect, however, felt that it could not be referred to as a process, as each project ought to be unique and therefore would rather prefer to call it an evolution. For the architects the design of this project was thus rather about the community than the actual structure to be designed.

“Yes, so that is what I started to address and they were really excited about it, about that approach that we followed then. See, what was wonderful is that the programme, the little bit of programme that they had and my sort of thinking started to merge. I started to feed them and they started to feed me, and so together we evolved the programme, yes, and so the more I designed, the more they thought of things. It really was a very dynamic, I don’t like to use the word ‘process’, but I know that these days process is almost everything you know. I just don’t like to limit it, because I almost feel like process implies that it’s been done before, but I know my son Jess, I don’t know if you’ve met him or heard, he’s my partner now. He is an architect too and he said “Dad listen man, just drop that idea that process is about repeating things”. He says it’s just the way we work. Anyway look, maybe that is something that I’ve got a mental thing about, but it evolved. Let’s say it was more about an evolution than

sort of a known and tried method. We had to develop a unique method for this unique situation (42-9:82).”

After the programme had been established the intent of the structure had to be determined. According to the architect the aim of the structure was already in the philosophy of Ubuntu “I am because you are”. The structure thus had to portray the principles of Ubuntu visually to provide hope.

“Yes, in terms of actually, yes, developing the programme: they did have some basic programmes that they already were working with you know, because you can imagine the situation was really serious. People were dying, AIDS was rampant, you know, and it was really...so it wasn't as if it was some theoretical exercise. We had to work fast and say listen, you know, we've got to do something, and together with that was the whole idea of restoring their hope. My big challenge, I felt, was to uplift the spirits of the people. It was that, and so it had to be a building that actually spoke, so internally it had to work for its purpose, but outwardly it also had to emanate this sort of sense of hope and optimism. That is when I started to realise that the very sort of philosophy of Ubuntu, “I am because you are”, you know, became the template for the architecture. I mean it was amazing, you know what I mean. Imagine just having a template readymade that the people believe in, but you know, what was interesting is, Ubuntu is really a lot of the youth and that they would really practice it in the same way that their parents did, and the older people. They began to realise that it was actually applicable to them too and it started to revive that sense of who they were. I realised that that was the most significant thing and here we had a readymade sort of philosophy. The architecture just needed to speak of that, and that is why this idea of sort of helping one another and so the building sort of has different parts that sort of lean on each other to give that sort of sense of support and connectedness, you know, interconnectedness (42-13:86).”

Prior to the initiation of the new centre, the education and Acquired Immune Deficiency Syndrome (AIDS) programme was already operational from a hall in Zwile (see Figure 26). This site was thus to be developed while retaining the existing. It was further deemed

appropriate as it is geographically opposite the school where the co-founder, Mr Banks, was a teacher. Furthermore, the site is also located across the community library, thus already forming part of a public precinct.

“So the site, the actual site, you know, my recollection was that Banks is a teacher, and I think he used to teach at the school just nearby. There is a school nearby, just diagonally opposite and I think my recollection was that he managed to acquire that site on the corner. That was actually a fabulous site we discovered because it was almost like a cross roads of the way people walked across the township and so when I went there, I began to notice that that was how the people walked (42-2:56).”

Movement patterns were investigated on site, which became the first design influence. Using the pedestrian walkways as the design generator also contributed to the contextual integration of the structure.

“You know the road system was really laid out for cars, but most people didn't have cars so they used to walk everywhere, so you don't have to follow the streets, you can cut across a site. It is much shorter, that's what I felt was appropriate to use the pedestrian system, and so that gave rise to the whole idea of using the public walkways as sort of the generator of the big idea of taking the public through the site (42-1:56).”

Apart from pedestrian routes influencing the design, time and space were also considered. As Lefebvre described, these two aspects cannot be separated, as historical events shape space. Field further commented on the notion of order and situation. He prefers to think of 'situational architecture' which recognizes the context, rather than order, which imposes on the landscape.

“That's the form and I know it's very close to the shape which sometimes bothers me but I tell you, I've always felt that if I could actually, you know I studied with Louis Kahn and he was my teacher. I sort of differed a little bit from him when I started, because he talked about that order exists and it's really just our uncovering of the latent order that we think is new. I was studying with him in the '60'-s, it was a really turbulent time in the world, in America, and people were

burning down schools of architecture then. It was troubled times, so I felt, how could we be talking about order. I started to begin to think more about situation, that really the dynamics of the situation really was the force of inspiration. I felt it was much more connected to like, to the times actually and that the times really needed to be captured in the architecture because architecture spans time, and so it can begin to sort of connect the times. They became markers because that is the one thing you can read and it is public, and everybody can see it, so those were the things that I felt were what we needed to do. That is why architecture is such an important discipline because we leave traces of the times that future generations can read and understand what happened and why (42-20:140).”

Considering the adaptability of the centre, it was noted that the insertion might change the existing pedestrian walkways on which the structure was planned. This links to the notion of spatial specificities, which in this case allows different connotations.

“I think that the pathways going through, I am sure that they themselves will change. They are probably, because really it’s about movement and meeting, and those are the people places, and then everything happens off of them, so that structure that threads through the building, it can breathe let’s say. The light generally comes through there, and the wind, in Port Elizabeth, you know. They are almost indoor, outdoor spaces that are part of leaving the street and entering a site (42-28:158).”

Another aspect that had influenced the design was the material. The structure was seen by the architect as an effective centre, to provide a sense of permanence and stability.

“Yes, it was actually a physical thing. I believe in material, in fact sometimes I start with material as my concept. I just knew it had to be concrete, first of all, because it just seemed to represent something permanent. Everything was so impermanent there in that place, that township, the shacks and the corrugated iron and there was nothing that spoke about lasting. Everything could be torn down, so I just felt that it needed, and even though concrete was a material that was used

for roads, bridges, and things like that, but they were permanent (42-21:142).”

To enhance this sense of permanence, a historic reference was made, again connecting time and space. Previously, the local post office had been built on the site, but during a political uproar in 1999, the structure was burnt down. This act can be seen as representational as it inscribed meaning onto the burnt structure. The only remnants on site were the foundation as well as a collection point, which was retained and placed at the entrance of the Ubuntu centre.

“Yes, the post office, you know, had its place as well but all that was left of it was the foundation. It was just the slab at the bottom because it was burned down you know. You know what happened, during the riots and everybody just wanted to break down, they wanted to get rid of the past actually, but, I felt it was even important to save something of that past that they even wanted to get rid of. I noticed the slab itself didn’t really have that much meaning you know, it was really just in the way, but then I noticed this little red post office box, you know that iron box that they use to have for posting letters. I said you know what, I didn’t even tell anybody, I just said to myself, I am going to keep that and save it, and it turned out that it actually was in a very convenient place right at the entrance. Even when the opening happened, when I made my speech, I referred to that, you know, because it was quite moving in a way because I remember looking into the post box and it was old, you know, and I saw like a letter still in there you know. I just created a kind of, what I imagined what was in the letter, and I just said that that letter probably said what this Ubuntu centre was, that it was a letter filled with hope. And that Ubuntu was going to deliver that letter. So everybody embraced that as well you know and even something that represented that period of the past that wasn’t good, became something that actually was part of the reality, and I think that that is so important that all the reality has to be embraced (42-5:68-72).”

Apart from consultations with staff and community members, community participation was further facilitated by conducting a traditional ritual before construction commenced.

“You see, just before the construction, you know what was also very critical for a community centre like this to be successful, because you know a lot of people have tried this and I don’t know if you know that there’s, I forget her name now, she has got a big radio programme, TV programme, Oprah I think. Yes Oprah, she tried something somewhere in South Africa and I don’t think it was a success, but you see what was very important was to get the buy in of the people, and so it was done in a very intelligent way. For example, just before we started construction there was a big sort of braaivleis, you know what I mean, that we had on the site and invited the whole community, and they actually got an ox and slaughtered it right there on the site. It was amazing, and they even had, I don’t know if it was these special ladies, witch doctors and all sorts, and they did their rituals. They kind of blessed this place and everybody felt that they had a hand in doing it, so it was just there, and everybody came. It was just a very wonderful way of getting started and everybody bought into it. You are right, that was very important because it was not easy to build a building of this scale and size in the township, you know what I mean, that was mainly shacks and small little buildings, you know what I mean, and so that it did not sort of feel that it didn’t belong. The most important thing was it had to belong. That was the buy in that I mentioned, and it really gave us a lot of courage to do the kind of things that we wanted to do (42-15:90).”

Some aspects that coincide with SP include function, structure and form. Functionally, spaces were allocated for certain specificities, leading to fragmentation and sub-division. An attempt was made to minimize this spatial fragmentation by locating contrasting functions together. However, functions were still prescribed to spaces resulting in specificity.

“Yes but I know what you mean. Look I think the organising principles were really the principles of Ubuntu. Strangely enough there was no need to look further than that somehow, because it’s really the idea of caring, and just helping one another basically, so the different functions of the building, let’s say there was the clinic, and then there were the meeting rooms and the public sort of spaces. The computer centre, library, and then the staff rooms and then the hall and these all,

they might have had different functions and normally you don't sort of put the clinic together with a library, or a computer centre, so these [inaudible 0:32:29] uses, they suddenly started finding new ways of speaking to one another. So, on the way to the clinic you could be going to a library or a computer centre and so the whole idea of testing for AIDS became, because the stigma was always this huge problem. People didn't want to be tested because it had the stigma, so now they had a sort of a reason to, that maybe they were going to the library on the way and they could be tested, but they didn't, or people didn't see that. They thought, well maybe they are just going there for something else, so that was very successful actually. It started to break down that stigma, so it just started to help us to get encouraged to do things that were not normally seen as sympathetic uses that they really were because it's part of life really. We tend to sort of compartmentalise uses and programmes, and we bracket them and I think it is a computer way of thinking actually because that is how computers supposedly think you know. They like to group things, but really, when you mix things up it starts to create a richer sort of a biodiversity and I think that is the whole idea of biodiversity, is this sort of richness, a new richness, yes. It is healthier (42-18:120)."

Functional qualities were allocated to external public spaces like the internal courtyard accessible from the clinic. This space was intended as a breakaway area, but has been adapted for more waiting areas. Part of the alteration included covered areas with permanent seating. A relatively generic space was altered by the client to suit the users' needs. The space was thus adaptable to allow for other activities.

"That little courtyard, it's actually interesting that you mentioned because you know what I had in mind there. It is right next to the clinic and I made the clinic, I don't know whether it's used much like that or not but there are sliding doors that are right there, because I just imagined when people came to get their results from their AIDS tests which was almost like a life and death situation. Imagine hearing your results and they were not good, you needed to just break out and that is why I felt that there should be a place where someone could just go outside but still feel contained and secure (42-24:146)."



According to the architect, not all the spaces are adaptable, due to the permanent nature of the structure.

“There are things that are probably, have some sort of difficulty in adapting, but I think that the ceilings for example, and the gum poles, I think that there are spaces that have some sort of flexible play and that one can sort of find ways of threading technologies through and expressing it in a way. Adaptability, look, it’s a very important aspect of architecture, but I think that there are certain aspects that don’t change. Some infrastructure changes even, but you see the building itself was infrastructural material, you know what I mean, the concrete, so I felt it’s robust, you know, it’s not so precious (42-27:158).”

Upon asking the architect on the utilisation of the facility, he commented on his perspective of the two terms: function and use. Although he made this distinction, the study still focuses on use rather than the categorisation of functions. This again suggests the notion of specificities that could lead to fragmentation and subdivision. By prescribing certain functions to specific areas, representational appropriation could be limited in favour of appropriate use.

“Also, I like to also differentiate between use and function, because I think function is a higher order of use, so I think that if one can, I mean different rooms or spaces are used differently, but collectively they have a function and that is the Ubuntu philosophy, let’s say, and communicate that is the function of this architecture (42-32:172).”

Apart from defining the difference between function and use, form and shape was also defined. Whilst designing the Ubuntu centre, one member commented on the shape of the structure during a design consultation meeting. By defining the shape as “kind of form”, its strong geometrical nature is apparent. Furthermore, as it was not defined as a specific shape the unique character is highlighted.

“There was one guy called Tsepo, he is someone I will never forget. He used to ask me the most amazing questions. He said: “Stan”, we are in a talk, he puts up his hand and he says, “what were you thinking when you designed this building? You know what I mean, what kind of a shape is this? We never saw such a shape you know”, he says, and I mean it made me think because I’ve got this idea about form and



shape and how the form really is the essence and shape is really the expression of that, and he is saying “what kind of a shape is this?” And to me that was a deep understanding for example of form because he was saying, because form is a certain kind of shape you know, it’s not just any shape, you know what I mean. So, in his simple way he was teaching me about architecture and so I had the sense that I was learning as much as anybody else was, and it was so fascinating (42-10:84).”

Considering contextual references, the spatial layout and scale of the structure were incorporated. During apartheid, most townships were designed on a geometric grid with elongated streets. With the design of the Ubuntu centre, the architect wanted to transform this grid as a physical manifestation of change. As the figure ground drawing determined the plan and form, significant contextual references were made (see Figure 31). This approach further led to environmental sensitivity as the structure is not dominating a predominantly residential area.

“The whole township, all the townships were laid out in a grid and that was the idea. They wanted it to be ordered and it was more part of that regimented sort of approach, so all the little houses were just all in lines. My very first inclination was to break that whole organised structure and I wanted to create a much more free geometry that was liberating. That was part of that idea of liberating which then allowed for sort of the structure to somehow well up if you know what I mean. Yes, so that it didn’t feel big because it grew out of the other fabric of the environment so that it felt part of it and my whole sort of philosophy in architecture, I sometimes call it landscape. The way you almost pull the architecture out of the ground, as if it was almost there and all you needed to do was pull it out and reveal it. It is as if it was like tree roots, when you pull it up it also pulls up some of the other surrounding sort of fabric, yes. So, I think that was part of this idea of allowing it to sort of even have a bigger scale but yet be part of it (42-16:106).”

Although the scale of the structure was considered, spatial differentiation was still needed to signify its public nature. Hierarchy was thus needed to provide a reference point for community members. Differing on perspectives, it could either be seen as an aspect of SP if considered functionally, or RS if seen as a nodal point of change.

“It creates a sort of orientation because I think a community needs sort of higher points to sort of realise that there are, not everything is the same. You have sort of points that you look up to, or you recognise those that are more communal and the rest is more private and residential. It also became a point of pride of the community and it gave them something because of the big space opposite and I’m not sure what’s happening to that now, but people could see it at a distance as well, and it gave a sense of orientation. You knew where you were (42-17:106).”

After construction was completed, one community member commented on the situational nature of the structure. To him the structure is contextually integrated, referring to it not as an insertion in time, but rather as a continuation of time.

“He says, you know, this building feels as if it’s always been here, and I tell you that was probably the best thing anybody could have said to me because what more can an architect want than to have that sort of sense that it belongs (42-23:146).”

The architect further commented on the signifying capabilities of the structure, communicating change and hope. One community member further commented on the structure’s suggestive nature, as it’s ‘walls speak, the building talks’. Individual interpretations are thus made, generating significant RS space.

“You know, the exterior, let’s call it the interface with the community, it’s so, you see it’s not as if it’s a reflection of who they are or something like that. It sort of allows, I mean we had one guy, what was his name, Zukisani. I remember all these people like I’ve known them. He used to drive me to work because I used to live at Amsterdam Hoek when I used to come out there, and Blue Water Bay and then they used to take me there. I used to talk to him in the car all the time and so we used to talk about, hell man, now you take me back and I’m trying to remember. You see, the difference was, you see I’m trying to put my finger on the really significant elements you know what I mean. It’s not just reflecting who people are because they change as well, but I wanted to change a mind-set. Something as significant as that because people were stuck in a mind-set and they felt that they could

only do certain things but if one could break that limiting idea, then anything was possible. It was important that this almost expressed that. It was not just ambitious but almost, I wouldn't say crazy or anything like that because I know Frank Gehry and people like that can do that, but I think his intent, the intent behind what he does is more an artistic intent rather than a, I mean this is almost a political intent. A socio-political intent because buildings are the most public things, it is there for everybody to see and to react to, so you've got a billboard there waiting to be read and understood. It just seemed that if something could be communicated, and that is why at the opening when that young girl read that poem she wrote, Bulale, I think her name was, and she said: "The walls speak, the building talks". I mean, we were all finished because it was like so amazing to just hear her say this, and beautifully express it, and I know that even president Clinton was there and I heard that he was really taken by it also (42-25:146)."

Apart from the structure's ability to act as a billboard, there is no other signage, strengthening its symbolic capabilities.

"Yes, let me say this, that I just feel that the building itself communicates and what would we achieve by saying Ubuntu centre, you know what I mean, or 'Entrance', because there were so many places. Maybe there are certain fire codes that you have to have, exit or emergency, but other than that I just don't like signage on buildings. I think that buildings need signage, you know, at least to tell of what's what (42-30:166)."

Considering symbolism as part of RS, the architect felt that meaning should not be inscribed, but should rather be part of the *lived experience*. Lefebvre noted that through the daily reality of SP, RS is shaped (Lefebvre: 1991, 206). The abstract nature of the Ubuntu centre thus allows for representational space to be formed correspondingly.

"You know let's put it this way, symbolism, I don't necessarily like to use symbolism in architecture because it tends to sort of limit it to certain understandings of what one is seeing. I rather sort of like to let people interpret it themselves and arrive at some sort of idea. It's

more abstract than sort of definitive. I think that's why those, that's when he asked: "What kind of a shape is this", you know. It is really a form and I was so pleased because the form really is more of an abstraction and you cannot say it looks like this, or it is that, you know what I mean. It just alludes to that, maybe, but it isn't a piano or a, you know what I mean, something else (42-19:124)."

From the narrative written on the design and structure of the Ubuntu centre, the RoS was described. Although several aspects of RoS were discussed, the centre was designed more from the perspective of SP. Upon considering SP aspects of function, structure and form, decisions were further influenced by RS. In the case of Ubuntu, the structure was thus not designed only from RoS, but also from SP influenced foremost by RS.

5.2 Findings elicited from the narratives of the respective architects

In the findings and conclusions derived from narratives, aspects of RoS are discussed as explained by the respective designers of the centres. Themes discussed are those developed in section 2.5 in the theoretical investigation; fragmentation, subdivision, spatial differentiation, construction technique and, spatial context and texture. Under each of these themes, the findings from both narratives are compared to draw conclusions. RoS is discussed first, thereafter some associations with SP and RS are explained. Although the architect's perspective is considered to be only RoS, some references to other aspects of Lefebvre's triad were also made.

Apart from similarities between case studies, there are also several differences. The client, design brief, appointed architects, the programme and the site differ significantly. Regardless of these differences, the two case studies are compared to investigate the spatial production of community centres as public gathering spaces. This comparison is made on the design process, the construction of the structure and its contextual integration in line with the themes from Lefebvre's TPoS.

Fragmentation: Specificities and disjunctive

Most areas considered for urban development in South Africa are subdivided and zoned. In both case studies this was the prerogative; allocated sites have strict boundaries and regulations to adhere to. It is not only aspects of fragmentation that limit the architect, but also municipal regulations. The architect, however, has the responsibility to counteract this predicament through sufficient contextual references.

At the Ubuntu centre, public spaces surrounding the centre were designed to gradually erode the site boundary. These public spaces are further connected with a pedestrian walkway linking with the greater Zwide. Existing boundaries were further demolished to provide a more accessible facility. Physical boundaries are often criticised, as it is argued that they restrict public activity. At the Helenvale centre, the majority of the site has been fenced according to the client's requirements, regardless of the architect's protest. The impact and perception of this is further discussed in section Chapter 6 and Chapter 7. Public space adjacent to the road has also been provided, but in this case it is linked with the urban framework of Helenvale. A link was formed with the centre through artwork and a public park opposite the building's entrance. Considering both these cases, the connection with other public infrastructure is of the utmost importance to limit fragmentation.

At both centres, fragmentation further manifested as spaces of specificities. Prescribed functions, such as the offices at Helenvale and the clinic and staff accommodation at Ubuntu, restrict impromptu activities. Spaces contradicting specificities include the external public spaces discussed above as well as gathering spaces, consequently being areas of 'in-between'.

Subdivision: spaces of work or non-work

Spatial subdivision can occur either through function or form. With the prescribed programme, spaces were designed with predetermined functions. In both case studies the services were separated from gathering spaces. This ordering was done through mediational spaces, and in the case of Ubuntu, a second floor level further distinguished this space as more private (see Figure 33).

Subdivision on an urban level transpires through hierarchical differentiation. In both cases, scale, a structural aspect of SP, distinguishes the centre from the residential context. With little other public infrastructure, the centres' hierarchy is in direct contrast with the immediate environment.

The design approach of both case studies was informed by pedestrian routes. Existing walkways were used to determine spatial organisation and form. By contextually integrating these routes, which were translated into form, a localized texture could be created. These mediational spaces were used to feed into other functional and gathering spaces as organisational elements. These two elements however differ between the two cases: at Helenvale the organisational element is visible opposed to the more geometric

form of the Ubuntu centre. Here the clustered spaces are defined by slanted concrete elements with little differentiation made between circulation and function.

Construction technique: Material and materiel

As the clients of the two centres differ, construction thereof has significant different approaches. *Materiel* qualities differ. Helenvale was constructed through a SMME programme, involving some of the community members. Ubuntu on the other hand, used a local contractor, but with no requirement of local job creation. The approach followed at Ubuntu was to initialize the project through a social gathering, which included traditional rituals. One thus involved the *materiel* and the other RS, one directly related to the structure and the other to the perception of it. Both these approaches had a different outcome: At Helenvale unrest was experienced due to the employment process. At the Ubuntu centre, community members felt that input (through communication during the design process) was valued and their traditions considered. The effect of both these approaches should however be considered in relation to SP and RS as perceived by community members.

Spatial context and texture: Environmental integration

In contrast with fragmentation and subdivision, Lefebvre notes the need for structures to be contextually integrated, forming a cultural texture. Contextual integration thus bridges boundaries, forming networks. These networks then form different textures, influenced by space and time, to form representational references. At the Helenvale centre, interconnectivity with the urban framework partially prohibits fragmentation. At the Ubuntu centre, the structure was integrated by considering the formalistic grid of Zwide. By contrasting the grid formalistically, the architect attempted to instigate change. As the change is only morphological with no change to the grid itself, one can question if the fragmented and subdivided nature is in fact transformed.

To summarise the findings, both centres were designed from a RoS perspective, but with the Helenvale centre SP was regarded more and with the Ubuntu centre, RS. Ordering principles were used at the Helenvale centre, considering accessibility (boundaries as functional aspect of SP). The Ubuntu centre, on the other hand, used form (an aspect of SP) to guide the RS value of the centre.



Chapter 6 Analyses of the two case studies: Mapping

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6.1 Introduction: Analyses of completed maps

The first visual aid used during the semi-structured interviews was maps. Each participant was given a base map of the area indicating the community centre with surrounding infrastructure and roads. Areas of preference (positive), dislike (negative), significance (important), change, identity, meaning and social activities were then indicated on these maps with codes. These codes (stickers) were numbered and had an image to be easily understood by participants. After completion of maps, data from each case study were superimposed on a particular base map (Appendix XV and Appendix XV). On these combined maps groups were formed around areas of significance, thus indicating areas that have been associated with the most. Groups were then coupled with related quotes in a narrative to describe the relationship to thematic categories.

Table 2. Frequency of categories used: Helenvale case study.

Mapping: frequency of categories used, Helenvale case study							
Categories	1 Positive	2 Negative	3 Important	4 Change	5 Identity	6 Meaning	7 Social
Frequency of use	36	28	28	18	11	11	27

Table 3. Frequency of categories used: Ubuntu case study.

Mapping: frequency of categories used, Ubuntu case study							
Categories	Positive	Negative	Important	Change	Identity	Meaning	Social
Frequency of use	41	20	36	18	18	23	24

Maps completed by participants include aerial photographs (Google images) and perspectives. After superimposing on these maps, numerical data were colour-coded to define clusters that had formed. If there were more than two associations made with an area groups were formed on base maps. Perspectives, on the other hand, were discussed in terms of associations made with the centre, thus the number of codes for one category.



Figure 61. Mapping of Helenvale multi-purpose resources centre perspective.

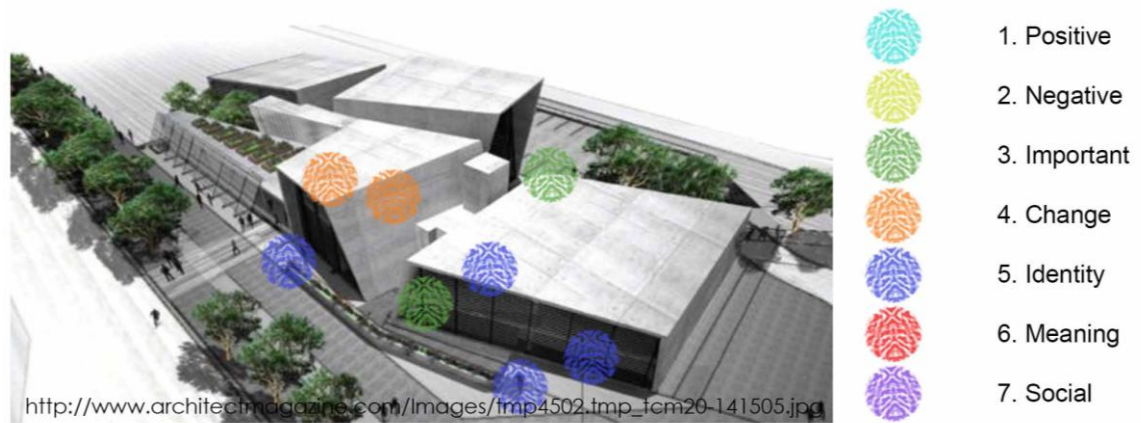


Figure 62. Mapping of Ubuntu centre's perspective.



Figure 63. Map overlay of all participants at the Helenvale multi-purpose resources centre.

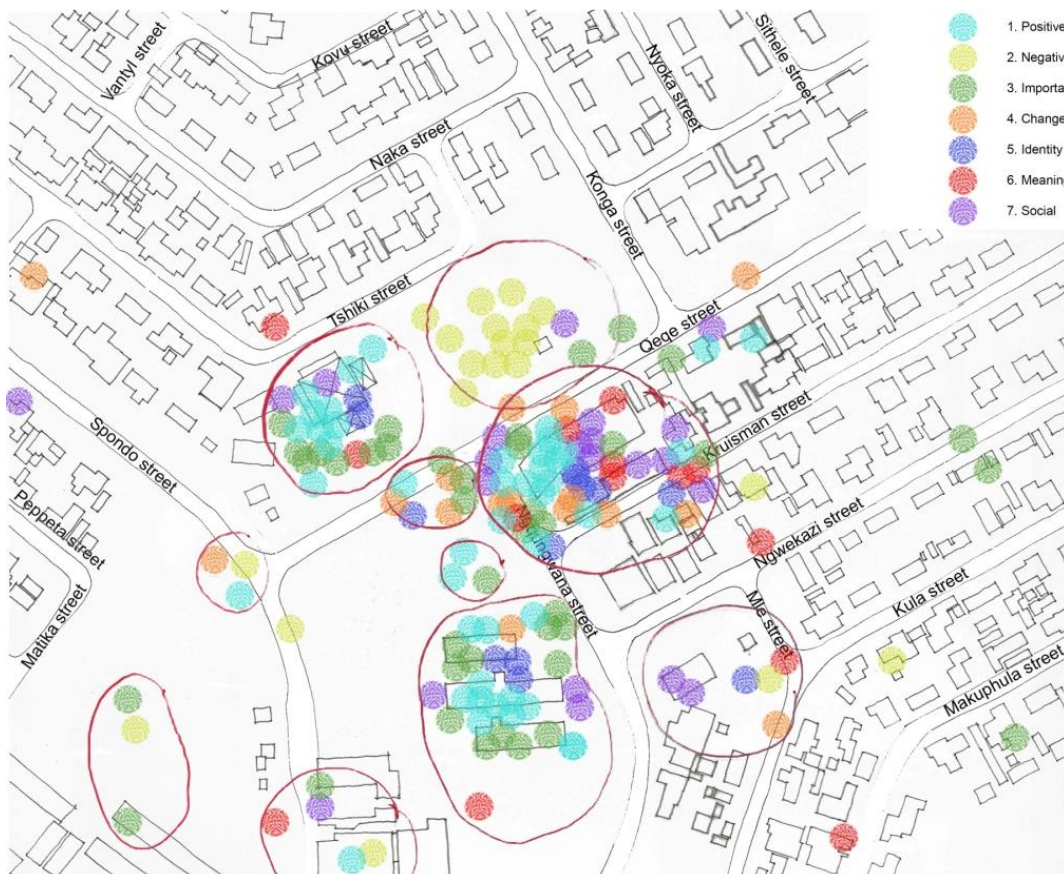


Figure 64. Map overlay of all participants at the Ubuntu community centre.

6.2 Perception for immediate macro-environment: Condensation, displacement and centrality

After groups were formed on the combined maps of each case study, quotes were connected thereto. These quotes were selected to highlight aspects of theoretical categories derived from Lefebvre's spatial triad. The groups formed, were described in relation to categories in the form of narratives.

In the analyses, a narrative was written describing content analysis of quotes. These narratives demonstrated comparisons between q-sets to highlight aspects that could be associated with each category. After the narrative, quotes were provided to corroborate the argument. A reference system was used for quotations that are linked to the sort and mapping process. The system allows for cross reference between the original transcripts whilst keeping the anonymity of participants. Each quote is followed by the reference in brackets. The first figure refers to the transcription number, after the dash the page number follows, succeeded by a colon indicating the line number, as provided by ATLAS.ti. Lastly, after another dash, the q-set number is provided e.g. U3. The total reference would thus be (14-5:189-U3). Note that the transcription number does not relate to the order of participant or a specific case study to ensure anonymity. When a comment from the interviewer is included it is indicated with a capital 'I' with the participant's response as 'P'.

Spatial Practice of the Helenvale centre in context

The mapping process allowed participants to investigate the centre within its contextual reference, thus focusing on its contribution within the Helenvale community. Focus was placed on three aspects of SP namely, function, form and structure. Functional aspects included the use of facilities and levels of accessibility. Structure included perception on architectural elements of technology. Lastly, form included aspects such as assembly and encounter. Although this section mostly focuses on SP, aspects of RS are included as Lefebvre's spatial triad cannot be separated entirely. The narrative on SP starts with the functional discussion integrated with other relevant aspects followed by structure and form. Functional aspects related to the use of the structure, created a positive perception of the community centre amongst participants.

“The changes brought a lot of opportunities, like for example the things that they are busy with for the driving school (37-8:68).”



Functionally, the centre was perceived as accessible:

“The first point would be the youth who can now freely use the hall (24-10:92).”

Activities presented at the centre not only provide educational opportunities but also

“Our children come here a lot to play, it keeps them off the street; they play soccer and netball (23-1:56).”

The centre’s accessibility is further enhanced by requiring no extra fees for school activities or courses, thus not forming restrictions with boundaries or junction points with entrance fees.

“The fact that the hall for schools and courses, when they offer something here at the hall, then it is free of charge for the schools and courses that is positive (37-2:42).”

Historic reference to the previous hall includes comments on the scale of the structure not being able to facilitate community activities and accessibility. Previously the structure was seen as a forbidden territory with restricted access, possibly due to political differences. Although restricted access is perhaps related to managerial issues, the structure can contribute to spatial perception of exclusion due to spaces provided.

“The previous centre? Oh the place that we had before, it was very small and we could not always use it. Like I said, we could not always use it. Sometimes it turned into a real fight over who could use it. Sometimes you’d get here and be turned away, maybe for birthdays or something or if the church wanted to hold a big service – it always ended up in an argument. Sometimes you’d hear I’m DA or I’m ANC and there would be a lot of arguing, that’s what used to happen (19-8:62).”

Spatial inclusion was further highlighted by a participant’s indication that everyone is welcome.

“It is not only for man and woman, it is for young to elderly people (21-4:50).”



Although the previous centre was more accessible as there were fewer boundaries, this centre is perceived as being more accessible.

“Yes the changes that we could see is, the building is more accessible (24-5:66).”

One participant made an important reference to the previous building as only being there with the new structure stated as important. This indicated RS qualities attached to the structure as place:

“The first centre was, the way I see it, it was built purely to be here, but this one is important because it has an indoor soccer field, people play netball inside, things like that. The previous one was not like that (20-5:56).”

The same participant further commented that the previous structure was more vandalized, thus being a space for negative representation (RS).

“No, and it was, how do you say, vandalized, but this one is a little bit more important now (20-6:58).”

Graffiti is seen as vandalism and is noted as negative behaviour. This indicates ownership or positive perception of participants toward the building.

“Yes, everyone knows this building, but now the thing that bothers me is the children who are not going to school that are making the building ugly. I noticed when I came up that there is writing on the walls again (27-5:74).”

Gathering spaces provided by the community centre further contribute to assembly as urban form of SP. In a community marked by poverty and violence, social spaces such as the community centre provide an opportunity for assembly.

“For me personally, people can come together and chat about things, for example the hall and [inaudible 03:26]. I think that is a very positive thing because if people get to know each other better they have to understand each other and then maybe the violence will be subsided and the sport and the environment, that will also be a positive thing, an important thing (37-5:56).”

Apart from being a point of assembly, the community centre also created an improved contextual relationship. Services provided at the centre allow less travelling to the city centre, thus creating a better centre-periphery relationship.

“Yes, so far, look the centre has not been standing for long, but yes, things have changed. Our people do not take taxis to go to town to do things anymore, the centre is a bit closer for us and to people outside and there are a lot of things happening in the centre that we can make use of things. Those are typical things which are important (35-4:57).”

“And the Government wasn’t close to us in terms of our enquiries and services from the municipality and the city (24-1:30).”

Functionally, participants commented on the privacy provided at the new centre opposed to the demolished hall. Additional office space and screened waiting areas allow community members to discuss personal matters with available staff. Although privacy at community centres might seem unnecessary, it might be required by the nature of services provided as is the case with Ubuntu’s clinic.

“People feel that there is privacy (24-6:68).”

Although the centre is perceived positively, one participant in particular, had several complaints. The participant is one of the ward members who represented the community during the planning and construction process. He commented on their own involvement during the construction process although he felt that they were not included in the demolition of the previous structure.

“I really wasn’t involved, no. I first want to tell you a minor piece of history about our people. During the period when Thabo Mbeki was still president, he attended at Helenvale and invested money in Helenvale and this is where he saw the poverty. This is what motivated him to provide the money to build the hall as it is today. The other part is that during the time of his involvement we were all ward committee members. We are ten members and we have been reinstated for a second term. This is my second term as a ward committee member. During that time it was not the Mandela Bay Development Agency but the municipality itself that was involved as they asked the ward committee if they wanted training. We received training, we attended

workshops so in that respect we were definitely involved but with regard to the demolition of the old building, the community was not involved (15-14:84).”

Community involvement in construction usually requires mandatory employment of local labour, whereas in Helenvale’s case it was done through SMME’s sub-contractors. In this case it required the principal contractor to award work to the SMME sub-contractor for enterprise and skills development. This process caused several problems as community members felt that job creation was insufficient (Mini: 2012).

“Another problem that we have experienced, related to the person who was awarded the contract as he did not contribute or plough back in the community as he ought to have done. For example, we run soup kitchens in the community which are frequented by children after school. Even our crèches. We have six crèches in the area and to this day he did not contribute to any of the crèches or in the community. He should have seen what needed to be done and offered, for example, R10 000.00 for the crèches, or R5 000.00 for the soup kitchens but he did nothing. I have to say that we have been involved with that. All the ward committee members were involved with the workshops but we were not involved with the building of the hall. This is also where job creation failed. He came with his own workers and rarely used the people of Helenvale. This was a huge problem for us (15-15:86).”

Another participant was involved in the construction process, which for him, added significance to the structure.

“P: I did help with building this place.

I: Oh you helped build this place. What section did you help build?

P: We did the boundary walls...

I: The boundary walls?

P: We built this section here and here inside right down and the back section as well (26-3:79-83).”

Reference to structure as an aspect of SP was made by one participant commenting on the architecture being modern and technologically advanced. This positive perception on structure could also contribute to the building being perceived as an effective centre (RS).

“P: The architecture.

I: Come let’s stick it here on the building. What is it about the architecture?

P: Because it is so modern and technologically.(24-8:86-88).”

Further complaints related to functional aspects that should be addressed by management and the centre-periphery relationship to service provision. During the planning phase of the structure it was proposed to accommodate several governmental services.

“My house, I live in Pienaar Street, there are three storm water pipes and when it rains we suffer damages as we then have to carry out all our furniture or my wife and I must carry it to our bedroom. That is not acceptable. So what I want to say in this regard is that even the Counsellor did not bother to take the time to have a look at the damage after the last heavy rainfall. As it was this deep in the house we had to send the children out the back. Therefore, this building does not benefit or mean anything to us. It might as well have been empty rooms. Where is the service delivery? (15-6:62)”

“How do we get FAMSA involved? Or Social Development? Our children are becoming naughty as they cannot come here to, for example FAMSA, come talk to the social workers after school despite the hall being there. It’s only the Counsellor’s office and the workers that are there (15-7:64).”

The intended purpose of the Helenvale centre was to be a central gathering space. As there is no service delivery, the problem of the centre-periphery relationship is not resolved. Community members still have to travel to the city centre, thus emphasizing Helenvale as a peripheral settlement.

“Apart from everything I find positive here, is the fact that it is only the Counsellor’s office that is located here and the workers. You must

understand that our own people are being referred to other places or they walk to other places themselves and complain that the Counsellor was not available so they had to wait and this and that. So for me, if we have regard to this situation, then the hall is not so positive (15-2:42).”

Representational space

During field work, community members participating in interviews formed different spatial perceptions on representational aspects of the structure. Spatial aspects discussed include the context in relation to the centre-periphery relationship, the centre as reference point and value of symbols or images. Participants referred to contextual relationship, not only to Helenvale but also Port Elizabeth, describing the centre-periphery relationship. Focusing on Helenvale, participants commented on how the structure formed a central hierarchical point in the community, adding new meaning. Lastly, symbolic elements were identified with associated meaning. The following section thus contributes to perception of RS as perceived by community members in comparison with the architect’s intent of RoS.

One participant commented on the centre giving Helenvale “a new appearance”. The centre thus became a representation of displacement moving from the part to the Gestalt.

“People talk a lot more about it and it gives a new appearance to Helenvale and it attracts people. I mean, compared to the old building that we had, it is beautiful and a better place and more privacy here inside (26-2:75).”

The centre is further seen as an identifiable image, thus a hierarchical reference point.

“We are 100% satisfied with the building. It is a very, very beautiful building but still, the promises made with regard to unemployment that did not transpire. The building is very beautiful, yes. For example it is clearly identifiable when you travel past it by taxi. If someone should phone me and ask “Mr X, where should I get off when travelling to the hall” I can then reply and say “you should get off at the resource centre; that is the best spot”. Further, with regard to identification the building is very beautiful and visible to the people (15-12:80).”

For one participant the new structure was seen as effective centre, demonstrating the municipality's presence and concern in the community.

“It gives me the surety that Government is concerned about the community and that they will always be involved with the types of offices that we have here, you understand, and that the service offices are closer to us now (24-9:90).”

The structure as a hierarchical effective centre was noted by a single participant.

“I like... I like Helenvale very much and the main... the centre the centre point for us in Helenvale (18-2:40).”

The location of the structure further contributes to the centre-periphery relationship by being in close proximity to commercial activities and public space built adjacent to it. This relationship is further enhanced by being connected to five vehicular roads of which several have been upgraded.

“The reason why it is convenient because it is close to people, close to an access road; it is across the road and it is close to people. People only have a five minute walk or ten minute walk about to reach the hall. In my opinion the current location is where it should be (15-1:30).”

Although the structure has enhanced the centre-periphery relationship as an effective core, the violence in the area negatively affects movement to and from Helenvale.

“Our friends who stay far away and they are scared to come to Helenvale because they say the shootings are too much and ‘gangsterism’ and all those things (18-3:52).”

Although the ‘gangsterism’ has a negative effect, one participant felt that the centre contributes to others’ perception of Helenvale. Aesthetic qualities of the centre create the perception that Helenvale can be included in the NMBM area thus eliminating boundaries between the centre (Port Elizabeth) and periphery (Helenvale).

“The whole building means a lot to me and as I said before the people talk about the building and it makes Helenvale look like another area because a lot of people outside Helenvale look at us as, how can I put it, they do look at us as if we are not part of Port Elizabeth, the

‘gangsterism’ that is going on here and everything else. Here is something here that draws their attention, here in Helenvale, so far (26-4:93).”

The colour of the structure creates a reference point for community members.

“Then, when a person... should people not know the place you can direct them here, the green building (40-3:117).”

Apart from the structure being hierarchical, aspects of it were also seen as strong representational reference. Representation as a form of condensation and displacement was mostly identified with art works. The two art works include the sculpture and mural. The sculpture is of a boy flying a kite mounted on an aluminium circle placed in the public space in front of the entrance. Positioned parallel to the sculpture is the mural forming an axis between the public space and the community centre’s entrance. The mural is an aluminium sheet with perforated letters describing the Helenvale community. From the sheet, bronze castings of children skipping, protrudes. These two art works were seen as memories or reference points for participants (De Jager: 2013).

“As you come in, the little girl, the children skipping and the boy with the kite, the one who was shot, reminds me of... tells me this is Helenvale, the memories (39-1:42).”

These artworks were also seen as inclusive aspects of the centre, intriguing visitors and allowing participation even before entering the structure.

“I would not say it has a meaning, but it makes you interested to see what the inside looks like having seen that and as you approach the door you see some of the artwork and it makes you more curious to see the inside (28-5:122).”

One participant proposed that photographs and images of the changes should be presented. These images should include the former centre, the construction process and the completed structure. A historic reference can be provided but could also illustrate the process as metonymy of Helenvale, thus indicating growth through different perceptions.

“Yes, they have to hang up something about the old building so that people who are not from here and who don’t know the town can see what the old building looked like. And then the A to Z of building this one, set out the steps it took to get here. Do you understand? I want them to set it out for visitors and also for myself and our children (41-1:26).”

Infrastructural references in relation to the Helenvale centre

The mapping process focuses on the perceived spatial perception of participants on a larger scale. This process not only focuses on the centre, but also on other influential characteristic or infrastructure. These features are important to determine participants’ perception of the community, which in turn influences their perception of the centre itself.

On the map, different groups were formed with the Helenvale centre as main contributors. Apart from the centre, four other infrastructural groups have been identified by participants as churches, the school, commercial activity, the adjacent public space and streets. During interviews reference was made to specific streets which are further subdivided in the discussion. Groups are discussed in relation to influential aspects of the centre.

Church activities have been noted by two participants as important cultural activities.

“The really important places here are the churches (40-2:85).”

“The things I like, I like our church. That’s how I was brought up (19-3:41).”

Although there is no direct relationship between churches and the centre, as they are not in immediate proximity, some activities are shared. Church services as well as other related religious activities are held in the centre. Note that the existing churches only consist of formal gathering spaces with no adjacent halls. The community hall thus has an important role to provide social space for church gatherings.

“This place is a good place in Helenvale. It’s good because it is spacious. On Sunday we held a service here and we had lots of room. It was lovely to see everything in this place... previously we were cramped and had to keep our children with us all the time because the hall was so small, but here it’s different. Now we have this hall and it’s

very comfortable and the area used to be dangerous, but now it's much safer (19-1:26)."

Little reference has been made to schools and commercial activity, apart from their educational contribution and function. In the discussion on function one participant commented on the schools being able to use the centre without any financial implication (37-2:42).

"The schools the children get education, the Shopping Centre we buy our bread and goods from the shop and the churches are just as important because we go to church (36-2:28)."

On the other hand, the public space adjacent to the centre contributed more to spatial relationships. Although this space is integrated with the centre and designed by the same architects, it is not part of the same project or brief. This separation in programmes hints on Lefebvre's concept of RoS being fragmented and subdivided. The architect, however, managed to integrate these two separate projects into a cohesive understanding.

A participant noted that there is no longer a park, as was the case with the previous centre. The public space is rather seen as a social gathering space as there are no longer play areas provided for the children.

I: Are there any social areas which you can identify, where all types of people can maybe get together, socially?

P: As far as I know, in this area, it is in front of the centre most of the time and...

I: So it is here?

P: Yes.

I: It is there, that is where you congregate?

P: Yes, as far as I know because at the moment there is no longer a park here which was the place where the people used to gather (20-10:76-80)."



The sculpture, forming an axis between the mural and entrance, was seen as metonymy (RS) by several participants. It is associated with freedom and has become a symbol of change.

“If you look at the child alone and the kite and you compare them, it is the outlook of the future that it is in conjunction to the building that the children can enjoy more freedom now. You understand. Especially when it comes to their activities, you understand. They have more freedom and they see that their future will be much easier (24-7:84).”

Although the sculpture is seen as a metaphor for freedom, it is also associated with tragic events in the Helenvale area. The sculpture has also become a memorial for some of the children who have been killed. Note that the meaning was attached after the erection of the centre, thus becoming RS of displacement.

“To me it means that we want our children to be free here but is so sad about the last child that was shot and killed here, a four year old, was, killed while he was playing with a kite, but that was before... after the thing was erected (22-4:133).”

Other more positive references are a participant’s evoked memory of his childhood.

“I love things like that and I tried to find out on all these things that are a symbol, the kite and it comes back to me about things about my childhood (18-11:102).”

Another public space in Helenvale that is important for social interaction is the street. The main reason for the utilisation of the street as public space is the lack of other facilities. Streets in this case thus became an urban form of encounter and assembly.

“Yes, at the soccer field they come together and then they play a soccer game or sometimes they play in the streets because there are not that many facilities (27-9:93).”

During the renewal project the street was upgraded to provide better circulation and infrastructure such as seating and street lights. These upgrades provided positive perception on RS with Helenvale as an effective centre.



“Well, if you look at the streets that they upgraded here, in the front to make the place look more attractive. It is for other people who come in from outside to see there is something positive happening here at Helenvale (37-3:46).”

Unfortunately the recurrence of vandalism impacts negatively on the perception (RS) of Helenvale as a centre of change.

“The streets, I would say in the beginning there were changes but after a while vandalism brought the streets down and there is no more lighting in the streets, for example there are no more lights in the streets and there are big changes, again negative to us, if we see each other in the evening, anyone can get robbed or stolen from (37-10:78).”

Streets in Helenvale are an integral part of RS, mostly because of strong associations. One participant commented on the street she resides in as being part of her family. This familial relationship results in a more secure environment. The participant further commented on the long linear quality of the street which, for community members, is a distinct characteristic of Helenvale.

“I think Anita Drive where I was born, the dearest to me. Everybody here, we are like a family in our house, especially the long street where everybody knows everybody. Actually I am quite safe on my street (39-2:46).”

Another participant felt that streets could be a RS by renaming the streets to names of people who contributed to Helenvale. Renaming of streets thus becomes a form of substitution for change and memory.

“I would really like road names to be changed for example somebody's name who has done a lot for our surroundings. I would like that to happen to our street names that type of specific change, let me say for example and I am just making an example such as Thabo Mbeki, there is not such a street name. I would like that there be such a change-somebody who has done a lot for our people who has passed away (35-5:63).”

Another important aspect is violence that is mainly associated with streets. One participant commented that it is always in “streets”. Streets are thus not only spaces of encounter but also of differences, including violent activities.

“...‘gangsterism’ [inaudible 0:01:50.5] is always in streets in [inaudible 0:01:53.0] Fisher Street, Epic Street, Cobras Road, Basin Street (36-3:34).”

Streets, usually seen as public space, are perceived as having boundaries and as forbidden territory. Access is restricted to residents of certain streets as a result of territoriality.

“There is nothing good about Leeds Street for me because the people from Leeds Street do not want anyone from Kobus Road in their street (20-1:34).”

Quotes connected to Zwide’s superimposed map

Similar to the process followed at Helenvale, quotes were connected to the superimposed map of the Zwide area. Again narratives for each identified space refer to SP and RS. Identified spaces that were categorised in groups include the Ubuntu community centre, the rooftop garden, the open space opposite the centre, the library and streets as indicated in Figure 62 and Figure 64.

As with the mapping process conducted at Helenvale, participants in Zwide could form contextual associations with the community centre. Again the focus was on aspects of SP that included function, form and structure.

Function relates to the use of space and the contribution to community member’s spatial perception. The focus of the Ubuntu Education Fund is on the education and health of its clients. Although this is its focus, participants’ perception is on social activities.

“Social activities are obviously happening in the entire building. Our theatre, the flexi-space, the programme space upstairs... (4-15:92).”

Apart from the centre being perceived as an urban form of assembly, participants also saw it as being a geometric space of ‘within’ with little restriction. Participants found it functionally accessible, thus allowing them to seek help for numerous problems.

“...the building has a – how do I put it? It contributed a lot to the people and lots of things that have been done in here and down there. You see your social workers, you have your centres and all those things are here to enhance, to make an impact in the community and actually change the lives of people who are around. So pitching up in such an area, you're normal every day in the townships that has so much service to the people, it's quite good and interesting in improving the lives of the people (11-12:110).”

Accessibility to the centre is further enhanced as there are no physical boundaries around the centre. This participant further commented on other community members' positive perception of the centre. As vandalism and theft are minimal she felt that the community had taken ownership of the building due to its 'importance' and contribution.

“You can see there is no fencing or anything like that, but still it is standing, even today, so obviously they have seen that it is important to also put some of their resources into the community for the kids (4-10:66).”

Through servicing the community, the space became an urban form of encounter enabling new social networks to form.

“In the area, my community, I don't have friends, but since I came here I made loads of friends and then some of them I took them as my own sisters and family, which [inaudible] as family (9-6:60).”

This change in clients' lives also affects the perception on streets, therefore being an effective centre in Zwide.

“It changed the street because the other child I have got, other child they are right because but now are changing, changing the life of the child's, so that is why I like this building (30-3:42).”

Structure, another aspect of SP, was mentioned for strength, transparency and its African reference. The battered concrete walls were mentioned as being 'strong' and the design has been commended. Another material mentioned was the glass façade.

“...the structure of the building is, how do I put it? I don't know, it's amazing, the structure and how it's built. Strong that it's used to build

and when you look at this side, mostly because it is glass, I like glass (11-2:64).”

The transparency of the glass elements was seen as an open element opposed to darker spaces which led to a positive spatial perception.

“...it is shedding more light. I like that because I am afraid of the dark, I don't like dark places. I prefer well-lighted places so glass is (inaudible 0:06:29) (11-13:69).”

Two materials were mentioned in reference to African elements. First were some of the textures used and, second, the timber elements used as security barricade. Textures of the carpets and carved-doors and furniture provided this cultural reference.

“That's African thing of quality, sort of cultural highlight, the wool and stuff that they put it here (33-3:85).”

Horizontal gumpoles fixed as burglar bars on the exterior of glass façades were seen as another African reference. Note that this participant commented on a ‘mix of cultures’, thus the American influence of the architect combined with local techniques and materials. This combination of elements provides a building that is contextually integrated with international references, thus the vision of Ubuntu Education Fund.

“I was so impressed. The wood is sort of an African thing... I am thinking that the building has an African mix of cultures (38-4:5).”

Further reference was made to scale, an aspect of structure and SP. The structure is perceived as ‘small’ by one participant and by another as claustrophobic if fully occupied.

“...these guys do a lot in such a small place (6-7:54).”

“You will see later on because at times this building can get small, I can tell you, when there are all the kids here. You expect it to be such a big place but after three it is like ground. You get kids here, you get kids there, you get some kids in the labs, some downstairs in the theatre, but I don't know for how long you guys are going to be here, but if you are going to be here for that period. I don't know about now because of holidays and things like that, but normally it is like that (6-7:54).”



A participant mentioned how the structure is a classic form of centrality (SP) as it is situated within the community.

“Very far, if it is inside the community then it is very important to be there. It is where they get clinic services, crèche for children, even the garden the services. They don’t even travel by taxi. It is just around the corner so it is very important (5-6:64).”

Effective centrality (RS) is further effected by service provision that would otherwise be unreachable.

“I believe that if you can take that building out of this big picture, then people will go other places far from the community to get the services they get here (5-5:62).”

The location of the structure further contributes to the classical form of centrality. A participant commented on its RS qualities being more representative of Summer Strand, a developed area close to the CBD (Central Business District) of Port Elizabeth. The technologically advanced and different form thus creates a RS of ‘care’.

“I would say the area in which the structure itself, where it is put, for example if you look at the structure of all the buildings that are within the community, you don’t find any structure like this, but if you were to go to town, Summer Strand, then you will see similar structures in a way. To me the meaning of this structure being in the middle of the community, it shows or symbolises that Ubuntu cares about the community and also Ubuntu, in terms of the quality, it means that these people can still get the same quality as the people that are staying in town, in terms of the services (4-13:86).”

Representational Space as perceived by participants

As mentioned in the previous paragraph, participants felt that the location of the centre contributes to a positive perception of their environment. Development in low-income areas is often limited due to vandalism and financial constraints. As the Ubuntu centre became a physical manifestation of this change, community members’ perception of their environment was also influenced. This perception resulted in community members taking ownership of the structure as they are also involved in its functioning.



“I would say it did help in a sense that when whoever decides what needs to be where, they look at the community in most times as a place where you cannot put anything that will last because people will still damage it. Therefore when Ubuntu built this building and people see it as standing, there is no burglary, nothing that people steal, they look at this building as their own because they are the ones that are looking after it (4-11:66).”

One of the staff members mentioned in his interview the structure’s ability to inspire community members. The hierarchy of the structure in the community, its spatial reference and condensation as metaphor for change, contributes to a perception of change and possibility. For this participant the spatial experience of the building coincides with the vision of Ubuntu.

“Ja, if you look at the structure, the shape, if you look at the high ceilings, if you look at the dimension of the walls and everything, we are trying to inspire some people here, the young people and the youth people. If you are not inspiring them, they will become bored very easily but when they come through that door because of what they experience here, not at their homes and anywhere else, it gives them a kind of a feeling and experience of being somewhere else in the world.

You know you can be in a house for 12 years. Say in that house the ceiling is just about two centimetres above your head, but once you step into a building with the height of the ceiling double of your size, then you say WOW, you are touched by that experience, you are inspired. So I believe that the structure of the building, besides the size, the dimension, the shape of the wall will inspire our kids without saying any word. Just to be inside here and see something different and that experience is going to last with you probably for the rest of your life (10-50:163-165).”

Apart from structural references being RS, security elements further created a feeling of functional enclosure (SP). Perception of safety contributes to the structure as an effective centre.

“...the building makes me feel safe the houses yeah and the windows having those bolts around because in this society you can never be too safe (14-5:103).”

The structure as symbolic imagery of condensation was mentioned by a participant as being ‘unique’.

“I love this building, the way the design...it is unique, different. The person who built it was very creative (38-2:3).”

“It’s a new thing. I have never seen it before. It was my first time when I started here so I really like it (38-3:4).”

Upon asking participants about the lack of signage at Ubuntu, one participant responded by referring to the identity of the structure representing Ubuntu. The structure is thus a metaphor for the Ubuntu Education Fund.

“I don’t need to see the name; I can just say the building. It is different from other buildings (5-11:116).”

Another participant explained that the building itself portrays the concept of Ubuntu through the inclusive environment.

“Yes, then also the name of Ubuntu says it all, the building. Just when you are looking outside when you are coming in, the environment is friendly (14-2:71).”

Lefebvre noted that time and space cannot be separated, which is portrayed in the centre through appropriation. One of the spaces has been named after a staff member who passed away, thus connecting time and space through displacement and condensation. By this reference, continuity and substitution were created spatially.

“Also here in the clinic there is a counselling room. We called Nolothando, our colleague. She passed away and we named the counselling room after her (43-3:142-144).”

Apart from the metaphor being created through named places, another metaphor was described. The central gathering space (q-set 3 or gathering space adjacent to the crèche) was also described as a tree representing past social spaces.

“Yes, and they taught us a lot about that tree. Like we used to call that space a library, so that tree is should present like the umbrella, or the shade. Like we used to say... like we were outside and there is nothing over us and then they built that pillar, like a sort of pillar, but it represents a tree (43-2:134).”

Bodily reference was made by one of the staff members through a metaphor describing the human body as container. To him the body is similar to the structure of Ubuntu as it is the vessel that gives the programme meaning.

“Out of the basic needs for food, medicine, water, electricity then the shelter is one of those basic needs and I believe Ubuntu Centre is bringing a meaning to all the programmes that we have at Ubuntu. We can have a plan to expand our programme with everything, but if we don't have a shelter or a centre we won't be able to contain them. So this is a container.

And maybe I can expand a bit to put it this way. If our bodies, our bodies, this is not me, this is just the container but without this container, myself, which is on the inside, won't be able to be accepted in this world without this body. So our programmes the reason we are successful at Ubuntu is because of this container, so it gives us meaning (10-49:157-159).”

To conclude, the section focusing on RS investigated the building's contextual relationship as an effective centre through elements of displacement and condensation. Imagery of the structure further contributed to the meaning attached to it. The significance of the above mentioned quotes lies in the connection that participants made between the structure and Ubuntu Education Fund's purpose. The intention of the architect, as mentioned in the interview with Stan Field, was to conceptually communicate the community supporting each other. Structurally the walls support each other, each wall thus relying on the other. Although the structure is not directly understood as such, the supportive environment is experienced. The quote listed below summarises this notion of interdependence.

“Some of belonging, because they made to know that I belong here in this community in South Africa, to know my roots and all that stuff (9-5:54).”



Infrastructural references in relation to the Ubuntu centre

As an effective centre the Ubuntu structure has several influences, either direct or indirect, on its surrounds. These influences have been determined by investigating groups formed around the Ubuntu centre. After the maps were superimposed, groups were formed if more than two associations were made with an area. Groups formed during this process include gardens, the open space opposite the centre, the library and streets.

On the roof of the smaller multi-functional space a community garden has been built with planter boxes. The community garden of the centre has formed an important link with other gardens established in the community, thus forming a centre-periphery relationship.

Through the gardening programme a relationship has been established with the school opposite the centre.

“Also here, now that there’s a centre, we have the roof garden, and we hold gardening programmes. Now that the centre is here, there’s also a gardening programme that’s happening in the school as well. So, that’s what has changed since the centre has been here (1-10:44).”

Apart from the school programme, a relationship has also been established with residents. One participant commented how the garden programme connects people on different levels.

“It is a good thing because you know you have a garden at the back of a house, but if it is here it means that it connects with the people outside as well (5-9:98).”

For staff at the Ubuntu centre the main aim of the community garden is to address food insecurity. Apart from this primary aim, the vision of the Ubuntu Education Fund is further symbolised through the concept of growth. The centre thus not only impacts the community from the core; it also has a ripple effect through the community members, thus portraying community members supporting each other.

“I have made the mark on the rooftop garden. I guess with the society that you are selling, we have also got challenges, but one of the most challenges we are trying to address here is good security and I believe everything that is near to my heart, so I am directly involved with this one and it is the passion that I have with the community. So it is the



message that is sent that everything is possible and even the production of food in our areas is doable (10-34:39).”

Apart from the community garden, indigenous vegetation has been planted in public spaces. As the horticulture educator mentioned, plants such as aloes are all indigenous. The garden thus also provides a contextual reference and identity within the area. Unfortunately, gardens adjacent to the street have not withstood the test of time. In more protected spaces, like to the back of the building, some of the initial planted areas are still growing (established through several observations made by the author during field work).

“...here this is outside of Ubuntu, there are some aloes and flowers there. All of those flowers that they have planted there are African flowers coming from I think it's indigenous plants of the Eastern Cape and I believe those are marking our identity. It's not everywhere where you get those kinds of aloes. There are many kinds but those specifically belong in the Eastern Cape (10-43:112).”

Another important spatial relationship is between the Ubuntu Centre and the adjacent public primary school. Two aspects have been identified by participants that explain this relationship. First is the lack of dedicated external space for physical activities at the Ubuntu centre. Available school grounds are then utilised.

“...we went to the school because we don't have a yard to play in (5-10:108).”

Second is the educational contribution of the school. As the main aim of the Ubuntu Fund is education, a strong relationship exists with the surrounding schools for the development of learners' aptitude.

“The children in the surrounding areas, this is where they go to school and get their education from, and also the school library is. So, I think it's mostly because of the buildings and also the services that they provide (1-3:32).”

Opposite the Ubuntu Centre is an undeveloped site. Currently this space is used as a dumping site, resulting in several problems. One major problem is health and safety risks presented to community members.

“It is not really a good space because as you know, if there is a dumping area then it means there is a risk of people getting sick (4-3:44).”

Apart from health risks, participants commented on the negative visual impact that this area has on the perception of the Ubuntu centre.

“This area is across the street. It's not supposed to be a dumping site. It is open land that is privately owned by seven individuals and those seven do not occupy the land, it has been a dumping site. It is a dumping site these days and that dumping site is like creating an environment that is not conducive to our image and our health and it is also creating an environment that is going to impact on the minds of our kids who are coming here. You can imagine – on the left-hand side of the street there is the Ubuntu Centre, a state of the art building. On the other side is an opposite (10-39:64).”

Other participants saw the potential of the site for further development.

“This one is a garbage, yes, a garbage place where, it's actually in front of our centre, so you have this multi million rand centre in front of this, you know, and nothing has been done about it. Whereas there could be, it could be utilized for something else like a park or something the community can use. These three areas is for the same reason in terms of, there is so much going on in the community that I don't think it's kind, like acceptable that there's open space and some of that space that cannot be used. There's people who want houses, could be used for parks, build another school, anything that can help the community, but not a space that's just clear and no-one is doing anything about it. Because it's going to turn into a garbage tip-way again, yes (1-4:36).”

The public library, similar to the school, has a direct relationship with the Ubuntu Centre. Users are motivated to use the library facilities as Ubuntu itself only has computer facilities for school projects and research.

“So I picked out the school and library, because they basically are partners, you know. The school, the kids that come to the centre that

are part of the centre, you know, after school programmes, they come after school and they become involved. So they also are partners in making sure that what we do is effective in schools. Also the school library, I mean, we do not have a school library, but we do have an education programme that focuses on making sure that the kids get proper help in terms of their literacy, so they become, for instance, if you give a child an assignment, they know that there's a library available. Although there is a computer centre also available here, there is the library that they can go to (1-6:40)."

As the library is in close proximity it strengthens the mutual relationship between the centre and the library.

"And the library it's very close, if I need something, I simply just go in to the library to do what I want to do (8-3:46)."

Another staff member mentioned that the library is a more private space for solitude.

"There are books that people can read, do research, be there and also it's a quiet place where someone can go and just be on their own (7-2:34)."

The last contextual reference grouped was streets. This element was seen as the connection of the centre with the external environment.

"Everybody who has come from all over the world – whether in Europe, America or Australia, before you learn that Ubuntu, you have to step your foot on Koyanda Street coming to Ubuntu. Even someone who is living in the whole world you have to step the foot at Koyanda so it is a bridge, or a channel where all of us, whether in or out, we have to go through (10-37:56)."

Apart from providing access to influential people, it also forms networks within the community, allowing for interaction. The road networks thus help to establish the structure as an effective centre.

"Koyanda – that is Pondo it is the main street around here. I believe street is one of the infrastructures that allow us to interact and network with people (10-36:52)."



6.3 Findings drawn from the mapping process and narratives

Completed maps differed significantly between the two centres. Participants of the Helenvale case study were much more familiar with the immediate environment as opposed to those of Zwide. Although the maps differed as is indicated, the respective centres indicated no other discrepancies that could influence validity. Both maps are of the same scale and quality, indicating the community centre and the immediate environment. The conclusion for this variation, identified by the author, lies in the contextual familiarity of participants. Community members and staff who participated at Helenvale all resided within walking distance of the centre. In contrast to Helenvale, participants at the Ubuntu centre resided within a 7km radius. This radius represents the area serviced by the Ubuntu Education Fund which transports learners to and from the centre. Apart from receiving the desired service at the centre, there is little interaction with the surrounding area. As the type of users differ for these two centres, their perception of how the immediate environment influences each facility, differ significantly.

Perception of the two centres is formed by their prescribed functions. For both centres, perception was on social activity, especially relating to the children. A major difference between the two centres is one being regarded more in terms of meaning and the other as 'help'. Considering the harsh and violent environment of the Helenvale community, participants attached meaning to the structure to commemorate events. Although assistance was also considered, the Ubuntu centre was associated much more with educational and medical assistance. These aspects are, however, not influenced by architectural or contextual factors, but rather by administrative and financial constraints experienced at the Helenvale centre. However, some social interaction is influenced by both of these architectural interventions. The structure of community centres therefore plays a significant role in shaping public space for social interaction.

At both centres there was a notion to create RS by naming places. At Helenvale there was the idea to rename streets after people who contributed to community upliftment. At the Ubuntu centre, the clinic was named after one of its deceased staff members. Naming of places was done to signify change and memory. Apart from the named places, the Helenvale centre had signage opposed to the Ubuntu centre that had none. Participants at the Helenvale centre felt that the signage created an identity of the community whereas those at the Ubuntu centre perceived the structure itself as signifying. Identity formation can thus occur either through description or structural reference. In the case of Helenvale, both were used as the tower is a strong visual landmark. At the Ubuntu centre, on the





other hand, the structure was perceived as the signifier. Although there is no visible signage, the name Ubuntu is strongly connected to the facility, thus being a metonymy thereof.

Considering SP, the Helenvale centre was perceived more as an 'Urban' form of encounter and simultaneity whereas the Ubuntu centre was seen as a 'Classical' form of centrality and difference. As the Helenvale centre forms spatial connections with the urban framework of the area, it was perceived more as an 'Urban' form. The Ubuntu centre, on the other hand, was seen as a 'Classical' form for the structural difference, as opposed to monotonous housing. Participants further commented on the relationship of these centres to Port Elizabeth. For some participants at Helenvale, the community is distanced from Port Elizabeth, but with the addition of the structure it can now be considered as part of the city by providing an effective centre. At the Ubuntu centre, participants felt that the structure can favourably be compared with buildings found in Summerstrand, a suburb of Port Elizabeth. It is thus a reference point and distinguishable from other areas. Both structures were seen as effective centres; the Helenvale centre through the tower as a hierarchical reference point and the Ubuntu centre with its unique form.

As both Helenvale and Zwide were planned within the former Black and Coloured Group Areas, they are still ethnically separated and temporary. The purposes of the community centres are consequently to provide social services in areas where little infrastructure was installed and to break down barriers, even if only partially. Although these centres only provide minimal change considering a whole community, their impact can still be significant. In the case of Helenvale, the centre provided a virtual reference point and defined the identity of the community. The Ubuntu centre, on the other hand, does not relate specifically to the Zwide community, but, through the form provides a landmark. By contrasting with the immediate environment, an effective centre is provided as space for development.





Chapter 7 Analyses of the two case studies: Sort-charts

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As discussed in section 3.7, the sort-chart process was completed by participants in order to determine their perception on spatial qualities of the respective community centres. At each community centre, twenty participants completed the sort process, which required grouping of fifteen q-sets into categories. Each q-set consisted of a photograph of spatial elements focusing on different aspects of the built structure. Categories, determined by theoretical analysis, include 'identity', 'enclosure', 'community', 'symbol' and 'inclusion' (welcome). In conjunction with the interview process, participants grouped the images and explained their reasoning behind their particular preferences.

In the first section of 7.1, the analyses of the data and the findings are described and interpreted. Categories and q-sets for each case study are presented to form a connection between the data and the respective community centre. This illustration is followed by the frequency per category, as well as its frequency per category for the two respective q-sets of Helenvale and Ubuntu. Next, the statistical analyses of row and column values are performed.

The second part in 7.2, provides narratives of the corresponding quotes from interviews, which, in turn, supplement the statistical results regarding the grouping of categories. The section concludes with preliminary findings derived by comparing the two respective case studies.

7.1 Description and interpretation of data and findings

A description of q-sets and categories for the respective case studies

The q-sets are explained in Figure 65, Figure 66 and Figure 67 typifying spatial elements. Each q-set is numbered according to the case study for data capturing purposes. The vantage point and direction of each photograph is indicated on the plans of the respective community centre with a circle and arrow. Elements in the photographs can thus be seen from the point indicated on plan (refer to Appendix XVII and Appendix XVIII for images of q-sets).



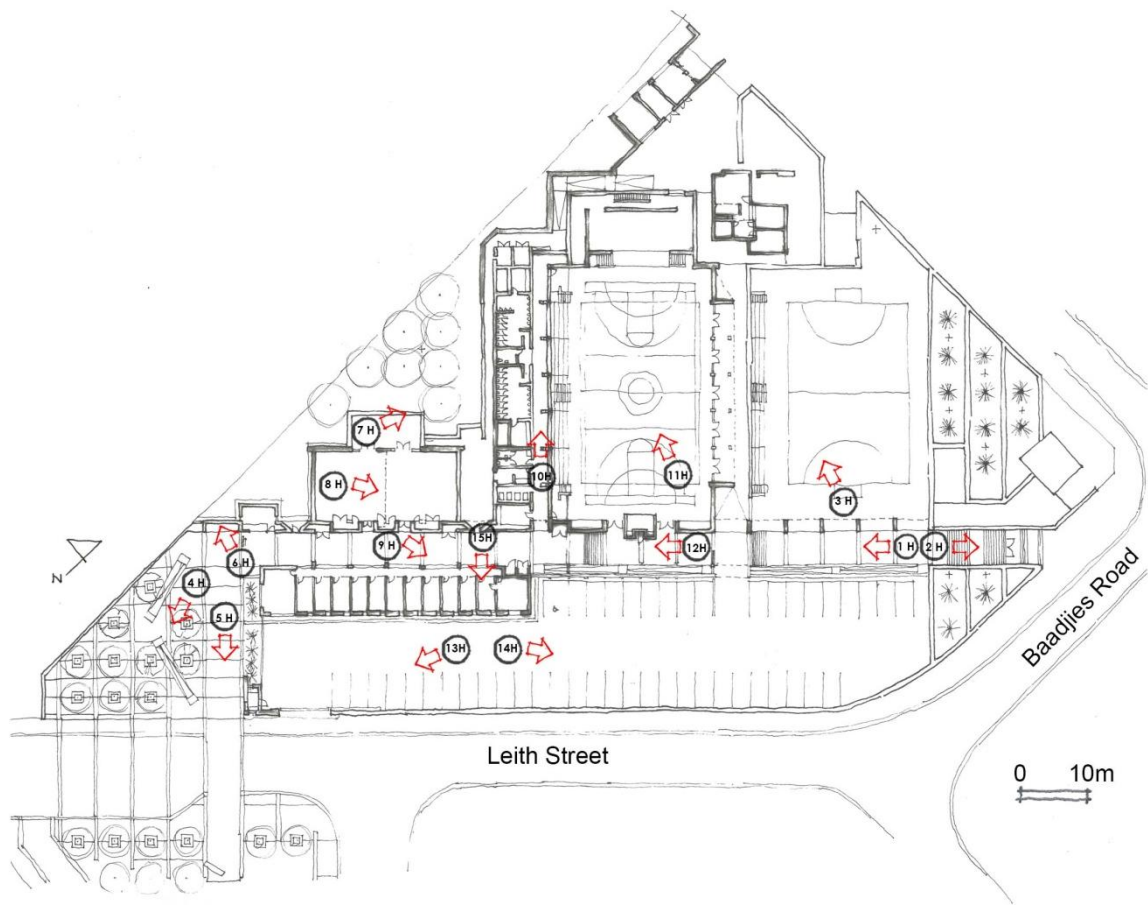


Figure 65. Sort-charts as photographs of Helenvale multi-purpose resources centre taken on the ground floor. The circles indicate the position and the arrows the direction the photographs were taken.

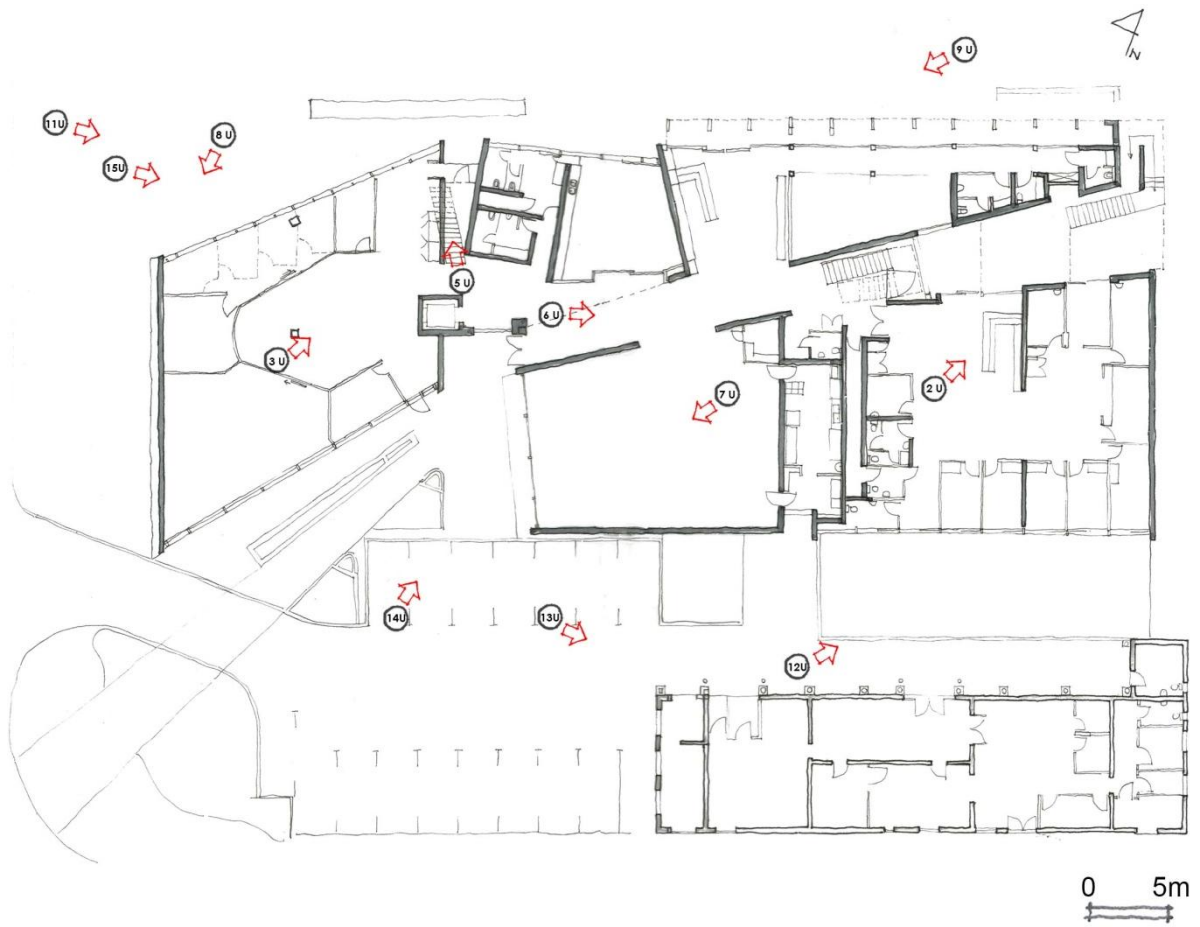


Figure 66. Sort-charts as photographs of Ubuntu community centre taken on the ground floor. The circles indicate the position and the arrows the direction the photographs were taken.

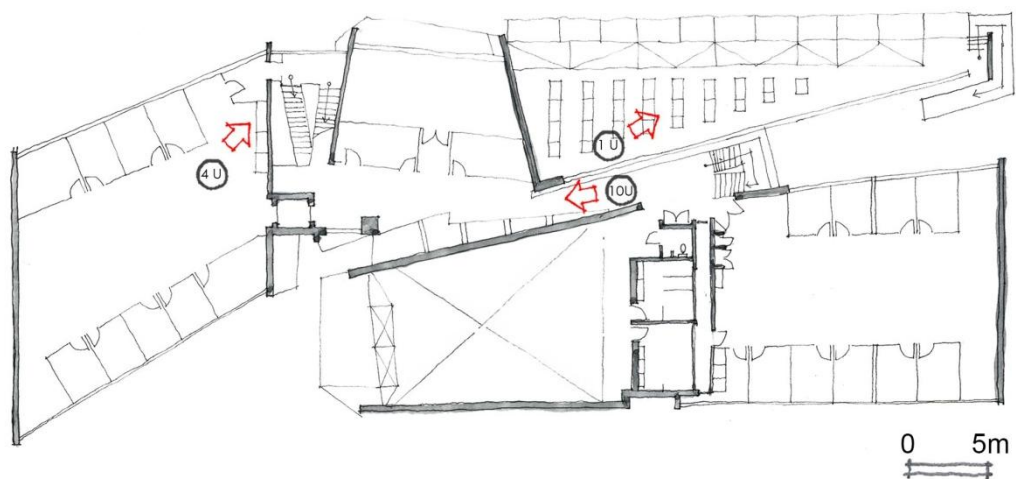


Figure 67. Sort-charts as photographs of Ubuntu community centre taken on the first floor. The circles indicate the position and the arrows the direction the photographs were taken.

Frequency observed per category

The number of 'sorts' performed at each case study is uniform with 20 per community centre. Some participants did not group all the images during a single sort process, hence the sum of frequencies added up to 222 for Helenvale and 225 for Ubuntu. In

Table 4 and Table 5, data from the 20 participants has been combined to indicate the percentage per category. The first five columns indicate categories and number of sorts.

Table 4. Frequency observed per category: Helenvale case study.

Categories	Identity	Enclosure	Community	Symbol	Welcome	TOTAL
Observed frequency	43	50	55	39	42	229
Percentage	18,8%	21,8%	24,0%	17,0%	18%	100%

Table 5. Frequency observed per category: Ubuntu case study.

Categories	Identity	Enclosure	Community	Symbol	Welcome	TOTAL
Observed frequency	37	52	59	43	45	236
Percentage	15,70%	22,0%	25,0%	18,2%	19,1%	100%

For both 'sorts' conducted at each centre, 'community' and 'enclosure' were used most often, with percentages above 20%. Overall, 'community' was used most for both case studies (Helenvale 24% and Ubuntu 25%) which agrees with the purpose of community centres, namely to provide public gathering spaces. 'Enclosure' was used second most, with 21.8% at Helenvale and 22% at Ubuntu. Although these centres are mainly perceived as dedicated for the community, they are also seen as enclosed. Since these centres are located in vulnerable environments, they need to be secured for public appropriation. The two categories 'symbol' and 'welcome' were annotated between 17% and 19.1% for both case studies. Although all category percentages are close to each other, 'symbol' for Helenvale, at 17% and 'identity' for Ubuntu at 15.7%, are the lowest, showing the least associations by participants.

Distribution and use of q-sets

During the interview process, participants were not required to group all the q-sets. If they indicated that they were unfamiliar with certain spatial aspects the associated q-set could be disregarded. Since this is a qualitative enquiry of perception, knowledge is also gained

from q-sets not classified. Patterns or relationships formed amongst these q-sets could indicate reasons for participants' disassociation or lack of spatial perception.

Table 6. Two-way frequency tables for q-set by category (Helenvale).

Categories	Identity	Enclosure	Community	Symbol	Welcome	ROW TOTALS
HV 1	4	4	1	1	3	13
HV 2	3	12	1	2	3	21
HV 3	3	1	10	2	1	17
HV 4	6	1	2	2	1	12
HV 5	3	2	1	4	6	16
HV 6	6	1	1	7	5	20
HV 7	2	2	2	2	3	11
HV 8	1	3	12	1	1	18
HV 9	3	1	4	2	1	11
HV 10	2	1	3	3	2	11
HV 11	1	4	10	1	1	17
HV 12	3	5	1	3	3	15
HV 13	2	4	1	5	7	19
HV 14	2	8	2	2	2	16
HV 15	2	1	4	2	3	12
COLUMN TOTALS	43	50	55	39	42	229

Table 7. Two-way frequency tables for q-set by category (Ubuntu).

Categories	Identity	Enclosure	Community	Symbol	Welcome	ROW TOTALS
UB 1	6	1	9	1	1	18
UB 2	2	3	3	1	8	17
UB 3	2	4	2	3	3	14
UB 4	3	4	2	7	2	18
UB 5	1	2	1	2	1	7
UB 6	1	3	1	2	5	12
UB 7	2	4	11	3	1	21
UB 8	1	10	1	3	1	16
UB 9	2	8	4	1	3	18
UB 10	2	4	1	4	1	12
UB 11	3	1	13	1	1	19
UB 12	1	2	2	5	2	12
UB 13	3	1	5	4	7	20
UB 14	3	4	1	3	4	15
UB 15	5	1	3	3	5	17
COLUMN TOTALS	37	52	59	43	45	236

Frequencies for both case studies were relatively similar. Q-sets with the highest frequency for both community centres included architectural elements which could be associated with, or were allocated specific functions. Strong visual association at the Helenvale centre included q-sets HV2, HV6, HV13 and HV14. Reference was made to the boundary in q-sets HV2 and HV14 as a security element of inclusion. Q-sets HV6 and HV13, on the other hand, had symbolic value through the art work as metaphor (HV6) and the tower (HV13) as a hierarchical point. Apart from the visual associations, spaces with dedicated functions for communal use had a high frequency. Functions included three gathering spaces, namely the main hall (HV10), the smaller community hall (HV8) and the external sport field (HV10). The Ubuntu centre's q-sets with high frequencies also mainly consisted of architectural elements or functional spaces. Visual associations at the Ubuntu centre included UB4, UB8 and UB13. Q-set UB8 with the closed-circuit television (CCTV) camera was mainly associated with security and UB4 and UB13 had important symbolic value. Functional spaces with which strong associations were made include UB1, UB2 and UB7. These spaces include the rooftop garden (UB1), clinic (UB2) and multi-functional theatre or main hall (UB7) and are all thus associated with community activity that contributes to the health and well-being of clients. One q-set of the exterior, UB11, was associated with functionality and symbolism. The photograph of the Ubuntu centre as seen from the street corner accommodates all the functions and has thus been described as the metaphor for Ubuntu.

Low frequencies on the other hand included q-sets with few architectural elements. These q-sets were of circulation spaces, thus with no other function than connecting spaces. At the Helenvale centre, q-sets HV1, HV4, HV9, HV10 and HV15 with low frequencies portrayed circulation spaces. HV1 was of the eastern entrance, HV4 of the western entrance and public space and HV10 of the corridor leading to services. Q-sets HV9 and HV15 also include circulation spaces, but with functional allocation of the waiting area. The latter, perhaps, had little association as the waiting area is hardly used since the adjacent office spaces are mostly unoccupied. At the Ubuntu centre, q-sets UB5, UB6 and UB10 with low frequencies are also of circulation spaces. UB5 was of the stairs, UB6 of ground floor circulation and UB10 of first floor circulation. One exception is UB12, which is of the external garden space or play area dedicated to the crèche children. As there were few architectural elements, participants possibly found it difficult to associate with this space.

For both case studies, aspects determining association were similar. Q-sets with high frequencies differed between security elements, symbolic imagery or functions associated

with community. In turn, q-sets with low frequencies tended to be of circulation spaces. Data on low and high frequencies can guide future q-set choices, however, both spectrums provide valuable information. Low frequencies provide information on spatial disassociation and should, therefore, be included.

Analysis of associations

As described in detail in the section above, the purpose of the analyses of the main components was to scientifically model the association between perception and spatial classification. Data obtained from the sort-charts have been cross-tabulated in the form of frequency of occurrence for the 5 categories by 15 q-sets for Helenvale and Ubuntu respectively. In order to simplify and visualize the information contained in the 75 cells, a multivariate statistical technique called 'correspondence analysis' was used, which is the appropriate method for interpreting the findings. Correspondence analysis is mostly used for testing associations between two data sets, where the observations consist of frequencies in a cross-table, and the findings are portrayed on a bi-plot which has two dimensions or axis (Greenacre: 1984). However, the results of the correspondence analysis, summarised in the bi-plot, must be able to represent a very large portion of the variability of the data in order to make valid deductions. For this study a bi-plot was used to investigate the relationship between spatial perception and lived reality. Furthermore, correspondence analysis is appropriate to detect structural relations between images and categories, which would not be possible by only investigating the tabulated data.

Correspondence analysis has several advantages. First, data from two or more variables can be compared by forming associations, which in this case are made between different q-sets and categories on separate column and row bi-plots. Second, frequencies of observed data are positioned on a bi-plot, thus creating a visual representation of data. Relationships can thus be detected between variables ('column and row values'). Correspondence analysis is used for exploratory studies, which have categorical data (Storti: n.d.), and hence is suitable for investigating community members' perceptions.

To calculate 'row and column' coordinates, the statistical programme *STATISTICA* was used. Through this computation, observed frequencies are calculated into 'row and column' coordinates that can be plotted onto several dimensions. Row and column coordinates are shown in Appendix XXII and Appendix XXIII for Helenvale and Ubuntu centres respectively. The plot of a correspondence analysis can consist of several axes. Dimensions for a correspondence analysis are often reduced to the first two. When

dimensions are reduced, information could be lost, but if the proportion of inertia is high, data are still well represented. Inertia is defined by Habib, Etesam, Ghoddufar and Mohajeri (2012) as: “the total inertia value, also known as variance, [describing] the level of association, or dependence, between variables. It shows how well the row and column profile are represented in the graphical display”. For the two case studies investigated, the inertia for Helenvale is 86.5% (an inertia of 55.7% on the first dimension and 30.8% on the second dimension) and for Ubuntu 77.8% (50.3% and 27.5% respectively). For the corresponding case studies, more than three quarters of the variation in the data is represented, and two dimensions were thus sufficient.

According to Bendixen (2003, 7), eigenvalues “are used to determine the dependency of row and column values”. Eigenvalues (also called characteristic values) are a mathematical concept, based on a square matrix (in statistics, this matrix must be a positive definite i.e. all eigenvalues will be greater than zero) (Greenacre: 1993). Eigenvalues are linked to a distinct eigenvector (see Appendix XXII Appendix XXIII for values). These values are calculated for each dimension, “indicating the relative contribution of dimensions in explaining the variance in categories” (Hair, Anderson, Tatham & Black: 2009, 342). In mathematical, multivariate statistics, the matrix is mostly a variance, co-variance or correlation matrix. In correspondence analysis, for example, the term ‘inertia’ is used, and the relative inertia is not only directly based on the eigenvalue, but also calculated and applied from the largest to the smallest, hence the first two (or three) co-ordinates are used to plot two dimensions. Helenvale’s eigenvalues for the combined bi-plot of row and column coordinates are 0.27 in the first dimension (horizontal axis) and 0.15 in the second dimension (vertical axis). Ubuntu’s eigenvalues for the combined bi-plot of row and column coordinates are 0.23 in the first dimension (horizontal axis) and 0.12 in the second dimension (vertical axis).

Row and column coordinates were first plotted separately (Figure 68 and Figure 69). By separating the ‘row and column’ coordinates, associations can be observed between either q-sets or categories. On the bi-plot of Helenvale’s row coordinates (q-sets), six associations could be made. Associations between q-sets either indicate similarities, or in the case of close proximity, substitution. Note that associations are not determined by measuring the distance between points but by proximity (Hair: 2009, 341).

Associations with similarities include q-sets HV2 - HV14, HV3 - HV8 - HV11, HV9 - HV10 - HV15, HV4 - HV7 and HV5 - HV6 - HV13. In the case of Helenvale there is only one association, HV1 - HV12, in which one q-set can be replaced by the other. When

investigating these two q-sets, HV1 can be replaced by HV12 as they are both of the similar circulation space, one internal and the other external. Helenvale's bi-plot of column coordinates (categories) indicates two remote categories and three in close proximity. The categories of 'enclosure' and 'community' are not clustered and therefore distant. 'Welcome', 'identity' and 'symbol' were plotted in close proximity. Participants thus associated similar aspects with these categories. On the bi-plot of Ubuntu's row coordinates (q-sets), associations could be discerned. Similar associations include UB1 - UB7 - UB11, UB9 - UB10 and UB6 - UB14. In the case of Ubuntu, there were three associations where one q-set could substitute the other due to their direct proximity in the bi-plot. These include UB3 - UB12, UB4 - UB5 and UB13 - UB15. Considering images that could be substituted, the architectural qualities portrayed, differ significantly. Q-sets UB3 and UB12 are unrelated, but both images were associated with community involvement by participants. Q-sets UB4 and UB5, on the other hand, consist of different architectural elements, but participants related to symbolic aspects in both images. Q-sets UB13 and UB15 are both of different external spaces perceived by participants as effective centres of RS through identity formation. Q-sets UB2 and UB8 are remote in relation to other row coordinates with little association between q-sets. Ubuntu's bi-plot of column coordinates (categories) indicates no associations between categories, because plots are scattered on the diagram. Two categories, 'enclosure' and 'symbol', are positioned closer to each other although no association can be made.

After 'row and column' coordinates were plotted individually, the plots from the respective case studies were combined. The bi-plot in this case shows outcomes of both row and column coordinates, forming associations between q-sets and categories. For plots of both case studies, associations were made around categories resulting in 5 groups. In some cases, groups overlapped. One q-set could thus be categorised in one, two or three groups. On the combined bi-plot of Helenvale, five groups were formed by investigating associations. Two groups formed around 'enclosure' and 'community' were plotted independently with no mutual q-set. Associations formed for 'enclosure', include HV2 and HV14 and for 'community' HV3, HV8 and HV11. This distinct grouping is mainly because of the two categories having no association on the bi-plot of column coordinates. Associations for the remaining three categories of 'welcome', 'identity' and 'symbol' are informed by the close proximity. Associations that became apparent around 'welcome' include HV1, HV5, HV7, HV12 and HV13, for 'identity' HV4, HV5, HV9, HV10 and HV15 and for 'symbol' HV4, HV5 and HV6. As an association was observed between these three categories on the bi-plot of column coordinates, groups formed are positioned

closely. Being located in close proximity, q-set HV4 was grouped around 'identity' and 'symbol' and HV5 around 'welcome', 'identity' and 'symbol'.

Again, on the combined bi-plot of Ubuntu, five groups were formed through association. On the bi-plot of Ubuntu's column coordinates no associations were formed between categories. Groups in this case are thus well defined with limited shared q-sets. Q-sets UB13 and UB15 are positioned between 'welcome' and 'identity'. Associations formed around 'community' include UB1, UB7 and UB11, for 'enclosure' UB8, UB9 and UB10, for 'symbol' UB3, UB4, UB5 and UB12, for 'identity' UB13, UB14 and UB15 and, lastly, for 'welcome' UB2, UB6, UB13 and UB15.

In the figures below, relationships between 'row and column' coordinates are indicated (Figure 68, Figure 69, Figure 71 and Figure 72) as well as the combined plot thereof (Figure 70 and Figure 73). Q-sets or categories in close proximity are indicated with a broken line and those that are in a direct association with a solid line. In the combined plots, different line types are used to indicate different relationships and not the proximity.

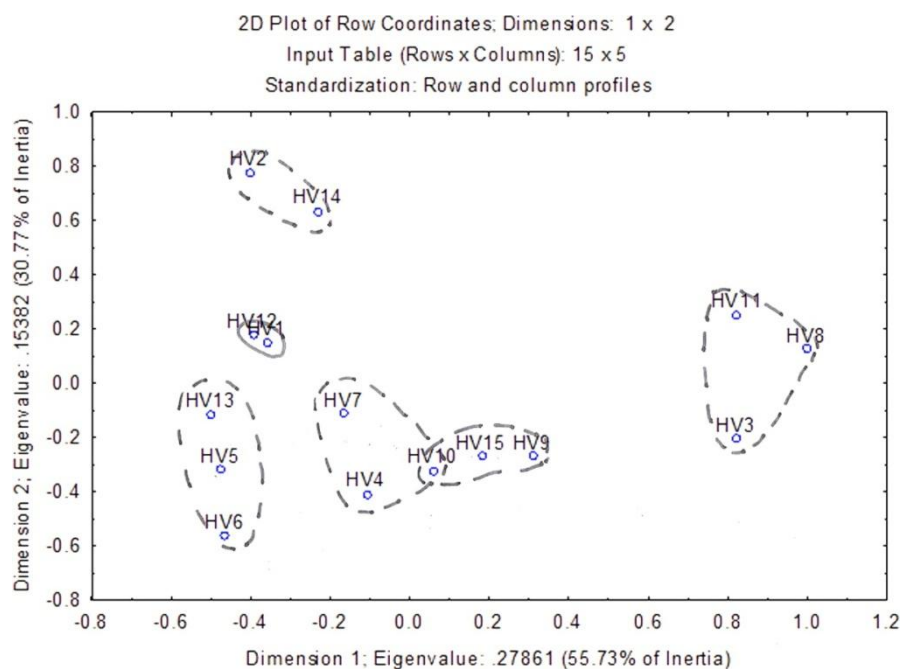


Figure 68. 2D plot of row coordinates for q-sets: Helenvale sort process.

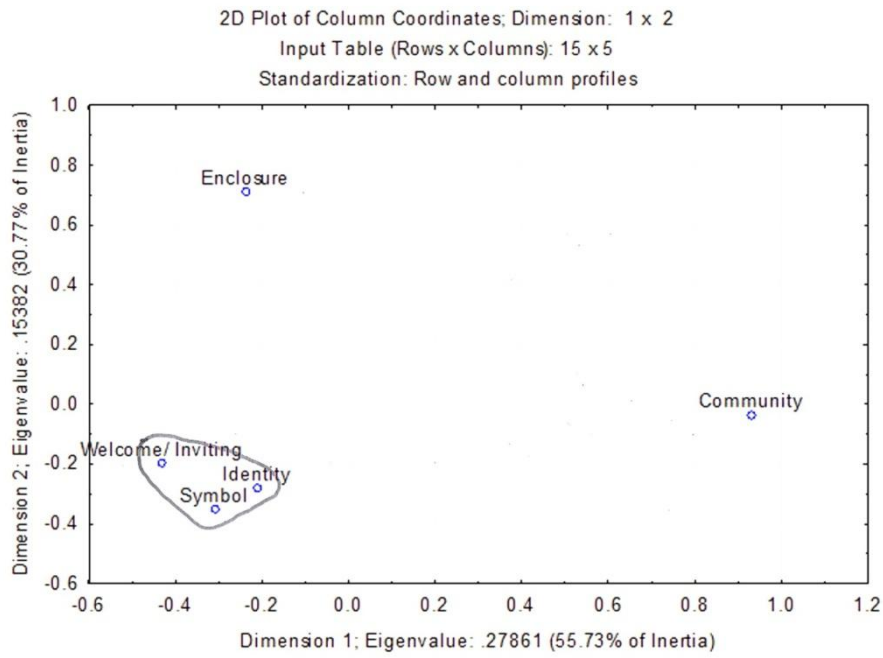


Figure 69. 2D plot of column coordinates for categories: Helenvale sort process.

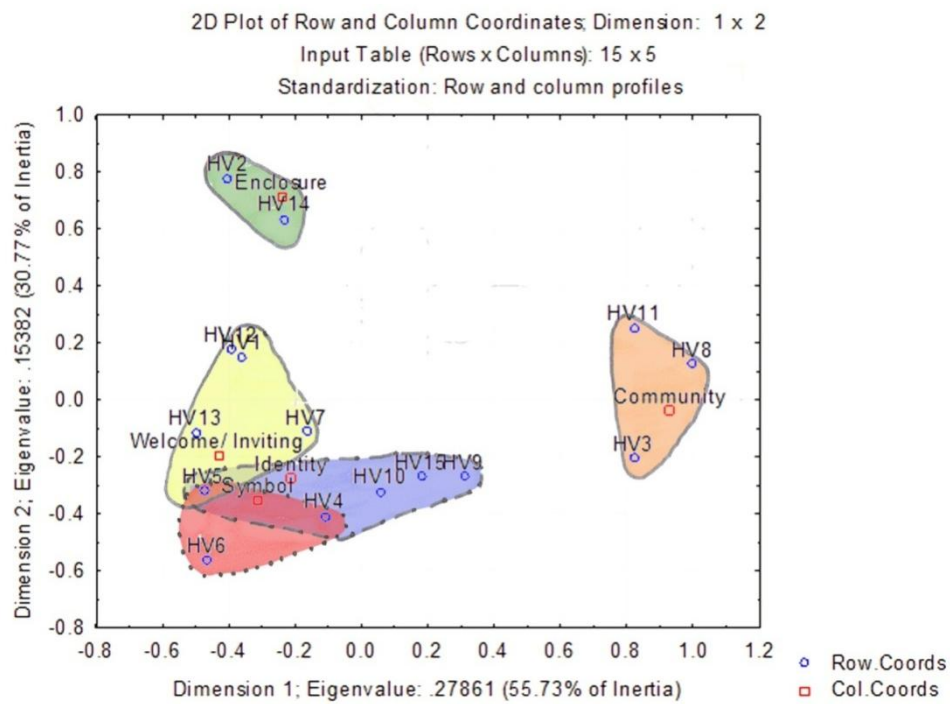


Figure 70. Correspondence analysis of Helenvale sort-charts.

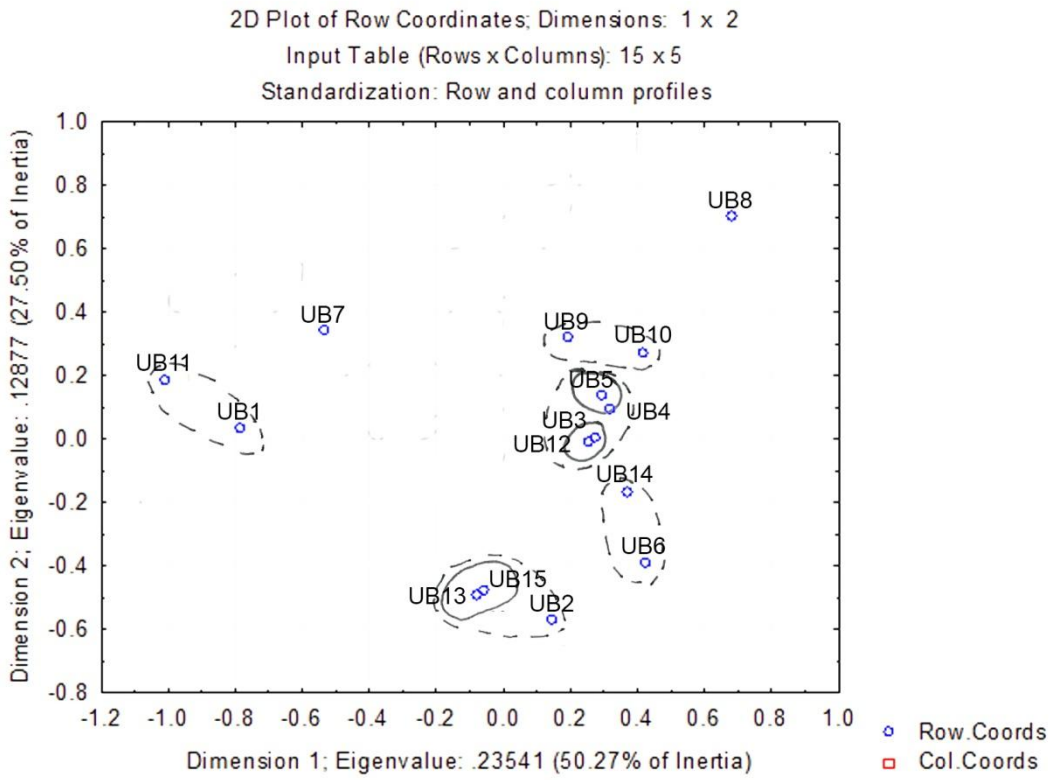


Figure 71. 2D plot of row coordinates for categories: Ubuntu sort process.

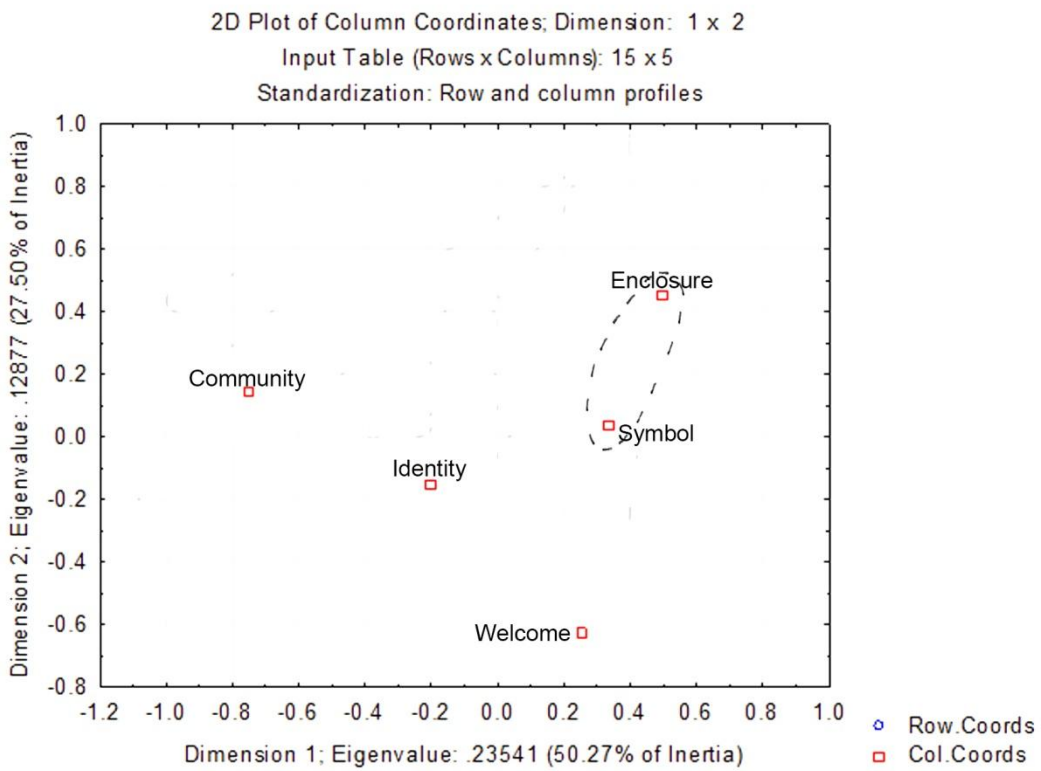


Figure 72. 2D plot of column coordinates for categories: Ubuntu sort process.

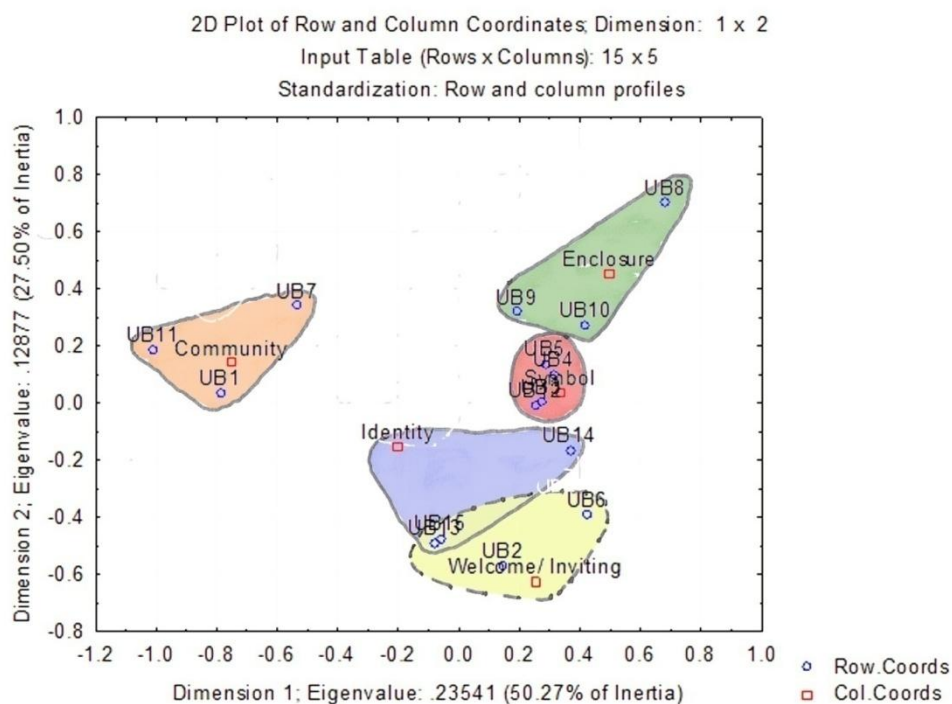


Figure 73. Correspondence analysis of Ubuntu sort-charts.

7.2 Perceptions on community centres

After associations were made on the plots for both case studies, groups were analysed in relation to the interviews of participants at community centres. Analyses of interviews with ATLAS.ti have already been discussed in section 6.2. For each case study, groups formed around categories with associated q-sets were investigated individually. All the quotations for q-sets around the categories were thus compared for similarities, establishing spatial relationships between areas identified in the q-sets.

Helenvale multi-purpose resources centre: Quotations for groups of categories and q-sets.

Three categories, 'identity', 'symbol' and 'welcome,' were plotted in close proximity on the two-dimensional plot. These categories were not overlapping and were therefore not combined. As these categories were in close proximity, some of their associated images overlap and can be grouped in two categories. Categories are first discussed with associated images and thereafter the association between groups is discussed.



Category 1: Identity

As 'identity' is in close proximity to two other categories, 'welcome' and 'symbol', some images were grouped in two or three of these categories. HV4 was also grouped under 'symbol' with HV5 and HV7 both under 'welcome'. HV9, HV10 and HV15 were grouped exclusively under 'identity'. Photographs of HV4 and HV5 were each taken in a southern direction toward the public space and circulation route or pergola. HV7 is of the external courtyard accessible from the community hall. Image HV9 and HV15 are of the waiting area, with HV9 focusing on the seating and HV15 on the office spaces. HV10 was taken of the corridor adjacent to the services in a northern direction. Images HV9, HV10 and HV15 could be combined as they are of internal circulation, focusing on the offices, waiting area and corridor between services. Participants made little distinction between these images. Image HV4 and HV5, on the other hand, although similar, cannot be combined as categories of group formation differ. HV7, grouped under 'welcome' and 'identity' has little identity formation for the twenty participants as they gave no reason as to why this space was perceived as such. The reason for this might be that the space is located outside of the community hall, which is only used when rented out for functions or private events and is mostly locked.

Three images, HV4, HV5 and HV7, are of external spaces whilst HV9, HV10 and HV15 are of internal spaces. The identity of external spaces' was formed by signage and objects, thus they are aspects of RS that are points of reference or effective centres.

“There is the sign, Helenvale, so that is why it is our identity (37-15:112-HV5).”

Although not grouped under 'identity' the signage visible on HV6 was also described under identity formation. This specific account also connects 'identity' with place. Signage as an object was thus a strong reference point, for both community members and visitors.

“These children are part of Helenvale and the words that are written there it is all part of Helenvale's children, the youth and there are children that are still going to be big because they are small. So, that is what reminds me of the identity of the place and how people look at it because many people who come here they always go in front there to look and to see and to read what is said there (36-8:88-HV6).”





The community centre is further seen as an effective centre being relational and a reference point.

“I can look over Helenvale from it and it gives the idea of security, we are surrounded by security. I would say here, it shows... here I can see that a lot of people also got jobs, the community got work as there are a lot of workers showing who are working (39-7:70-HV4).”

Apart from the signage, the entrance was also seen as reference point, being the identity of Helenvale.

“The entrance tells me that this is my place. Yes and also when my friends from far I can show them this is our Community Hall. It’s our building. I can feel proud thereof (40-13:206-208-HV5).”

The public space, with the sculpture as nodal point, was further identified as directional effective centre.

“P: Look, standing here, I have a good view of the scenery behind the shop and this, that round thing, that silver round thing, that is very pretty, it is something good.

I: What does it mean to you, that silver thing?

P: To me it means... that thing is very important. It’s there, how can I put it, the community, that is something nice that we can take photos there and we have taken many photos there (20-14:114-HV4).”

Connected to the notion of ‘welcome’, the entrance was seen by a participant as inclusive. Structural identity thus allows multiple representations.

“This hall is not for white, black, to say whites belong here, blacks should not be here, whatever. This kind of hall is built for everyone and everyone is welcome and that is why there is security so that we can, violence... people for example that come by car, they are nicely dressed and they do their thing. So, I think that photo shows that every one... it is a rainbow nation (35-10:91-HV4).”



Two staff members of Helenvale's response for 'identity formation' were different from the community's. Identity formation was shaped less by the exterior and art works and was defined more by interior spaces. Daily reality was formed by geometric spaces of 'within', in which tasks were performed.

"This one shows there where the toilets... how nice and clean... the cleaners that are working here, and the janitor that is looking so well after the place and I believe that there are no problems. When other people come from outside they can come with pleasure and talk. This place is beautiful and clean (35-18:111-HV10)."

Category 2: Enclosure

'Enclosure' as a category was plotted separately with no close association between other categories. Around the category of 'enclosure' two images, HV2 and HV14, were plotted in close proximity. HV2 was taken in a north-eastern direction towards the gate adjacent to Baadjies Road. The mural painted on the external wall and residential units neighbouring Baadjies Road are visible in the image. HV14, on the other hand, was taken in an eastern direction from the office space toward the parking space and boundary. Participants associated these images with 'enclosure' mainly because of the fence.

"Because of the fence that goes right around (40-11:194: HV14)."

The fence further contributed to the feeling of enclosure by creating a safer environment.

"I feel safe here because when... because of the fence that is here now (20-12:86)."

"You can see as you come up there, the gate is locked, you can see it is secure and the fence on-top [electrified fence] (21-21:9-2)."

Although HV2 is an image of an entrance gate, it is associated with 'enclosure' and not with aspects of SP such as access. The reason for this is that the gate was only open during the inaugural ceremony and never again. The space can thus be seen as a junction point, being accessible only for certain occasions. Closed access is mainly due to security problems, which were resolved by providing one controlled entrance.

"Yes, it is always locked I do not know why. I suppose it is for security. They should open it and put security there as well. It is closer than

having to go around the other way round because then there will be an entrance at the bottom section for the people and this one is for the top section (27-13:111-115-HV2).”

Category 3: Community

On the two dimensional plot the position of ‘community’ has no close association with other categories. Around the category of community centre, three images have been sorted, HV3, HV8 and HV11. Image HV3 was taken in a western direction from the soccer field toward the exterior of the multi-functional hall. HV8 is a photograph in the eastern direction of the internal community hall. HV11 is an interior shot of the multi-functional hall toward the stage. Similarities between these images are mostly around the function of the space. Functions include private, public and informal use. The concept of ‘community’ associated with the hall include social activities that allow interaction,

“This is inclusion and safety inside because it is the smaller community hall. It is also where people come together and talk (36-13:116-HV8).”

Other activities falling under the concept of ‘community’ is sports facilities. These activities are not only considered for their physical benefits, but also to instigate change and stability amongst the youth of Helenvale.

“Because it shows an open space that we can use ourselves for recreation, to get out a bit. This field is for basketball; the community use it and the children use it and that helps to keep them out of trouble (40-9:186-HV11).”

External spaces, fenced and secure, provide an inclusive environment. Inclusion and security are two contradicting constructs, but in this insecure environment exclusion allows for other activities. As Parkinson (Parkinson: 2006, 14) maintained, not all activities should be permitted in public spaces. He suggested that different spaces should be provided as is the case with skateboard activities, thus providing a skateboard park and limiting these activities in other areas.

“This is for the community and this is where the children come and play soccer and normally they play netball here outside on the grass and they also feel welcomed and inclusion when they come here because when they are here inside they feel safe they are not outside

in the streets where the gangsters are and then they run with knives and so forth (36-17:124-HV3).”

As the activities hosted in the gathering spaces create a sense of community, the act of ‘coming together’ further suggests this notion.

“We have that is the important thing of to come together you put the difference aside and to come together. Number eleven is as you can see this when you come together (17-12:149-HV11).”

Category 4: Symbol

A group was formed around the category of ‘symbol’ with three images of HV4, HV5 and HV6. HV6 was taken in a north-westerly direction toward the sculpture of children skipping. These images are all of the same space but photographed from different positions. The space is thus regarded as symbolic, representing the community in general. Referring to the quotations, symbolic reference is mainly to two art works, the mural of children playing and the bronze statue of the boy flying a kite, which is mounted on an aluminium circle.

“How do I put it, you see the name is there and the children that are there you can say now you see, them playing there, children of Helenvale (17-8:117-HV4).”

The sculpture in image H6 reminded one participant of his/her own children playing and thus being a representation of happiness. In this particular case a connection is made between the image or sculpture, lived experiences and emotional conditions.

“I mean, the children are playing, and look happy and everything is just lovely (26-5:99-HV6).”

The two artworks along with the public space in front of the Helenvale centre has become an effective centre and point of hierarchy. Participants referred to this as a point of direction and reference for Helenvale.

“The entrance tells me that this is my place. Yes and also when my friends from out of town come and visit I can show them this is our Community Hall. It’s our new building (40-13:206-208-HV5).”



As a point of reference these spaces and art works are also areas of condensation, becoming metaphors for certain momentous occasions in community members' lives. This commemoration has been done in two ways, the first as memory or photograph opportunity.

“This photo here it shows the love for the children here is a park for the children to come and play, there are playgrounds and there are also there are people that are outside standing by the gate and taking a photo they are showing their friends and all those things and it is very beautiful (35-12:95-HV6).”

The second way of using this space is as commemorative memorial space. Although the structure and statue were constructed prior to the death of multiple children, the tragic events were connected to the images of the children. After their death, flowers were laid beneath the statue, thus becoming a memorial.

“It reminds me of the children that have been shot dead, no really. That thing was put up that there before any child died (16-8:113-HV6).”

Representational space was further created with the lettering cut from the aluminium mural. The words had become a reference for community members as the mural is placed at the entrance.

“And this section is part of this entrance that is also a good symbol because you can see when you come in you get this section and that is what people know. People who come here they recognise it (36-14:116-HV5).”

This 'representational' reference further gained an historic significance as the children form part of the Helenvale community.

“I think that it is very beautiful because it is one of Helenvale's children that were put there. So, it plays a very important role because it is part of our history (36-4:48-HV6).”



Category 5: Inclusion

Around the category of 'welcome' five q-sets were plotted of HV1, HV5, HV7, HV12 and HV13. HV5 and HV7 have also been grouped with 'symbol' and 'identity' respectively. As mentioned under the identity section, HV7 had little response from participants and, therefore, no quotes are included. HV1 was photographed in a south-western direction toward the eastern entrance. HV5 indicates the public space, entrance and pergola in a south-western direction. The direction of HV7 has already been discussed under 'identity'. HV12 is of the internal community street viewed towards the main western entrance. Lastly, HV13 was taken in a south-western direction towards the vehicle entrance and tower.

Four images are of circulation spaces with the exclusion of HV7. Circulation spaces are of site boundaries and access points (HV5 and HV13), the western building entrance (HV1) and the circulation space once the structure is entered (HV12). It is important to note that the entrance (HV5) is used intermittently. Access, both vehicular and pedestrian, is controlled by security staff situated beneath the tower. Once community members are allowed to enter, the vehicular gate is opened (the gate west of the tower) with access to the building through the western entrance (HV1). Association with the category of 'welcome' was thus not only with HV4, HV5, HV9 and HV15, images of the main entrance, but with aspects of the secondary entrance.

HV1 and HV12 were plotted adjacent to each other. According to the principles of correspondence analysis, when two or more images or categories are in near proximity they can be replaced by the other. HV1 and HV12 thus had the same value for participants. Although these are two dissimilar images, they are both of circulation spaces; HV1 of the external street and HV12 of the internal continuation. This similarity is good as participants thought of these two spaces as one the extension of the other. The architect's goal to extend the internal street toward the external spaces is confirmed by HV1 and HV12 being plotted in close proximity.

Q-sets grouped in close proximity to 'welcome' were mostly associated with security presenting a geometric space of within, enclosure, a centre-periphery relationship and objects as markers providing an effective centre as point of hierarchy. This sense of security is created by two aspects, the fence and the other, security personnel.

"It is safe here, everything right around it is enclosed; any violence that is happening outside, it is hidden away (26-6:103-HV12)."



“As you come in there is security right there and you just feel safe when you come in because you know the securities... They sit there at the gate (22-5:159-HV13).”

Along with the aspect of security, a participant felt that the aesthetic environment created a welcoming feeling.

“I: What does the tower mean to you?”

P: Because it is a symbol of Helenvale and I think welcome. The sight, the place is so nice that I feel secure and at the same time I feel welcome, I mean if I am standing there (37-17:119-122-HV13).”

Apart from security, representational aspects also contributed to a sense of inclusion (welcoming). The first important reference is the tower as a point of hierarchy.

“I: Why did you specifically group this number 13, with the tower, under welcome?”

P:The reason why I have grouped it under welcome is because it can be seen. That it can be seen (15-18:112-HV13).”

Apart from being a point of hierarchy, the tower also acts as an effective centre by being directional.

“The tower is a beacon (24-11:96-HV13).”

Displacement occurs through the signage on the tower becoming representational, not only of the centre, but also of the Helenvale community.

“It means a lot to me because if you stand in Extension 12 and you look down and then you see the symbol and then...you see Helenvale resource centre written on it [on the tower]. So, it is a symbol that it is a place for the community because it says Helenvale resource centre. It is where the community can come and see the council member, perhaps there are people that can help inside and so forth (36-9:94-HV13).”



Hierarchy and effective centrality are also created through the effect of light at night. In Helenvale, street lights are often vandalised. The centre is then the only public lit space, thus being a visual point of convergence.

“This one here, too, shows that the place belongs to us as a community as you can see the green grass outside, the lights that are burning even in the evening you can see from outside how nice the lights are shinning (35-19:113-HV12).”

Ubuntu community centre: Quotations for groups of categories and q-sets.

Category 1: Identity

Q-sets grouped around the category of ‘identity’ include UB13, UB14 and UB15. UB13 is of the first structure on site used as a gathering space. The image was photographed in an easterly direction toward the painted mural. UB14 and UB15, on the other hand, are of the structure completed in 2010. UB14 was photographed in a northerly direction toward the second entrance. UB15 was also photographed in an eastern direction toward the external structure and corner of the site.

Association between q-set UB14 and UB15 lies in the structure. Participants commented on the uniqueness of the structures.

“I like the way it is structured together (6-16:108-UB15).”

“You know the combination of the wall around the flowers, it's amazing the dimension (10-55:213-UB14).”

Apart from the structure being unique, it is also a form of condensation, thus being a metaphor for what Ubuntu as an organisation represents.

“One of the things that people often ask me, I mean, also when I first saw it, is that the walls are not straight, why is it skew, why does it look skew, but as the architecture explained that he built it based on the fact that he wanted it to symbolize that the community is leaning against each other, so the walls are also leaning against each other, yes (1-18:86-UB15).”

No signage was applied on the exterior of the structure. One of the participants commented on the absence of the organisation's name and how the structure has become the metonymy of Ubuntu.

“You know when we look at this building, somebody will ask you where you are working, you will say at Ubuntu Centre. Where is Ubuntu Centre because Ubuntu is not written on the outside, there is no name or billboard but once you say that building with its wall, its colour and so on it gives identity. If you explain about that building with bolts on the window, it gives us identity but we don't have the name (10-56:229-UB15).”

Image UB13, on the other hand, is of the existing structure that had first been used as a gathering space. Although there is no direct correlation between these structures, UB13 is a metaphor of the historical situation whereas UB14 and UB15 represent the 'new', the growth of Ubuntu.

“That's where we all started (32-6:175-UB13).”

As an historical reference, the building still indicates the 'identity' of Ubuntu. The purpose of the Ubuntu Education Fund is even emphasized by the contrast between the new and old, being physical proof for the possible growth.

“The pictures of the building, when you look at them, you immediately recognize what the building is, that's Ubuntu, this is the old building that we used to use. So it's a matter of identity, automatically identify the building and what it stands for (1-17:84-UB13).”

This growth is portrayed in the mural painting, which further elaborates on the concept of Ubuntu, relying on one another for growth.

“It is because if you are walking down the street and you see there, you read and you see that there is a kind of story, not a done story yet that is showing something. We need to gather together, we need to unite and reconcile as people, even if you are fighting HIV and Aids, it is telling us it is deep, it is deep (2-10:160-UB13).”

“Because what it says, “Sisonke kulumwe” we are all here to talk, so that's what it says and then the colour also (7-11:81-UB13).”



For staff members, identity formation was slightly different. Spaces were associated more with daily tasks, which then formed their identities as staff members of the Ubuntu Education Fund.

“Because you see, here you don’t go inside by the front door as a staff member, you see, you have to come here, but for me I always know that if I am a staff member for Ubuntu, so it is a symbol for me (5-17:156-UB14).”

Category 2: Enclosure

Three images, UB8, UB9 and UB10, were grouped around the category of ‘enclosure’. Q-set UB8 was photographed in a southerly direction toward the structure’s corner. UB9, also photographed in a southerly direction, focuses on the main entrance and internal circulation in front of the community hall. Although architectural elements in the images differ notably, participants associated the tree images with enclosure. Inclusion in this case focuses on spatial differentiation between secure and insecure, inside and outside, and private and public. Q-set UB8 was associated with security due to CCTV cameras surveying the public spaces.

“Basically the structure and here inside you are protected from anything in the outside world and all that. You can also see even when you stand outside you can see if you can be inside a picture like this one you are in a safer environment than outside. Cameras – if anything happens they will be able to sort it out (11-6:93-UB8).”

Spatial differentiation is further made between internal and external spaces. Q-set UB9 provides a visual permeable boundary, restricting physical access but allowing observation of activities in the foyer and multi-purpose gathering space on the ground floor.

“Okay, when someone just walks around this place and they see this, they want to know what is inside, they want to come inside and see for themselves what in this area (14-9:133-UB9).”

Differentiation is made by restricting access. Certain spaces are considered more private than others. Floor levels often create spatial seclusion. The multi-functional space is inaccessible for visitors and is only utilized for organised activities.



“Yes because you normally don’t allow the visitors up there (43-5:198-200-UB10).”

These spatial aspects were mostly created through architectural archetypes associated with inclusion. Two different boundaries were created - visual and physical. Visual boundaries were created with frosted glass, restricting internal or external views for privacy. Physical boundaries, on the other hand, were created with slanted screen walls and ‘burglar bars’ of gum poles. These physical boundaries allowed visual access with physical restrictions. As there is no fence, threshold and restrictions between the public and private spaces had to be created, allowing gradual transition.

Category 3: Community

Q-sets grouped around the category of ‘community’ include UB1, UB7 and UB11. Image UB1 is a photograph of the roof garden situated above the community hall. UB7 is an image of the theatre, utilised as the central gathering space. UB11 is a photograph taken in a western direction of the Ubuntu community centre as seen from Qeqe Street. The images grouped around ‘community’ are quite diverse being of external and internal spaces. The descriptions by community members, however, indicate that they were all associated with social activities that involved community members and assembly.

As urban form, the centre is seen as a point of assembly with relative unrestricted access for community members.

“We are outside, we are in the community and that is where the community activities take place. People from outside can hear what is going on and can be interested in going in (7-10:77-UB11).”

The gathering space that was associated mostly with community is the theatre.

“There are a lot of events which get held here which invites the community to come in and just explore and see what is going on inside Ubuntu (6-14:98-UB7).”

As a gathering space, the theatre ought to be used as an unrestricted public space with relative rules and regulations. This space can be used by children for social activity, which is often not possible in the streets due to safety issues.



“This is our theatre I suppose, it’s the dance theatre. That’s where children can come in and know that they won’t be judged (7-6:65-UB7).”

The roof garden was strongly associated with the concept of ‘community’.

“Community, this to me would stand for community. It is a garden (31-3:58-UB1).”

Being associated with community, the garden also portrays the vision of the Ubuntu Education Fund. Community members learn how to produce crops which are then distributed amongst community members and children participating in after-school programmes. It is thus a mutual relationship, involving community members on all levels.

“This is a garden type of thing so normally it associates with most communities as you can find something to eat and things like that, and these get distributed to the community members or it gets used to make food for these kids, so I will tie that with that (6-13:94-UB1).”

For the building to be perceived as a communal structure, access must be relatively unobstructed.

“I mean you won’t be able to see but you will see there are no barriers, gates, or something (6-18:116-UB11).”

As there are few barriers and boundaries, community members can feel free to enter the facility, thus experiencing it as a public building.

“Which means that it is open for everybody to come in and have a look, so that is why I pick that one (6-19:118-UB11).”

As an effective centre, there must be a centre-periphery relationship to truly connect the structure with the environment. This was done in two ways. First, through the community garden as the source of knowledge and food, that is then distributed in the community.

“This one, the garden that you see here. Also helps the community - what they are growing here, they give back to the community (14-8:129-UB1).”





Second, by being constructed across pedestrian walkways and thus being part of the community activities.

“The picture here, having, it also symbolizes community because you have people walking around and you have the centre in the middle of it and this is exactly what we wanted the centre to be, to be in the community, for the community as well (1-16:80-UB11).”

For the structure to be seen as an effective centre there must be some sense of hierarchy. A participant commented on the directional qualities of the centre being a strong reference point in the community due to its scale.

“Then obviously you can see even in this one, it is easy for people to kind of see. You see the structure itself is too huge, you can go in this direction but you still see the structure, so there is no way that one would not notice (4-23:132-UB11).”

Category 4: Symbol

Q-sets plotted around the category of ‘symbol’, include UB3, UB4, UB5 and UB12. UB3 is a photograph of the internal gathering space in front of the crèche classrooms. UB4, also a photograph of an internal space, is of an office space with imagery against the wall of a graduate. UB5 is of the internal stair leading to the staff offices. Lastly, UB12 is of the external garden spaces used as children’s play areas. Images grouped around ‘symbol’ have no resemblance other than being architectural elements, but when considering participants’ quotations, the connection lies in the attached meaning. Although participants commented on different archetypes, the framework of education and growth remained comparable. Image UB4, the office space with the image of a graduate, was strongly connected to education. A connection was further made between the purpose of the building and the Ubuntu Education Fund. This image is thus a metaphor for Ubuntu.

“Here, this is, I took the picture though, because it’s a symbol of what the building stands for or why the building was built (1-28:92-UB4).”

This purpose of providing opportunities is further visible spatially in the gathering space in image UB3. By providing a different environment, children are made aware of opportunities.



“This one – I would put this one here as well. I will put that one as a symbol. To me those I would call them cushions and I guess we give them to the clients. The clients they are the people who are making a certain environment and they are not used to sitting on those. Now when it is with them, an opportunity to experience new life sitting on that kind of relaxing with the posture around tables and everything. You are giving them that is going to open up their minds, relax and whatever challenges you have in life, for a moment they will be on course because of the environment

I believe that sometimes you may have challenges and somebody may move you from point A to point B not because the challenges are gone but you may feel better and then it's another thing when you go back and you start experiencing them again, but when you get a break of being away, you are like switching off. So I guess that environment is a symbol of that (10-59:239-241-UB3).”

For one participant, this change is portrayed in the staircase as a physical manifestation.

“Stairs are a symbol of growth and development. You are at a certain level but for you to get to the next level you need to take a step so it's a symbol of success, a symbol of growth (10-53:205-UB5).”

On another level, meaning was attached to the vegetable gardens and playgrounds. The focus is thus not only on growing minds, but also healthy bodies.

“I guess this part, the garden, and the playground. It is more a meaning of let's say healthy lifestyle (4-25:134-UB12).”

This concept of growth and development was mostly commented on when discussing q-set U4. For one participant this image was seen as a symbol of education.

“This picture of this young girl is a symbol of education (11-8:102-UB4).”

The reason for this strong association is that the girl in the image was part of the Ubuntu Education Fund programme which enabled her to attend a university. After completing her degree she started to work at the centre, becoming an example of what is possible.

“That from cradle to career or yes, from cradle to career that we take children for when they were young to, where they are graduates now and that is a living example actually. It’s a symbol and it’s a sign that keeps reminding us every day (1-29:94-UB4).”

One participant related to the picture as she has a similar story.

“It is an office and then I see this picture. I am relating to this because I know the story behind that lady. It is sort of a story that I can say is my story as well. Having to grow up from a single mother, Ubuntu being the helping hand to that, making sure that she graduates, and she has a stable job. I relate specifically to her story (31-1:54-UB4).”

This image further symbolises the notion that the Ubuntu centre has no boundaries, which allows everyone to ‘speak’. The building thus focuses as an effective centre being directional and relational at the same time.

“On this one I would like to say Ubuntu takes a small kid and even if you are HIV positive, you are not afraid to come here and you can speak out and say I am here, I want to tell you that I am HIV positive and gain a lot at Ubuntu. Even I can come and talk to anyone here at Ubuntu. They give them i-vegetables there in that building... (29-10:76-UB4).”

Although the image UB4 is not of a sculptural element as is the case at Helenvale centre, meaning was still ascribed. It does not depend on the quality of the imagery, but rather on its representational ability.

Category 5: Inclusion

Around ‘inclusion’ four images were grouped, UB2, UB6, UB13 and UB15. The direction and focus of UB13 and UB15 direction and focus have already been discussed under identity. UB2 is of the clinic’s reception and waiting areas and UB6 of the circulation in the middle of the theatre and staff room. Although the four images grouped around ‘welcome’ differ significantly, participants commented on aesthetic qualities in these images that created a welcoming feeling. The design and aesthetic qualities can be summarised by this quotation of a participant:

“You feel like welcome, and the design as well is telling that you are welcome here at Ubuntu because the way they design it. The creativity it shows that it is um, you are coming in at Ubuntu now, and you are full welcome (33-6:105-109-UB2).”

In the case of UB13 it was the mural as representation of inclusion that was experienced as welcoming.

“I am looking at this wall painting and it's so beautiful, it's unusual and it's unique and the person passing by far away would be attracted to come closer because this is welcoming. It is in the car parking area when you come into the centre at the back, before you see the faces of the employees of Ubuntu you see this picture, it's welcoming and inviting (10-52:188-UB13).”

“Then the other one that is welcoming, we can maybe, I will take this clinic part because you get to see different structure, or design when it comes to the other clinics, like the community clinics, so to me that one is inviting to patients (4-27:142-UB2).”

Aesthetic qualities identified by a participant included the doors to the theatre. The textured timber contrasts with the concrete to create a sense of warmth.

“I: The door? Why do you like the door?”

P: Because it is beautiful (30-8:79-80-UB6).”

“Yes because you see there is a door here for when you want to take a break, so it is welcoming (5-20:178-UB6).”

Apart from aesthetics, structural differences also contributed to the welcoming quality of the Ubuntu centre.

“Yes because like some of the community members like they don't know the building. Like if you are over there and you saw this big and funny building, you wanted to come and see what's happening over there (43-9:188-UB15).”

Other welcoming aspects that can be noted under difference are the clinic's waiting area. The waiting area has been changed through a ticket system, thus removing certain stigmas connected to clinics and HIV.

“Then the other one that is welcoming, we can maybe, I will take this clinic part because you get to see different structure, or design when it comes to the other clinics, like the community clinics, so to me that one is inviting to patients (4-27:142-UB2).”

Functionally, spaces where movement occurred were also seen as inviting when certain elements along the route seemed welcoming. From the internal circulation space the big sliding doors were seen as inclusive.

“This is an opening to the kitchen, or to the staff room and this is also the opening to the theatre, so I took them as enclosed because they also invited to those areas (1-22:90-UB6).”

As part of external public space the mural on the existing structure was described as an object marking a reference point.

“Because it is a little bit besides the building where you have got everyone who is passing by will just be attracted by that view of the art there (5-15:152-UB13).”

Opposed to Helenvale's welcoming spaces that were mainly defined by security, only one participant at the Ubuntu centre made the connection between security and inclusion.

“You have no worries through the day. You feel protected. Everything is secured as the security guards, and even the building itself (31-2:58-UB13).”

Safety and security are usually associated with boundaries and obstructions creating forbidden or restricted territories. In the case of Ubuntu, these boundaries have been removed both externally and internally. Although access to the facility is controlled by electronic remote control, the entrance is perceived as unobstructed.

“Because we can see it is open to anybody. There are no closed or locked gates. When you come in you have to be asked behind the gate, so it is just open for anybody to come in and get what they need

or ask questions if they are not sure if they will be able to get whatever they need from the conversation (4-22:130-UB15).”

In the clinic, ‘inclusion’ is further enhanced by removing boundaries that are usually associated with health facilities. Spaces that would usually be fragmented into different functional specificities are consolidated into an open space for encounter:

“Yes, so for us it is different. For one you are able to be close to the person that you are asking, because I mean to have somebody that is behind glass and you are on the other side. That can be a boundary for you as a person that is coming in, who is sick and asking for help because you might look at this person as the higher person that you would feel uncomfortable to ask certain things. In a situation where you have an open space, then that is inviting because one, that person will welcome you and you are able to see that person closer to you and you are able to say what you need to say. Then obviously the area itself for waiting, it doesn’t categorise anyone, anybody can sit anywhere, so whoever comes to our clinic wouldn’t know why this person is sitting here or which service they are coming for. If you go to a different clinic, then you get to know these people that are sitting here are here for TB or HIV, so there is that difference between us and the clinic and the structure itself (4-30:150-UB2).”

7.3 Findings read from the sort-process

With the sort-process community members’ perceptions were determined by organising different q-sets into predetermined (direct sort) categories. These categories included ‘identity’, ‘enclosure’, ‘community’, ‘symbol’ and ‘inclusion’, which were established through a theoretical analysis discussed in Chapter 2. Q-sets organised into categories were further described by participants through semi-structured interviews, which formed the narrative in section 7.2. Data categorised from the sort-process was cross-tabulated and statistically calculated with a correspondence analysis. From the calculation, data could be represented on a bi-plot that formed associations between q-sets.

Through this method, participants’ spatial perceptions could be determined as they identified certain images with categories. The semi-structured interview elicited reasoning behind this categorisation. The correspondence analysis, from data of q-set categorisation, further highlighted associations between spaces that were explained in the



interviews. The sort-process, semi-structured interviews and correspondence analysis are thus interdependent, substantiating each other. Findings from each category are discussed in the section below in relation to SP and RS.

Comparing both combined plots with row and column values of the respective case studies, 'community' had the strongest associations with q-sets. Considering the function of community centres, these associations were mostly with gathering spaces. Other associations included the sport field at the Helenvale centre and the community garden at the Ubuntu centre, both functions were thus strongly associated with community centres.

On both plots, the categories of 'welcome' (inclusion) and 'identity' were in close proximity. As these are in close proximity, according to correspondence analysis theory, they can be either substituted or have similar characteristics. Considering the semi-structured interviews, aspects associated with 'identity' contribute to notions of 'inclusion' such as public, accessibility, unrestricted boundaries, within, open and the centre-periphery relationship.

Considering the choice of q-sets, two aspects were highlighted. First, q-sets that were associated the least were circulation spaces and in one case at Helenvale, an external gathering space. Q-sets that were associated the most, had functional attributes such as the hall or theatre, and according to the quotations were connected with specific activities. Spaces with little association thus had no functional connection. In the case of the external gathering space at Helenvale, the fact that the space is not accessible as it is mostly locked should be considered. Again, no functional connection can be made. Second, is the question of the influence of people in the q-set images. In some cases participants commented on a space being communal as it contained activities, as was the case with Ubuntu's theatre (UB7), the perspective of the Ubuntu centre (UB11) and the community hall at the Helenvale centre (HV8). To minimize direct association, people in the q-sets were rendered unrecognisable. For future research, images containing people can be used to investigate perception on a space's associated activities. One image (UB4) of an office space, with a poster of a young graduate, did generate significant responses. This graduate was considered to be a symbol of the UEF, thus not referring to the space but the representational image contained. It is significant to identify the symbolic value of representational elements to indicate how participants' construct meaning.





Identity formation

This aspect differed significantly between the two centres as 'identity' was formed mostly at the Helenvale centre through images and objects, whereas at Ubuntu, it was formed by the structure. At Helenvale, the tower, sculpture and mural were considered elements of displacement. The tower and sculpture were seen as reference points and effective centres as they were hierarchical elements. The sculpture and mural were further seen as memorials and reference to the children of Helenvale. At the Ubuntu centre, the concrete structure was seen as the element that formed the identity of the Ubuntu Education Fund. In this case no signage is provided, thus relying more on the structure's representative qualities. Another element that was considered under 'identity' was the painted mural on the existing structure, providing a historic reference.

As the archetypes of displacement and condensation differed at the respective case studies, so did their perceived meanings. At the Helenvale centre, the objects were seen as memorial spaces and reference points as effective centres. At the Ubuntu centre, the structure portrayed the interdependence of the community and the development of historic references. Both these community centres provide an effective centre of hope, but Helenvale is further seen as memorial and Ubuntu as growth. As was noted by participants, historic references at the Ubuntu centre suggest this growth. At the Helenvale centre, some participants commented on the lack of historic reference to indicate the development of Helenvale.

Enclosure

Security and boundaries were the main features that created a sense of 'enclosure'. The characteristics of these boundaries, however, differed between the two case studies. At the Helenvale centre, boundaries were seen as physical obstructions, whereas at Ubuntu, they were seen as permeable. At the Ubuntu centre 'enclosure' was further characterised by spatial differentiation of spaces considered more public than private.

Community

The category of 'community' was mainly associated with gathering spaces such as the multi-functional hall referring to urban form of assembly. At the Helenvale centre, the sport field was also associated with 'community', and at the Ubuntu centre the rooftop garden. Both these elements are thus associated with the notion of gathering, further more connected, thus forming a centre-periphery relationship with the community.





Symbolism

At both centres, symbolism was connected to representational elements. In the case of Helenvale, q-sets associated with 'identity' were similar to those of 'symbolism'. The entrance with the sculpture was again perceived as representative of Helenvale's children. The mural, on the other hand, was associated more with symbolism being a metaphor for the children. Lettering cut from an aluminium sheet enhances the symbolic value. At the Ubuntu centre, strong symbolic associations were made with the image of the graduate (UB4) and the central gathering space feeding into the crèche (UB3). Both these q-sets are connected to the vision of the Ubuntu Education Fund to provide hope through education. Considering symbolic connections made at both centres, Helenvale's is connected to the community, whereas Ubuntu's only focuses on the centre's purpose. Perhaps neither is wrong, but a community centre should constantly move between the part and the whole addressing the greater community and the function.

Inclusion (welcoming)

Associations made at the two case studies differ significantly. At the Helenvale centre security was connected to 'inclusion', and at the Ubuntu centre, to aesthetic qualities. Boundaries supported the notion of within and enclosed, strengthening the centre-periphery relationship of the structure as it is a sensitive environment. The tower was further seen as a hierarchical element, being directional and thus creating a sense of inclusion. Aesthetic qualities associated at the Ubuntu centre include the clinic and the hand crafted elements. The mural in the clinic as well as the hand crafted reception desk and door to the theatre, created a sense of care, and thus inclusion. The clinic's ticket system and unrestricted reception further contributes to SP of within and open, allowing the clients access without disclosing any illness or problem.

To conclude the section on the sort-process, the plot configured by the correspondence analysis simplified the comparison of the data of the two case studies. With the correspondence analysis, data from the sort-process could be minimized to two-dimensions, where after a relationship with respective quotations was formed.





Chapter 8 Corroborating the three research questions: Findings and discussion

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8.1 Introduction

This research studied community centres through the theoretical lens of Lefebvre's spatial triad. The aim of the study is to investigate the relationship between lived reality (SP), perception (RS) and architecture (RoS). Primary users of two community centres were interviewed, utilising a mapping and sort-chart process, which was supported by semi-structured interviews. Information from the respective architects was also gathered through open-ended interviews.

In the following chapter, the data gathered and analyzed is discussed to investigate the three research questions. First, what is the relationship between lived reality of community members (SP) and the two-dimensional representation designed by architects (RoS)? Second, what is the relationship between users' perceptions (RS) and the architect's intent (RoS) of symbolism, images and signs? Third, how do community centres, in the macro-context, reconfigure boundaries, forms and functions (SP), as well as areas of centralization, condensation and displacement (RS)? Findings corroborating each research question are considered and themes and patterns identified.

8.2 Findings of the three research questions considered

Considering the relationship between Lefebvre's spatial triad, it is important to restate the interdependence of SP, RoS and RS. With regard to communities, he described the purpose as "...the 'subject', the individual member of a given social group, [moving] from one to another without confusion" (1991, 40). The research questions thus investigate the relationship between the different aspects of Spatial Production to determine the relationship between lived reality, perception and architecture.

In the following three sections, findings on each research question are discussed. After briefly restating the research question, the theoretical themes of each respective spatial construct (SP, RoS and RS) is reiterated. Thereafter, the results from the two case studies and different methodologies are combined to consider the findings. After investigating the three research questions, themes and patterns are identified and discussed in section 8.3. The chapter concludes with a summary of the process and findings examined.





Research question 1: What is the relationship between lived reality of community members (SP) and the two-dimensional representation thereof as designed by architects (RoS)?

The first research question investigates community members' lived reality as an aspect of SP in relation to conceived space designed by architects as RoS. This considers the initial design, the physical structure and how it is perceived by participants.

Perception of participants was considered as SP, which mainly included form, structure and function. Form has been divided into geometric space, urban and classical form as well as bodily reference. Structure has been considered as scale and technology, which has also been considered as stereotomic or tectonic elements. The last aspect of function has been divided into circulation, private and public spaces and boundaries. The latter has been categorised further into boundaries of accessibility, forbidden territories, places of abode and junction points.

Themes of conceived space as RoS of architects were mainly fragmented and subdivided spaces and construction techniques. In contrast to these themes, is spatial context and texture which addresses the above mentioned problems. Other aspects also considered under RoS include boundaries, public or private and meditational spaces. These can then be defined as open or enclosed, inside or outside, inclusion or exclusion and in degrees of accessibility. Features mentioned also coincide with those of SP, but are considered from the architects perspective.

Geometric form at both centres was considered to create a sense of inclusion (open or within as SP). At the Helenvale centre, thresholds and boundaries were constructed to create a transitional space and at the Ubuntu centre, wall elements formed barriers between internal and external space. Furthermore, both centres had unrestricted public space adjacent to the street for contextual connectivity. Apart from these archetypes, inclusion was furthermore effected by RS, which is discussed later in this section.

Considering participants' responses, the Helenvale centre was perceived more as an 'urban' form, whereas the Ubuntu centre was perceived as a 'classical' form. In relation to the RoS, the Helenvale centre is more cohesive, connecting spaces that would have been considered as fragmented and subdivided. The Ubuntu centre, on the other hand, was rather seen as an effective centre, thus not breaking boundaries, but rather connecting through network formation as nodal points.



Considering structural aspects, the perception of scale was perceived by some participants as notions of fragmentation and subdivision, in contrast to other participants who favoured spatial context and texture. Some participants at the Helenvale centre commented on the hierarchical reference of the centre in relation to the rest of the community. In this case, the structure ought not to be subsumed, but should rather contribute to create an urban form. The tower, colour scheme of the centre, as well as the artwork contributed to this referential aspect. The Matrix cc..., the architects of the centre, in turn, separated functional spaces that stepped across the sloped site. Spatial division further contributed to the fragmented footprint, allowing contextual reference to RDP housing. However, spatial connection with the adjacent school was not considered, as was evident in the few references made to spatial associations. The Ubuntu centre, on the other hand, had limited space and therefore had to restrict the footprint of the structure. Participants complemented the appropriate scale as it is also in an educational precinct.

Structurally, Helenvale circulation area is more tectonic connected with stereotomic services. In contrast, Ubuntu is mostly stereotomic, although some of the glass infill panels create a visually permeable structure.

Other aspects associated with SP are function as circulation space, spatial differentiation between public and private areas, and boundaries. These aspects are influential on one another, affecting participants' lived reality and the architect's conceived spatial organisation. Spatial specificities and differentiation as well as *materiel* qualities in turn also affect function. Circulation at both case studies has been affected by boundaries. Initially both had cross-circulation running through the centre, but for security reasons was restricted. At Helenvale, restrictions occur through physical site boundaries and an inaccessible entrance as is the case with the secondary door at Ubuntu. In Figure 74 and Figure 75, altered circulation routes are indicated as observed by the author. The broken line indicates intended circulation routes, whereas the red broken line indicates actual use. Although both centres were perceived as relatively accessible, management in some cases, caused admission to be perceived as junction points. These spaces of specificities alter intended public spaces such as the gathering space in front of Helenvale.

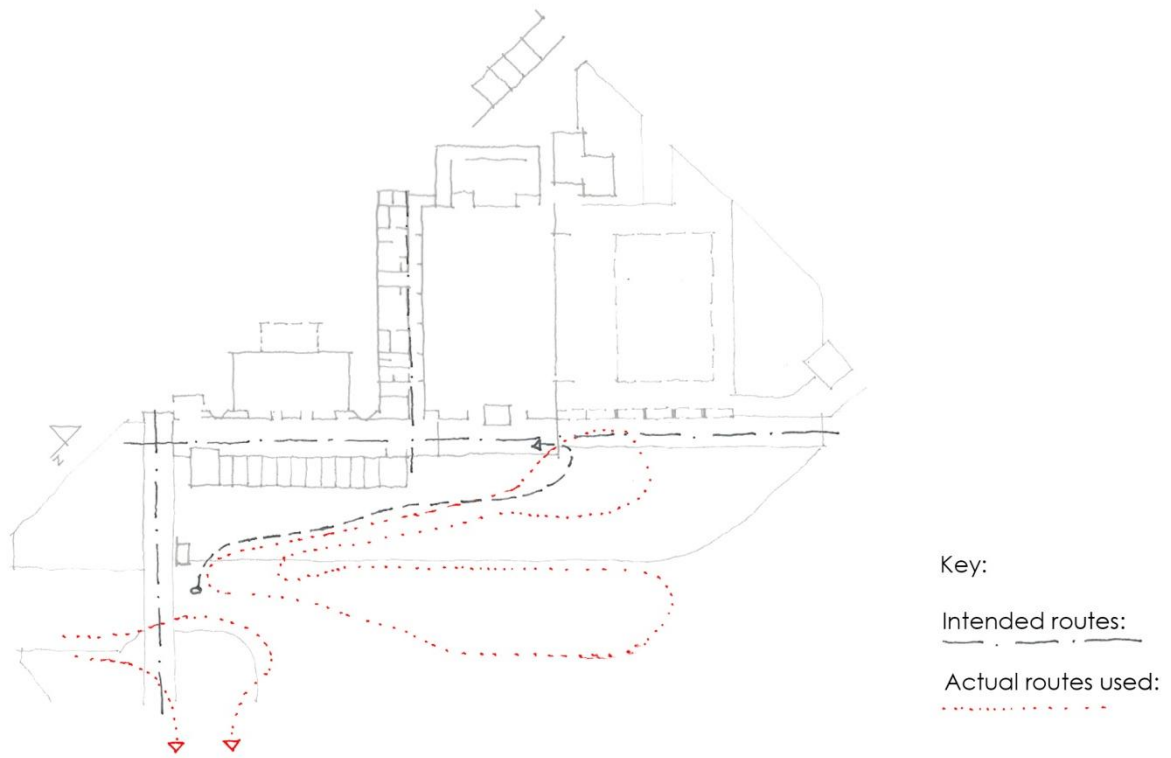


Figure 74. Actual and intended access routes to the Helenvale multi-purpose resources centre.



Figure 75. Actual and intended access routes to the Ubuntu community centre.





Research question 2: What is the relationship between users' perception (RS) and architect's intent (RoS) of symbolism, images and signs?

The second research question examines meaning from multiple perspectives. RS shaped by the lived reality of SP is considered from community members' perception and the conceived and ascribed meaning as intended by the respective architects is described.

Themes investigated under RS include displacement, condensation and effective centrality. Displacement refers to metonymy, whereas condensation to substitution. Effective centrality refers to directional, relational and situational typologies providing points of hierarchy that address the centre-periphery relationship.

As both architects responded to the notion of meaning and symbolism, their approaches differed significantly. For Hollins, the project architect of Helenvale, functions precede meaning, as was the case with the tower. Herholdt, one of the principals of The Matrix Urban Designers and Architects, however, considers the theatrical and representational value of architectural elements important. This is evident in their offices with the entrance door and light above the conference table. Upon opening the entrance door, mechanical movement turns an 'eye' onto the visitor. The same theatrical quality was added to the light, when switched on, it opens like a lotus flower. This notion of artwork is also applied to several of their projects, as was the case at the Helenvale centre and the St John's Methodist Church hall, to which an aluminium screen was added as connection between the historic church and hall. For Stan Field, the principal of Field Architects, symbolism and meaning is not something that should be imposed on the building, but should rather grow from the site. As the pedestrian routes and figure ground plan of Zwide were considered, a form was derived. Meaning was further attached to the form, representing the community leaning on one another.

Considering both case studies, meaning is not prescribed. Instead, architectural qualities of the structure open possibilities for community members to construct their own associations. The Matrix Urban Designers and Architects utilises aluminium artwork, whereas Field Architects considers form as signifier. One can argue that the artwork at the Helenvale centre is not part of the structure; however, its contextual integration is the binding element. By placing it on an axis, connecting it to the public space opposite the centre, it is integrated with the Helenvale centre.

Although participants at Ubuntu did not directly associate the structure with interdependence, they did consider the form to portray the values of Ubuntu. A centre-



periphery relationship is further enhanced by providing a building that participants compared to more developed areas of Port Elizabeth. Through this connection, the fragmented nature of the urban framework, disconnected from the CBD, is amended. Other material qualities further contributed to meaning, such as the reference to African elements. These materials provide a contextual reference whilst the structure is a contemporary solution. Historic references referring to the community and the structure itself are significant to indicate development.

A strong association was made between identity and welcome as noted in the correspondence analysis of the data from the sort-process. Identity formation is thus an important notion for perception on inclusion; how different archetypes, either structure or artworks, can be utilised to achieve this.

Structural references (RoS) can form RS connections with external spaces to bridge boundaries formed by apartheid urban planning. However, this is not physical transformation of the urban environment, but rather one of perception. This relates to the ability of the community centres to be perceived as effective centres, being both situational and directional.

Research question 3: How do community centres, in the macro-context, reconfigure boundaries through form and function (SP), as well as areas of displacement, condensation and centralization (RS)?

The last research question investigates the impact of the community centre in its immediate environment considering both SP and RS. The first two questions focus only on the community centre itself, whereas the third considers its relationship to the community. Although themes of SP and RS have already been discussed under the first two questions, spatial aspects are now also considered on an urban level.

Perception on RS was influenced by contextual reference, relying on interaction with the environment on a pedestrian level. Participants of Helenvale resided within walking distance from the centre whereas those at Ubuntu within a 7km radius. Contextual references could be formed more by participants who had physical references with the environment. The mapping process further indicated how architectural archetypes of community centres created different spaces for social interaction. Considering the case studies, Helenvale is more extroverted and Ubuntu introverted, with the latter thus not acting as urban form of inadvertent encounter and simultaneity.

Boundaries such as forbidden territories are created by RS, with SP being the physical manifestation of this as is the case with streets at Helenvale. A second example is the controlled access at both centres. Although perceived as accessible, both are access-controlled. External public space is thus important to create an accessible threshold to create a sense of a more permeable boundary. Boundaries are thus formed by RS and SP, but can be made more porous by the latter. On an urban scale, boundaries are not transformed physically, but rather through displacement. Community centres thus become the metonymy between the community and the larger context of the urban environment. The perceived meaning of these centres is thus important as physical boundaries of communities are not easily modified.

Considering form, reconfiguration can either occur through encounter and simultaneity, as was the case at Helenvale, or contrast as materialized at Ubuntu. At Helenvale, form was mostly seen as lived reality, whereas at Ubuntu it was perceived as representational.

Over time, a contextual reference was made, such as the residential units painted in the indistinguishable green of the Helenvale centre thus becoming a metaphor. The urban framework of Helenvale further contributed to a relationship with its residential units, which was further enhanced by the street being used as public space. In contrast, less reference was made to Ubuntu's contextual integration. The pedestrian route that extends into Qeque Street creates a link, although not as a pertinent area of displacement.

8.3 Three research questions: Patterns and themes identified

From the three research questions investigated, findings were explored which, in-turn, can be categorised into patterns and themes. The purpose of these findings is to consider the impact of public infrastructure as catalysts for urban change. If community members' lived reality could be combined with the RoS of architects, public space can instigate significant change.

The perception and design approach of participants and the respective architects of the two case studies are considered. Participants either perceived the centre from an SP or RS perspective. The respective architects designed either from an SP or an RS perspective, although predominantly RoS. Another theme that was established is boundaries as an aspect of SP. Boundary formation occurred through physical attributes, but most importantly was constructed through perception. The last pattern investigated, is the differing perceptions on RS and how they amend spatial fragmentation and subdivision to achieve an integrated context and texture.

Two relationships need to be discussed, the interdependence between the spatial triad and the association between the architects' intent and participants' perception and lived reality. These relationships differ at each case study. Although both architects mainly designed the centres from a RoS perspective, the Helenvale process inclined toward SP and Ubuntu to RS. Hollins from the Matrix Urban Designers and Architects considered his design more from the perspective of function and urban form (SP). On the other hand, Field, from Field Architects, designed more from the perspective of the structure (SP) and the fragmented nature of the site (RoS) but then added the notion of meaning (RS). Both design processes thus began from RoS, but developed in different directions. Participants of the two case studies commented on aspects that could be classified in all three categories. However, each case study had a dominant spatial aspect. Helenvale was mainly perceived as RS, whereas Ubuntu was seen as SP. The significance is that there is a dire relationship between the architect's design process or intent and participants' lived reality or perception. Conversely, it is either influenced by participants' contextual association and familiarity (as was the case at Helenvale), or by the functional management (as was the case at Ubuntu). It can thus be concluded that if there are strong contextual references, then meaning (RS) is ascribed more to building elements. In the case of less contextual familiarity and strong functional organisation, the centre is perceived as SP.

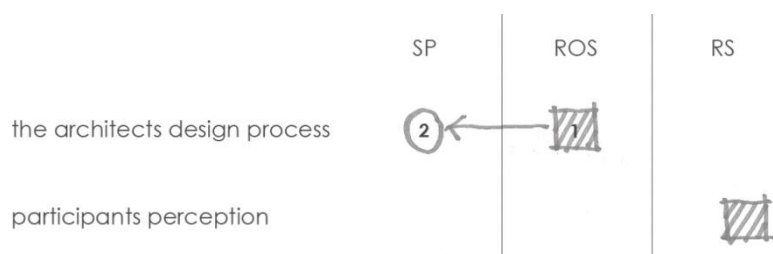


Figure 76. Relationship between the architect's and community member's perception: Helenvale multi-purpose resources centre.

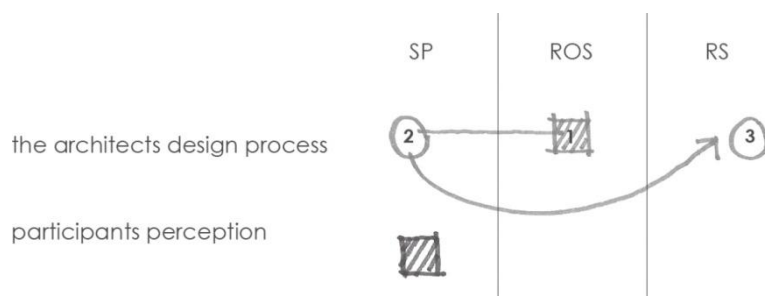


Figure 77. Relationship between the architect's and community members' perception: Ubuntu community centre.

The second theme investigated physical or imaginary thresholds. Spatial aspects of the respective architects and participants did not differ significantly. They consisted of the structure, boundaries, security elements, public spaces, streets and the urban environment. Associations made with SP consisted mostly of physical elements such as walls, boundaries, function specific spaces and public spaces. References to RS are also of physical elements, but rather as perceived and not their lived reality. These include streets, artworks, hierarchical elements such as the tower, streets and the notion of community.

SP defined by boundaries of accessibility and to a lesser extent forbidden territories (with access being controlled) and junction points (restricting activity on certain occasions). Clearly defined boundaries create a sense of within or enclosed. These vary, in the case of Helenvale physical boundaries enclose external space, and in the case of Ubuntu the structure forms the threshold. Regardless of boundaries, the most important aspect of the community centres is for them to be perceived as effective centres (RS). This was achieved through subdued fragmentation and subdivision (RoS), whilst considering aspects of *materiel* and not only material. SP aspects of function, form and structure as permeable and adaptable environments were considered. These architectural elements (SP) further contributed to RS aspects of hierarchy, reference and rhythm thus confirming the reciprocal relationships. SP in this case is thus defined by transitional archetypes whereas RS is strengthened by referential factors.

The last pattern identified, is the differing perception of RS and the influences thereon. At the Helenvale centre, RS was described as effective centrality which is integrated into the urban framework. On the other hand, the Ubuntu centre's RS was described in relation to form (SP). Apart from this distinction, both were considered to be spatially and hierarchically differentiated. Space is thus reconfigured through objectification or integration into the urban framework. The gradual dilution of fragmented and segregated spaces of specialization and specificity thus contributes to Lefebvre's notion of spatial context and texture (1991). Considering both case studies, perception of RS is influenced by contextual integration and experience. The lived reality (SP) of the surrounds (of the public space) thus directly affects perception of RS.

To conclude, by considering SP and RS from participants' perspectives of lived reality, spatial fragmentation and subdivision could be incorporated by the architects into the community centre's design to create a contextually integrated centre with local textures.

8.4 Conclusion on research questions

The significance of these research questions in relation to architecture and practice can be affirmed by a quote of Lefebvre:

“Like all social practice, spatial practice is lived directly before it is conceptualized; but the speculative primacy of the conceived over the lived causes practice to disappear along with life, and so does very little justice to the ‘unconscious’ level of lived experience per se (1991, 34).”

Spatial production should thus rather transpire from lived reality and not be constructed from preconceived ideas. Unfortunately, the urban layout along with building restrictions often dictates the outcome. Additional fragmentation is caused by specialists such as architects, urban planners and engineers, often only considering segments and not the Gestalt.

Perhaps the role of architects will not change in the near future to that of consultant or even to artisan technicians (combining elements or detailing), allowing space to be lived before conceived. However, if the appropriate methodology for community engagement is followed to determine needs and perception, this relationship could be re-established.

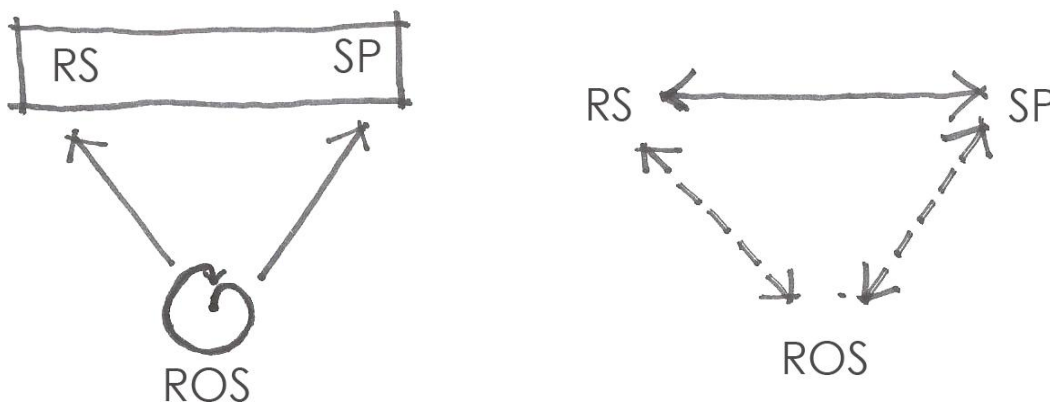


Figure 78. Professionals working in isolation, informing RS and SP (image on the left). Re-establishing the relationship between Lefebvre’s spatial triad, allowing RS and SP to influence RoS (image on the right).

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Chapter 9 Spatial Production of public architecture: Conclusions and implications

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9.1 Introduction: Lived reality of community centres and public architecture

The purpose of this study was to investigate community centres in developing Group Areas to determine perception and contextual integration and upliftment. Community centres were chosen as this typology was deemed most accessible by a diverse group of the community. Two case studies were chosen, the Helenvale multi-purpose resources centre and the Ubuntu community centre, due to the geographical proximity to Port Elizabeth. These two case studies were investigated through the theoretical lens of Lefebvre's spatial triad of Spatial Production, Representations of Space and Representational Space. This theoretical approach was followed to assess the relationship between community members' lived reality (Spatial Production), the architects' design approach, intent (Representations of Space) and perception (Representational Space). To gather data on these three aspects, methods such as mapping and sort-charts supported by semi-structured interviews were used. Data from the respective architects was collected through open-ended interviews which were supported by their architectural drawings and observations made by the author during field work.

Background information was provided on the development of public gathering spaces and on public infrastructure in developing areas in South Africa with specific reference to NMBM. The last section of the background chapter describes the typological and structural characteristics of community centres in South Africa.

Data collected through different methods was separately analysed after which themes were identified. From the open-ended interviews conducted with the respective architects, a narrative was written to explain identified aspects of Representations of Space, and to a minor extent Spatial Production and Representational Space. The maps completed by participants were superimposed on, after which findings were corroborated with the semi-structured interviews. Data from the completed sort-processes were tabulated from which a correspondence analysis was performed. From the different analytical methods, findings were discussed in Chapter 8.

In the conclusion to follow, findings and their relevance to research, theory, education and the architectural profession, is discussed. First, the main findings are reiterated after which relevant references that correspond or oppose them are explained. Convergence or divergence in relation to this thesis is thus elucidated. Second, is the discussion of the theoretical significance in relation to spatiality; third, the implication for education and lastly for the architectural profession.





9.2 Findings from themes and patterns in relation to other relevant research

From the findings discussed in Chapter 8, reference can be made to other relevant research. The three main findings were investigated: First, the relationship between Spatial Production, Representations of Space and Representational Space of the respective architects and participants; second, spatial aspects, either as constructed or perceived, being embedded in Spatial Production or Representational Space; and third, the reconfiguration of communities through aspects of form (Spatial Production) or effective centrality (Representational Space).

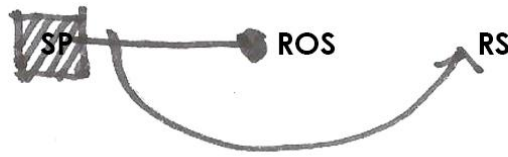
The first finding investigates the relationship between Lefebvre's spatial triad from two view points, that of the architect and participants (Figure 79). After considering the architect's design intent and the lived reality and perception of participants, it is concluded that the relationship is not as reciprocal as it ought to be. During the design process, Spatial Production and Representational Space are not continuously incorporated into RoS, especially regarding lived reality influencing perception. Jonathan Hill defined three types of users, the passive, reactive and creative (2001). The passive user does not transform the given space, whereas the reactive user "modifies the physical characteristics of space as needs change, but must choose from a narrow and predictable range of configurations largely defined by the architect" (Hill: 2001, 364). He further describes five types of creative users as the bodily, physical, constructional, mental and conceptual. The first three descriptions coincide with Spatial Production, whereas mental and conceptual creativity can be categorised as Representational Space. Through this 'creative' means, space is thus appropriated to become more than utilised objects.

Although both architects designed from Representations of Space, with different influences of Representational Space and Spatial Production, participants' perceptions differed. Perception of participants is either determined by function (Spatial Production) or contextual references and familiarity (Representational Space).

Compared to Landman's (2006) proposed framework (Figure 80) for the socio-spatial transformation of urban environments, structures are designed from a Spatial Production perspective. Space, need, idea, order and form are considered, with less consideration of meaning, place and time. Contextual integration of Representations of Space (in the diagram production and management) into Representational Space, in relation to Spatial Production, still needs to be considered.



Ubuntu community centre: relationship between SP, ROS and RS



Helenvale multi-purpose resource centre: relationship between SP, ROS and RS



-  Architects design process
-  Community's perception

Figure 79. Summary of the relationship between Spatial Production (SP), Representations of Space (RoS) and Representational Space (RS) from the perspective of architects and participants.

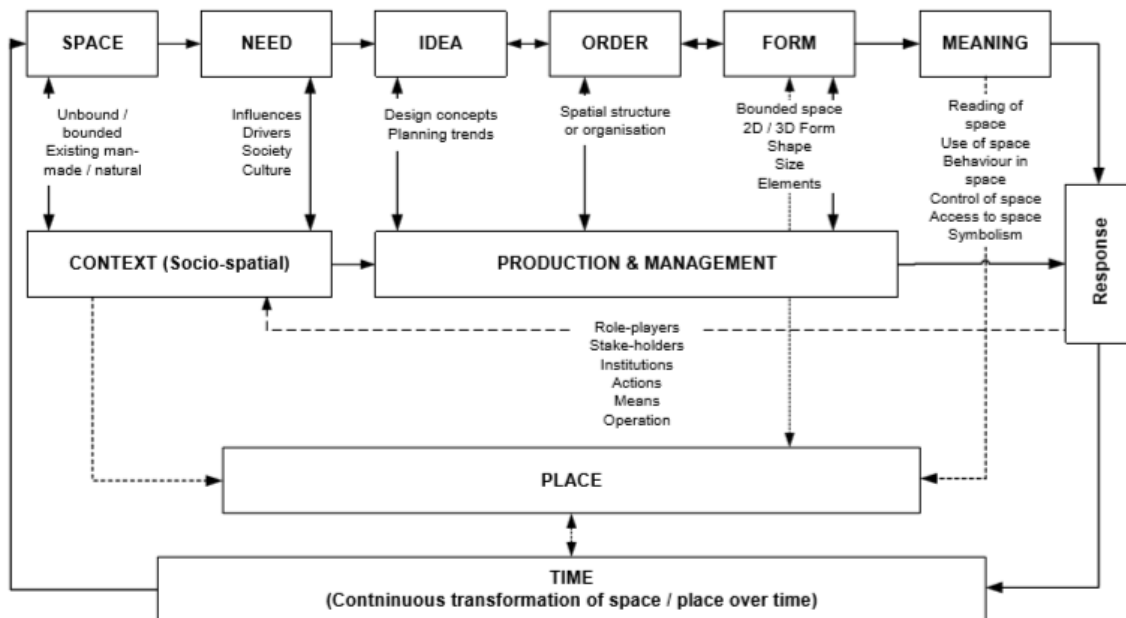


Figure 80. Landman's suggested relationship for socio-spatial transformation (2006; 8).

The second finding explains perception in relation to Spatial Production or Representational Space. Physical aspects such as walls and boundaries were notions of Spatial Production, whereas representational and urban characteristics were associated with Representational Space. Features associated with Spatial Production relate to urban or classical form which in turn directly translates into the function and structure. Parallel to Spatial Production, is effective centrality of Representational Space. This reference point is formed by combining Spatial Production and Representational Space characteristics. Representational Space is further enhanced by archetypes that can accommodate displacement or substitution. A relationship between Spatial Production and Representational Space thus exists to form an effective centre. Apart from this, Spatial Production is associated more with archetypes used as transitional spaces and Representational Space by apparent referential objects. This contributes to Lynch's environmental image of identity, spatial integration and meaning, which is defined by paths, edges, districts, nodes and landmarks (1960). Paths, edges and districts can be defined as transitional spaces (Spatial Production) along with nodes and landmarks as referential points (Representational Space). Transitional spaces further relate to Bachelard's (1994) spatial dialectics of inside or outside.

The third finding was the different perceptions of Representational Space at the two case studies. At Helenvale, Representational Space is seen as effective centrality within the urban framework whereas at Ubuntu it is seen as Spatial Production of form. Both centres included Representations of Space of spatial and hierarchical differentiation. Perception on effective centrality (Representational Space), the urban framework and form (Spatial Production) is influenced by contextual integration and familiarity. Representational Space is thus influenced by the relationship participants have with the immediate environment.

9.3 Philosophical implications on Lefebvre's *Production of Space*

This research investigates community centres through the theoretical lens of Lefebvre's spatial triad. By incorporating the three aspects of lived reality (Spatial Production), perception (Representational Space) and architecture (Representations of Space), public space is investigated from multiple angles. Most studies on architecture focus only on material qualities (Ching: 1996; Baker: 1989; White: 1983), but in this case the lived experience is also considered. Lefebvre (1991; 2003b; 2014) and De Certeau (1988) were among the first philosophers who combined the concrete with the metaphysical and social. On an urban level, John Chase, Margaret Crawford and John Kaliski (1999) and Louis Wirth (1938) investigated everyday life in urban environments. Lefebvre's spatial

triad was relevant as it integrated community members' lived experience and perception with the architects' representations. His spatial triad provided the framework from which the research design developed. It further guided the methodology and themes for the analysis.

From the findings, some aspects of this spatial triad were highlighted. Representations of Space are not altogether fragmented and subdivided; in contrast contextual references and spatial textures are incorporated in architecture. The degree to which these aspects are applied may differ, thus resulting in more or less fragmented and subdivided spaces. Contextual reference and spatial texture can, therefore, be considered as the counteracting elements for fragmentation and subdivision in Representations of Space.

In Lefebvre's triad, Spatial Production, Representations of Space and Representational Space cannot be separated. Architects' design process as Representations of Space are influenced more by either Spatial Production or Representational Space. In some cases Spatial Production described by architects can be influenced by Representational Space. Representations of Space designed from either Spatial Production or Representational Space perspective is not necessarily perceived as such by community members or users. Building's designed from Representations of Space influenced by Spatial Production could thus be perceived by the community from a more Representational Space perspective. The relationship between in Lefebvre's triad is thus confirmed by the two case studies and has become even more interdependent through this research.

9.4 Influence on educational discourse and practice

Undergraduate studies of architecture in South Africa generally consist of a normative, European approach. Design tools, as mentioned by Ching, consist of principles such as axis, symmetry, hierarchy, datum, rhythm, repetition and transformation (1996). This often leads to two-dimensional Representations of Space approaches that do not consider the lived reality of a community. Digitized data such as Google maps further allow students to distance themselves from the physical environment. These tendencies are carried over into practice, where architects re-create lived environments through computer generated projections. Through this process, the lived reality and perception of communities are not incorporated, resulting in imposed or prescribed settlements in South African townships.

In contrast, is a more social approach that originated in America with authors such as Donald Appleyard. With his writings on liveable streets, new methods of social analysis developed (Appleyard: 1976; 1982). Other research that followed is that of Bill Hillier and

Julienne Hanson's *The social logic of space* (1989) from which aspects of space syntax originated. This provided a quantitative approach to investigate human movement in the built environment. More qualitative studies on the urban environment include that of Erving Goffman (1963; 2005; 2010) and Lyn H. Lofland (1998), which focus more on social aspects.

In relation to this research, design principles were discussed briefly whilst more focus was placed on the social aspect through Lefebvre's spatial triad. However, the Eurocentric approach must not be totally discarded, but should rather be combined, as was done with the comparison between Spatial Production, Representations of Space and Representational Space. In the design process, for students and professionals, all three aspects should be included. This can only be done through specific observational or mapping methods which should directly involve the community.

Often community centres are design by isolated practitioners, focusing mainly on Representations of Space. This process could result in aspects of fragmentation and segregation, or in extreme cases non-appropriation. A reciprocal relationship between Spatial Production, Representations of Space and Representational Space should be established and maintained throughout the design and construction process. As public infrastructures, such as community centres, are insertions into existing communities, this relationship is of utmost importance to instigate change.

9.5 Implications for theory and practice, nationally and internationally

The thesis contributes to two key aspects of architectural practice; firstly, the approach to planning, and secondly boundary formation considering apartheid's legacy. Theoretically, the study contributes to the inquiry of Lefebvre's spatial triad applied to architecture and to the ongoing debate on defining the concept of the public.

This thesis contributes to the architectural practice by researching development from grassroots rather than through technocratic development. It challenges Western ideology, both nationally and internationally, to answer questions of transformation pertaining to post-colonialism (Low: 2003; Van Rensburg: 2008; Coetzer: 2013) and insurgent planning (Sandercock: 1998) is expanded on. Therefore participatory methods, such as sort-chart and mapping as employed in this study, could guide future direction of infrastructural planning. Most importantly, the process of planning should be altered to that of a lived reality as opposed to space being conceived only by external parties. Through this reciprocal relationship between the lived realities of community members, conceived

space should be shaped and continuously transform, altering perception. This allows for the incessant spatial production required for dynamic communities where boundaries are constantly shifting producing new public spaces for social interaction.

The second practice-based contribution is the application of Lefebvre's theory to the transformation of the South African post-apartheid context by considering a gradual shift of boundaries between the urban core and peripheral environments through Spatial Production. Boundaries as physical and perceived elements of Representational Space could shape identity in communities lacking representation. Nationally, boundaries as representational elements contribute to research on introverted gated communities (Bremner: 2010; Landman: 2006) and to isolated peripheral areas such as townships. Internationally, this change in the centre-periphery relationship through representation could be applied to studies on improving networks between historic urban centres and surrounding suburban areas.

Theoretically, the spatial analysis of the thesis contributes to the debate on public space (Fraser: 1993; Mitchell: 1995; Hénaff & Strong: 2001; Habermas: 2011) formed by boundaries (Lynch: 1960; Gehl: 1987; Madanipour: 2003) and representation. Public space is not necessarily created by physical boundaries, but is rather shaped by the perception of community members. This can be applied to all public buildings where use of space ought to be restricted for certain activities to allow for safe public use. The public domain, as defined by Hajer and Reijndorp (2001), is rather determined by security measures, access and contextual references determined by location. Related research on public space (Amin: 2008), corresponded to place as being important rather than activities as the spatial catalyst. In South Africa, both these aspects can guide future development of public infrastructure in developing communities where public space is required or in some cases is non-existent.

Furthermore, a practical connection between the production of architecture and spatial theory was created by referring to theories on space (Massey: 2005). Lefebvre's spatial theory as applied to architecture combines the perception of absolute and abstract space. This application contributes to literature on Lefebvre's spatial theory (Shields: 1999; Elden: 2004b) developing from theory into instruments for urban analysis. Another significant implication is the possible addition to Soja's (1996) term *Thirdspace*, defined as Representational Space or the experiential/perceived, centre/periphery, abstract/concrete, and the conceptual/lived. This term considers the 'Other' as *alterity*, also described by

Sandercock (1998, 163) as a reason for boundary formation in reaction to the fear of the 'Other'.

9.6 Direction for future research and limitations

This research examined community centres through the lived reality and perception of community members and the Representations of Space of architects. The significance lies in contributing to future planning and re-development of cohesive and inclusive settlements that communities can actualise. This could influence future research on methods involving community members, different case study areas, development of spatial theory and the Representations of Space of architects.

Methodology used for this research, of mapping and sort-process supported by semi-structured interviews, could be developed further. With the sort-process, the effect of the content of the q-set's (images for sort-charts) could be investigated. References made to human subjects, other artefacts or symbols and the perceptions formed should be examined. Participants should further photograph their daily activities or observations to form their own q-sets. Categorisation of content was investigated by Habib, Etesam, Ghoddusifar and Mohajeri (2012) to organise different architectural styles. Data were then cross tabulated and examined with a correspondence analysis, as was done with this research. Sort-charts or correspondence analysis could thus be used to involve participants more, or to analyse data derived from images.

Maps of the respective buildings and the immediate environment were used for participants to indicate predetermined codes. These were used to identify networks and aspects of Spatial Practice, Representations of Space and Representational Space. For future research on methods, mapping could be compared with cognitive maps or drawings to determine perceptions of the built environment. Through this comparison, spatial orientation and meaning could be tested on different levels.

In the case of this study, the focus was on two settlements in developing areas of Port Elizabeth. Future research could focus on other areas within Helenvale and Zwide. This research could be extended to the Free State Province, and specifically Bloemfontein. By extending the case studies, the notion of spatial context and texture as described by Lefebvre (1991) could be elaborated on in terms of place and phenomenology.

Representations of Space, as a design process that involves the architect and other professionals, could be investigated in more depth. Through a hermeneutic study of architectural drawings, the fundamentals of the specific design process could be

established. Furthermore, as architects are often the 'other' in communities, the influence of their architectural training and background ought to be investigated, as was the case with Stan Field who studied under Louis Kahn.

Limitations that occurred are the geographic location, limited typological diversity, management of structures, and the lack of quantitative data. Considering the geographic location, other public infrastructures, situated in rural and dense urban environments, could have a different spatial production as opposed to developing areas. Influences such as culture, language, economic circumstances and the existing urban framework, within different locations, might further impact the formation of Spatial Production and Representational Space. Data and findings are thus place specific and cannot be directly compared to other cases. However, the theoretical underpinning could provide the foundation for a subsequent study in other geographic areas.

Typologically, the case studies were limited to public gathering spaces of community centres, excluding schools, libraries, health care and sport facilities. Each typology has a complex background, such as prescribed 'Bantu' schools which had a specific spatial configuration and sociological impact (Lokko: 2000). The author opted for an in depth investigation rather than a comparison between the different typologies. It is therefore recommended to examine each typology in a demarcated geographic area, after which the networks and influences on others can be discussed.

Another area that needs investigation is the managerial issues of public infrastructure. During the investigation, it was found that the functional operation of the structure impacts the actualisation and perception of community centres significantly (Marriot: 1997). The lack of trained staff, resources to facilitate programmes and maintain the structure, indirectly influences perception. Although research has been done on the management of facilities (Marriot: 1997), a link must still be made between functional operation and the formation of Spatial Production and Representational Space. Perhaps this research question is more appropriate for psychologists, social workers or others dealing with social structures and management.

However, to investigate some of the aspects in the above paragraph, quantitative data might have highlighted some issues. Data on spatial use through records could have indicated a correlation between management, function and space. Space syntax investigating movement studies could then further highlight related activities. Although these methods investigate managerial and spatial issues, it diverts from the initial

research question and was, therefore, considered more appropriate for future research endeavours.

9.7 Conclusion: The importance of the relationship between lived reality, perception and architecture

Through the theoretical lens of Lefebvre, the relationship between Spatial Production, Representations of Space and Representational Space has been investigated as perceived and experienced by community members and conceived by architects. This triad of spatial exploration is an ongoing process, continuously producing and altering space. Once the construction of a community centre has been completed, the architectural product is not finite. From the initial planning phase, continuing throughout the life cycle of the building, the concept and physical structure creates a canvas for representation.

In townships and developing communities urban planning and infrastructure have been imposed on communities, resulting in monotonous environments. Jeremy Till described this as community members “not only [being] potentially disempowered but also exposed” (1999, 40). Apart from the lack of representational value, aspects of Spatial Production such as public space are underdeveloped. Although the urban frameworks of modernist grids and their fragmented and secluded nature cannot be altered, infrastructure could make a difference. Public spaces and buildings such as community centres, schools, clinics, parks and pedestrian networks could instigate significant change.

From the findings, the relationship between Lefebvre’s spatial triad was discussed from which three significant aspects were identified. First, through the investigation of the two case studies, a relationship between the architect’s design process and participants’ perception could not be established. The design approach does not influence the lived reality and perception of community members significantly to form a pattern. Perception and lived reality is rather influenced by the urban and classical form of the structure (Spatial Production) in relation to its context. Furthermore, contextual references and networks could contribute to participants’ ability to form constructs of Representational Space. The importance of spatial context and texture is confirmed, influencing both the lived reality and perception of community members. Second, boundaries or spatial definition could be realised either as urban or classical form (Spatial Production) or as Representational Space of effective centrality. Both these rely on architectural elements to be formed, but the first are physical and the latter representational. Third, perception is further formed, not only by Representational Space, but also by Spatial Production



aspects such as form. Again, the formation of Representational Space depends on contextual references and the functional appropriation of the structure, confirming the interdependence of Lefebvre spatial triad.

Although the structures investigated in these case studies cannot be altered, valuable information has been gathered for future development. These include aspects such as the use of space in relation to the management thereof and how archetypes are perceived which could lead to possible identity formation in communities. Considering Lefebvre's spatial triad, each aspect of lived reality (Spatial Production), perception (Representational Space) and architecture (Representations of Space) should be addressed reciprocally when public architecture is produced. For lived reality (Spatial Production), the importance of community and contextual integration has been established which requires the architect's involvement and consultation (Representations of Space) from the project's initiation. Furthermore, as each building is unique, perception (Representational Space) will always be subjective, but architectural elements and contextual references can contribute to the appropriation and meaning formation of infrastructure. This process is important to gradually instigate the needed change in townships; to break down barriers of segregation through network formation, to form public spaces that promote social interaction and to create a sense of identity through representational qualities.



Bibliography

- Adhya, A. 2008. *The public realm as a place of everyday urbanism: learning from four college towns*. Unpublished thesis (PhD). Michigan: The University of Michigan.
- Alley, R. 1981. *Catalogue of the Tate Gallery's Collection of Modern Art other than Works by British Artists*. London: Tate Gallery.
- Amin, A. 2008. Collective culture and urban public space. *City*, 12(1), pp.5–24. Available from: <<http://dx.doi.org/10.1080/13604810801933495>> [Accessed on 24 April 2015].
- Amsden, J. & van Wynberge, R. 2005. Community mapping as a research tool with youth. *Action Research*, 3(4), pp.357–381. Available from: <<http://arj.sagepub.com/content/>> [Accessed on 20 January 2014].
- Appleyard, D. 1976. *Planning a pluralist city*. Cambridge: MIT Press.
- Appleyard, D. 1980. Why buildings are known. In: Broadbent, J., Bunt, R., & Llorens, T. (Eds.). *Meaning and behaviour in the built environment*. New York: John Wiley & Sons.
- Appleyard, D. 1982. *Liveable streets*. Berkeley: MIT Press.
- Arendt, H. 1998. *The human condition*. 2nd ed. London: University of Chicago.
- Augé, M. 2008. *Non-places: An introduction to supermodernity*. London: Verso.
- Bachelard, G. 1994. *The poetics of space*. Boston: Beacon.
- Bafna, S. 2003. Space syntax: A brief introduction to its logic and analytical techniques. *Environment and Behaviour*, 35(1), pp.17–29.
- Baker, G.H. 1989. *Design strategies in architecture: An approach to the analysis of form*. London: Van Nostrand Reinhold International.
- Banerjee, T.K. 1971. *Urban experience and the development of the city image: A study in environmental perception and learning*. Massachusetts: Massachusetts Institute of Technology.
- Bendixen, M. 2003. A practical guide to the use of Correspondence Analysis in Marketing Research. *Marketing Bulletin*, 13(2).
- Bhabha, H.K. 1994. *The location of culture*. London: Routledge.
- Bremner, L. 2010. *Writing the city into being: Essays on Johannesburg 1998-2008*. Johannesburg: Fourthwall Books.
- Brenner, M., Brown, J. & Canter, D. (Eds). 1985. *The research interview: Uses and approaches*. London: Academic Press.

- Calderwood, D.M. 1953. *Native housing in South Africa*. Johannesburg: University of the Witwatersrand.
- Canter, D. 1996. A multiple sorting procedure for studying conceptual systems. In: *Psychology in Action*. Hantshire: Dartmouth Publishing Company, pp. 71–106. Available from: <<http://eprints.hud.ac.uk/9225/>> [Accessed 17 January 2014].
- Canter, D., Brown, J. & Groat, L. 1985. A multiple sorting procedure for studying conceptual systems. In: Brenner, M., Brown, J. & Canter, D. (Ed.). *The research interview: uses and approaches*. London: Academic Press, pp. 79–114.
- De Certeau, M. 1988. *The practice of everyday life*. Berkeley: University of California Press.
- Chase, J., Crawford, M. & Kaliski, J. (Eds). 1999. *Everyday urbanism*. New York: The Monacelli Press.
- Ching, F.D.K. 1996. *Architecture: Form, space and order*. 2nd ed. New York: John Wiley & Sons, Inc.
- Clark, R.H. & Pause, M. 1996. *Precedents in architecture*. New York: John Wiley & Sons.
- Coetzer, N. 2013. *Building apartheid: On architecture and Other in imperial Cape Town*. London: Ashgate.
- Connell, P.H., Irvine-Smith, C., Jonas, K., Kantorowich, R. & Wepener, F.J. 1939. *Native housing: A collective thesis*. Witwatersrand.
- CSIR. 2005. *Guidelines for human settlement planning and design*. Pretoria. Available from: <http://www.csir.co.za/Built_environment/RedBook/> [Accessed 26 November 2013].
- Davies, W.J. 1971. *Patterns of non-white population distribution in Port Elizabeth with special reference to the application of the Group Area Act*. University of Port Elizabeth.
- Desmond, T. 1999. *No future without forgiveness*. New York: Doubleday.
- Elden, S. 2004a. Between Marx and Heidegger: Politics, philosophy and Lefebvre's The Production of Space. In: *Antipode*. Oxford: Blackwell.
- Elden, S. 2004b. *Understanding Henri Lefebvre: Theory and the possible*. London: Continuum.
- Elden, S., Lebas, E. & Kofman, E. (Eds). 2003. *Henri Lefebvre: Key writings*. London: Continuum.
- Entrikin, J.N. & Berdoulay, V. 2005. The Pyrenees as place : Lefebvre as guide. *Progress in Human Geography*, 29(2), pp.129–147.
- Fanon, F. 2008. *Black skin, white masks*. New York: Grove Press.

- Findley, L. 2005. *Building memory, building change- architecture, politics and cultural agency*. New York: Routledge.
- Fisher, R. 1981. From grass-roots organizing to community service: Community organization practice in the community center movement, 1907–1930. In: Fisher, R. & Romanofsky, P. (Eds.). *Community organization for urban social change: A historical perspective*. Wesport: Greenwood Press, pp. 35–58.
- Fisher, R. 1994. *Let the people decide: Neighborhood organizing in America*. New York: Twayne.
- Fitchet, A. 2009. Alexandra heritage centre. In: Joubert, O. (Ed.). *10 Years 100 buildings: Architecture in a democratic South Africa*. Cape Town: Bell-Roberts.
- Fraser, N. 1993. Rethinking the public sphere: A contribution to the critique of actually existing democracy. In: Calhoun, C. (Ed.). *Habermas and the public sphere*. Cambridge: MIT Press.
- Gehl, J. 1987. *Life between buildings: Using public space*. New York: Van Nostrand Reinhold Company.
- Goffman, E. 1963. *Behavior in public places: Notes on social organization of gatherings*. New York: The Free Press.
- Goffman, E. 2005. *Interaction ritual: Essays in face - to - face behavior*. New Jersey: Transaction Publishers.
- Goffman, E. 2010. *Relations in public: Micro-studies of public order*. New Jersey: Transaction Publishers.
- Greenacre, M.J. 1984. *Theory and applications of correspondence analysis*. London: Academic Press Inc.
- Greenacre, M.J. 1993. *Interdisciplinary statistics: Correspondence analysis in practice* 2nd ed. Boca Raton: Academic Press.
- Groat, L. 1982. Meaning in post-modern architecture: An examination using the multiple sorting task. *Journal of Environmental Psychology*, 2(3), pp.3–22.
- Groat, L. & Canter, D.V. 1979. Does post-modernism communicate? *Progressive Architecture*, December, pp.84–87.
- Habermas, J. 2011. *The structural transformation of the public sphere*. Cambridge: Polity Press.
- Habib, F., Etesam, I., Ghoddusifar, S.H. & Mohajeri, N. 2012. Correspondence Analysis: A new method for analyzing qualitative data in architecture. *Nexus Netw J*, 14(3), pp.517–538.
- Hair, J.F., Anderson, R.E., Tatham, R.L. & Black, W.C. 2009. *Multivariate data analysis*. 7th ed. New Jersey: Prentice Hall.

- Hajer, M. & Reijndorp, A. 2001. *Public domain: Analysis and strategy*. Netherlands: NAI Publishers.
- Heidegger, M. 1967. *Being and time*. Oxford: Basil Blackwell.
- Hénaff, M. & Strong, T.B. 2001. *Public Space and Democracy*. Minneapolis: University of Minnesota Press.
- Heraldine, M. 1996. *Port Elizabeth: A social chronicle to the end of 1945*. Port Elizabeth: E.H. Walton Packaging.
- Herholdt, A. (Ed). 2013. *Coastal contemporary. Architecture of Nelson Mandela Bay: 2000-2013*. Port Elizabeth: DOT Matrix.
- Hill, J. 2001. The Use of Architects. *Urban Studies*, 38(2), pp.351–365. Available from: <<http://0-web.a.ebscohost.com/wagtail.ufs.ac.za/ehost/pdfviewer/pdfviewer?vid=13&sid=dacdab3a-d1d1-41f4-9690-376df367c220@sessionmgr4002&hid=4114>> [Accessed 17 February].
- Hillier, B. & Hansen, J. 1989. *The social logic of space*. London: Cambridge University Press.
- Holl, S., Pallasmaa, J. & Pérez-Gómez, A. 2006. *Questions of perception: Phenomenology of architecture*. San Francisco: William Stout.
- De Jager, S. 2012. Investment transforms once ailing suburb. *Weekend Post*, 29 Sept., p.4.
- De Jager, S. 2013. Statue honours children: Artwork is part of initiative to upgrade impoverished Helenvale. *The Herald*, 29 July, p.5.
- Kaplan, R. 1976. Way-finding in the natural environment. In: Moore, G. T. & Golledge, R. G. (Eds.). *Environmental knowing*. Stroudsburg: Dowden, Hutchinson & Ross, Inc.
- Kohn, M. 2004. *Brave new neighborhoods: The privatization of public space*. New York: Routledge.
- Krige, D.S. 1989. *Apartheidsbeplanning in die Bloemfontein- Botshabelo- Thaba Nchu streek*. University of the Orange Free State.
- Landman, K. 2006. Socio-spatial transformation in Africa: a framework to map the process and guide the planning of future cities. In: *Planning Africa*. Cape Town, pp. 1–22. Available from: <<http://stepsatest.csir.co.za/events-1/events-folder/sacn-city-transformation-event-documents/socio-spatial-transformation-in-africa-a-framework-to-map-the-process-and-guide-the-planning-of-future-cities>> [Accessed 20 August 2013].
- Lee, R.E., Booth, K.M., Reese-Smith, J., Regan, G.R. & Howard, H.H. 2005. The physical activity resource assessment (PARA) instrument: evaluating features, amenities and incivilities of physical activity resources in urban neighborhoods. *International Journal*

of *Behavioral Nutrition and Physical Activity*, 2(13). Available from: http://grants.hhp.uh.edu/undo/?page_id=21 [Accessed 20 June 2013].

- Lefebvre, H. 1956. *Pignon*. Paris: Le musée de poche.
- Lefebvre, H. 1965. *Pyrénées*. Lausanne: Éditions Rencontre.
- Lefebvre, H. 1968. *The sociology of Marx*. New York: Pantheon Books.
- Lefebvre, H. 1978. Les contradictions de l'État moderne: La dialectique et. *De l'État*, 4.
- Lefebvre, H. 1991. *The production of space*. Oxford: Blackwell.
- Lefebvre, H. 2002. *Critique of everyday life*. London: Verso.
- Lefebvre, H. 2003a. Preface to the study of the habitat of the pavillon (from L'habitat pavillonnaire, 1966). In: Elden, S., Lebas, E., & Kofman, E. (Eds.). *Henri Lefebvre: key writings*. New York: Continuum.
- Lefebvre, H. 2003b. *The urban revolution*. Minneapolis: University of Minnesota Press.
- Lefebvre, H. 2003c. Triads and dyads. In: Elden, S., Lebas, E., & Kofman, E. (Eds.). *Henri Lefebvre: Key writings*. New York: Continuum, pp. 50–56.
- Lefebvre, H. 2014. *Toward an architecture of enjoyment*. Stanek, L. (Ed.). Minneapolis: University of Minnesota Press.
- Lofland, L.H. 1998. *The public realm: Exploring the city's quintessential social territory*. New York: Transaction Publishers.
- Lokko, L.N.N. 2000. *White paper, black marks: architecture, race, culture*. London: Athlone.
- Low, I. 2003. Space and transformation: architecture and identity. *Digest of South African Architecture*.
- Lundahl, E. & Södergren, N. 2008. *Township upgrading of Helenvale: Port Elizabeth, South Africa*. Blekinge Institute of Technology.
- Lusk, A. 2002. *Greenways' places of the heart: Aesthetic guidelines for bicycle paths*. Unpublished thesis (PhD). Michigan: University of Michigan.
- Lynch, K. 1960. *The Image of the City*. Massachusetts: MIT Press.
- Lynch, K. 1995. Reconsidering The Image of the City. In: Banerjee, T. & Southworth, M. (Eds.). *City sense and city design: writings and projects of Kevin Lynch*. Massachusetts: MIT Press.
- Madanipour, A. 2003. *Public and private spaces of the city*. London: Routledge.

- Madanipour, A. 2007. *Designing the city of reason: Foundations and frameworks*. London: Routledge.
- Marien, M.W. & Fleming, W. 2005. *Fleming's arts and ideas*. 10th ed. London: Thomson Wadsworth.
- Marriot, P. 1997. *Forgotten resources? The role of community buildings in strengthening local communities*. York: York Publishing Services.
- Marx, K. 1983. *Capital: A critique of political economy; Volume 1*. London: Lawrence & Wishart.
- Masondo, S. 2009. Troubled Helenvale to get R40m centre to help combat problems. *The Herald*, 16 Mar., p.5.
- Massey, D. 2005. *For space*. London: Sage.
- Matavire, M. 2007. Crime-ridden Helenvale to get a comprehensive makeover. *The Herald*, 13 June, p.8.
- Mathewson, J.E. 1956. *The establishment of an urban Bantu township: With special reference to Daveyton*. Published thesis (M). Potchefstroom.
- Mbembe, J.A. 2001. *On the postcolony*. Berkeley: University of California Press.
- McClenaghan, C. 2003. Cato Manor Heritage Centre. *Architecture South Africa*, Nov./Dec., pp.18–21.
- Merleau-Ponty, M. 1964. *The primacy of perception: And other essays on phenomenological psychology*. Evanston: Northwestern University Press.
- Mess, H.A. & King, H. 1947. Voluntary Social Services since 1918. In: London: Kegan Paul.
- Miles, M.B. & Huberman, A.M. 1994. *Qualitative data analysis*. 2nd ed. Thousand Oaks: Sage.
- Mini, P. 2012. Contractors out in cold: SMMEs claim HURP has turned back on them after promising jobs. *The Herald*, 13 Nov., p.5.
- Mitchell, D. 1995. The end of public space? People's park, definitions of the public, and Democracy. *Annals of the Association of American Geographers*, 85(1), pp.108–133. Available from: <<http://www.jstor.org/stable/2564281>> [Accessed 21 February 2012].
- Mitchell, D. 2003. *The right to the city: social justice and the fight for public space*. New York: Guilford.
- Morejele, M. 2006. Red Location Museum of Struggle. In: *Between ownership & belonging - transitional space in the post-apartheid metropolis*. Pretoria: Department of Foreign Affairs.

- Morojele, M. 2003. Space and identity- from the grassroots to the global. *Digest of South African Architecture*, pp.104–105.
- Murray, N. 2007. Remaking Modernism: South African architecture in and out of time. In: Murray, N., Shepherd, N., & Hall, M. (Eds.). *Desire lines: Space, memory and identity in the post-apartheid city*. London: Routledge, pp. 43–65.
- Murray, N. & Witz, L. 2014. *Hostels, homes, museums: Memorialising migrant labour pasts in Lwandle, South Africa*. Cape Town: UCT Press.
- no author 1. 1986. Minor community hall, Erica ext 9, Belhar, Cape. *Journal of the South African Institute of Architects*, pp.37–39.
- no author 2. 1988. Salt River community centre. *Journal of the South African Institute of Architects*, 34(11), p.22.
- no author 3. 1999. Bopitikelo Molatedi community and cultural centre: Peter Rich Architects. *South African Architect*, April, pp.16–17.
- no author 4. 2000. Paternoster community centre. *South African Architect*, Jan/ Feb, pp.48–49.
- no author 5. 2002. A place of reconciliation. *Journal of the South African Institute of Architects*, Aug/ Sept, p.21.
- NOAA Coastal Services Center. 2009. Stakeholder engagement strategies for participatory mapping.
- Noble, J.A. 2011. *African identity in post-apartheid public architecture: White skin, black masks*. England: Ashgate.
- Parkinson, J.R. 2006. Holistic democracy and physical public space. *British Journal of Political Science Conference*, pp.1–17. Available from: <[http://johnrparkinson.net/Democracy and public space - BJPoIS conf.pdf](http://johnrparkinson.net/Democracy%20and%20public%20space%20-%20BJPoIS%20conf.pdf)> [Accessed 4 June 2013].
- Parkinson, J.R. 2012. *Democracy & public space: The physical sites of democratic performance*. New York: Oxford University Press.
- Pathways through Participation 2010. Using participatory mapping to explore participation in three communities. Available from: <<http://pathwaysthroughparticipation.org.uk/resources/finalreport/>> [Accessed 23 January 2014].
- Pérez-Gómez, A. & Pelletier, L. 1992. Architectural representation beyond perspectivism. *Perspecta*, 27, pp.21–39. Available from: <<http://www.jstor.org/stable/1567174>> [Accessed 12 March 2013].
- Peters, W. (Ed). 2002. Intuthukho Junction, Cato Manor. *KZ-NIA Journal*, 1, pp.8–9.
- Peters, W. 2009. Intuthukho Junction. In: Joubert, O. (Ed.). *10 Years 100 buildings: Architecture in a democratic South Africa*. Cape Town: Bell-Roberts.

- Pevsner, N. 1976. *A history of building types*. London: Thames and Hudson.
- Phaidon. 2008. *Phaidon atlas of 21st century world architecture*. London: Phaidon.
- Pignon, E. 1956. *Pignon*. Paris: Edition Falaise.
- Preziosi, D. 1979. *Architecture, language, and meaning*. New York: Mouton.
- Prinsloo, R., Jansen-Verbeke, M. & Vanneste, D. 1999. *South Africa: Spatial transformation in the post-apartheid era*. Leusden: Acco.
- Van Rensburg, R.J. & Da Costa, M. 2008. Space as ritual: rethinking spatial strategies in the African city. *South African Journal of Art History*, 33(3), pp.43–55.
- Robinson, J. 1996. *The power of apartheid: state, power and space in South African cities*. London: Butterworth-Heinemann.
- Roth, L.M. 1993. *Understanding architecture: Its elements, history and meaning*. New York: Harper Collins.
- Sandercock, L. 1998. *Towards cosmopolis: Planning for multicultural cities*. New York: John Wiley & Sons.
- Scott, M.J. & Canter, D. V. 1997. Picture or place? A multiple sorting study of landscape. *Journal of Environmental Psychology*, 17, pp.263–281.
- Shields, R. 1999. *Lefebvre, love and struggle: Spatial dialectics*. New York: Routledge.
- Silverman, D. (Ed). 2011. *Qualitative research*. 3rd ed. London: Sage.
- Smith, M.K. "Community centres (centers) and associations", the encyclopedia of informal education. Available from: <<http://www.infed.org/mobi/community-centers-and-associations>> [Accessed 8 October 2013].
- Soja, E.W. 1996. *Thirdspace: Journeys to Los Angeles and other real-and-imagined places*. Oxford: Blackwell.
- Solzhenitsyn, A. 1974. *The Gulag archipelago*. London: Collins.
- Stanek, L. 2011. *Henri Lefebvre on space: architecture, urban research, and the production of theory*. Minneapolis: University of Minnesota Press.
- Storti, D. Correspondence analysis. Available from: <http://www.unesco.org/webworld/idams/advguide/Chapt6_5.htm> [Accessed on 15 September 2014].
- Stubblefield, H.W. & Keane, P. 1994. *Adult education in the American experience: From the colonial period to the present*. California: Jossey-Bass.
- Tang, L. & Ding, W. 2013. A tentative approach to mapping street space: a case study of Chinese Central urban districts. *Future Publics: Politics and Space in East Asia's Cities*, pp.91–106. Available from: <[248](http://0-</p>
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- web.a.ebscohost.com.wagtail.ufs.ac.za/ehost/pdfviewer/pdfviewer?vid=8&sid=10fdb4e5-9bf3-4c57-8194-69f13be99e42%40sessionmgr4001&hid=4114> [Accessed 22 February 2014].
- Till, J. 1999. Architecture of the impure community. In: Hill, J. (Ed.). *Occupying architecture: Between the architect and user*. London: Routledge, pp. 34–42.
- Trevelyan, G.M. 1946. *English social history: a survey of six centuries: Chaucer to Queen Victoria*. London: Longmans, Green and Co.
- Twelvetrees, A.C. 1976. *Community associations and centres: A comparative study*. Oxford: Pergamon Press Ltd.
- Vajjhala, S.P. 2005. Integrating GIS and Participatory Mapping in Community. In: *ESRI International User Conference, Sustainable Development and Humanitarian Affairs Track*. Available from: <<http://proceedings.esri.com/library/userconf/proc05/papers/pap1622.pdf>> [Accessed 25 February 2014].
- Venturi, R. & Brown, S. 2004. *Architecture as signs and systems*. London: Belknap Press of Harvard University Press.
- Vidler, A. 2000. Diagrams of diagrams: architectural abstraction and modern representation. *Representations*, 72, pp.1–20. Available from: <<http://www.jstor.org/stable/2902906>> [Accessed 10 January 2012].
- White, E.T. 1983. *Site analysis: diagramming information for architectural design*. Tucson: Architectural Media.
- Williams, L. 2011. Hope for project in H'vale. *The Herald*, 30 Nov., p.6.
- Wilson, G. 2014. Helenvale mob justice threat. *Herald Live*. Available from: <<http://www.heraldlive.co.za/boy-16-shot-in-helenvale/>> [Accessed 28 January 2015].
- Wirth, L. 1938. Urbanism was a way of life. *The American Journal of Sociology*, 44(1). Available from: <<http://www.jstor.org/stable/2768119>> [Accessed 27 November 2014].
- De Wit, A.H. 1994. *Die geografie van ongelykheid: Bloemfontein as gevalllestudie*. MA Thesis. Universiteit van die Oranje-Vrystaat.
- Zeisel, J. & Griffin, M. 1975. *Charlesview Housing: a diagnostic evaluation*. Massachusetts: Architecture Research Office, Graduate School of Design, Harvard University.

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Appendix I. Ethical clearance



25 February 2014

Mrs M. M. Stoffberg
Department of Architecture
UFS

ETHICAL CLEARANCE APPLICATION: Spatial transformation: production of space in selected community centres built after democracy in South Africa

Dear Mrs Stoffberg

With reference to your application for ethical clearance with the Faculty of the Humanities, I am pleased to inform you on behalf of the Ethics Board of the faculty that you have been granted ethical clearance for your research, with specific stipulations, outlined below.

Your ethical clearance number, to be used in all correspondence, is:

UFS-HUM-19

The committee wishes the following stipulations to be noted:

- If children are to participate in this study, the researcher should consider simplifying the interview schedule and consent form, and state that the forms will be supplemented with a verbal explanation of their contents.
- Also, there was some concern about your suggested procedure for recruitment of participants on-site, especially if the participants will include children. How would the researcher go about obtaining parental consent?
- In this regard, the committee suggests that the researcher cooperate with authorities of the relevant centres, so that interviewers may be identified clearly on-site, so that, when they approach children to participate in the study, no precedent may be set that could be abused by other persons with malicious intent.

This ethical clearance number is valid for research conducted for one year from issuance. Should you require more time to complete this research, please apply for an extension in writing.

We request that any changes that may take place during the course of your research project be submitted in writing to the ethics office to ensure we are kept up to date with your progress and any ethical implications that may arise.

Thank you for submitting this proposal for ethical clearance and we wish you every success with your research.

Yours sincerely,

Katinka de Wet
Ethics Committee (Faculty of the Humanities)

Copy: Ms C. van der Walt (Research Co-ordinator: Faculty of the Humanities)

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Appendix II. Pilot study 1: Mapping of Belhar community hall

Belhar Community Centre
 Belhar, Cape Town
 Research on the influence of architecture on human activity

Name _____ Date _____
 Age _____ Occupation _____
 Male/ Female _____ Language _____

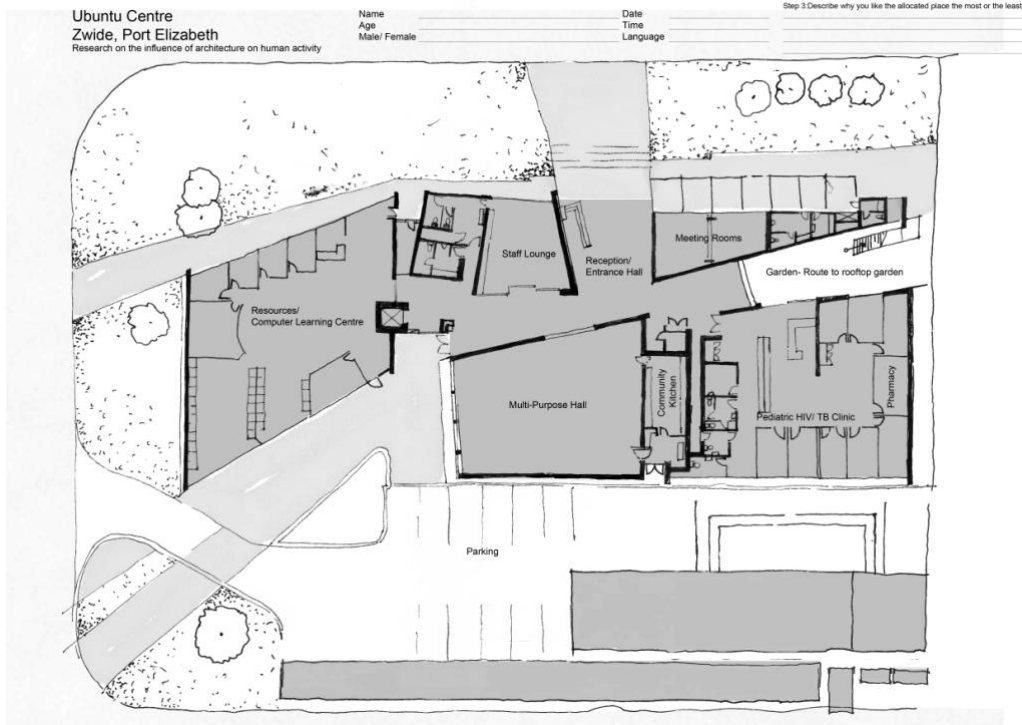
Appendix III. Pilot study 1: Mapping of Red Location precinct

Red Location Precinct
 New Brighton, Port Elizabeth
 Research on the influence of architecture on human activity

Name _____ Date _____
 Age _____ Time _____
 Male/ Female _____ Language _____

Step 3 Describe why you like the allocated place the most or the least.

Appendix IV. Pilot study 1: Mapping of Ubuntu community centre





Appendix V. PARA assessment document

Case Study:		Address:	
1] Date			
2] Time			
3] Type of Resource		4] Size: m ²	
a] Community Centre			
b] Library			
c] Gallery			
d] Cultural Centre			
e] Other			
5] Cost	Free	<input type="checkbox"/>	Pay only for certain programs
	Pay at door	<input type="checkbox"/>	Other
6] Hours			
A] Open			
B] Close			
7] Signage of hours	Yes	<input type="checkbox"/>	No
		<input type="checkbox"/>	
8] Signage Rules		Yes	<input type="checkbox"/>
		No	<input type="checkbox"/>
9] Ownership of building			
10] Management of facility			
11] Source of funds			
12] Hiring of facilities			
13] Allowed activities			
Access to grounds			
A	Yes	No	
14] Gate	<input type="checkbox"/>	<input type="checkbox"/>	Material
			Height
15] Fence	<input type="checkbox"/>	<input type="checkbox"/>	Material
			Height
16] Access control	<input type="checkbox"/>	<input type="checkbox"/>	Type
17] Security guard	<input type="checkbox"/>	<input type="checkbox"/>	Location
18] Detection system	<input type="checkbox"/>	<input type="checkbox"/>	Location
19] Reception	<input type="checkbox"/>	<input type="checkbox"/>	Location
20] Staff member	<input type="checkbox"/>	<input type="checkbox"/>	Language
21] Parking	<input type="checkbox"/>	<input type="checkbox"/>	Amount
Distance to entrance[meters]			
Feature			
B	0	1	2
	3		
22] Workshops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23] Library	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24] Reading room	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25] Multi-functional space	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26] Permanent clinic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27] Kitchen/ Feeding scheme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28] IT Facilities (computer)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29] Internet connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30] Public telephones	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31] Rental space	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specify:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32] Sport facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





Specify:					
33] Soccer field					
34] Bike rack					
35] Exercise station/ Gym					
36] Play equipment					
37] Hall					
38] Foyer					
Comments:					
Amenity	C	0	1	2	3
39] Access points					
40] Bathrooms					
41] Showers					
42] Lockers					
43] Seating					
44] Tables					
45] Potable water					
46] Lighting					
47] Shelter					
48] Shade (Vegetation)					
49] Landscaping					
50] Dustbins(Waste)					
51] Walkways					
52] Community Garden					
Incivilities	D	0	1	2	3
53] Auditory annoyance					
54] Broken glass					
55] Broken furniture					
56] Broken lights					
57] Dog refuse					
58] Dogs unattended					
59] Animals unattended					
60] Evidence of alcohol abuse					
61] Evidence of substance abuse					
62] Graffiti					
63] Litter					
64] No grass					
65] Overgrown grass					
66] Sex paraphernalia					
67] Vandalism					
Comments:					



Appendix VI. PARA assessment protocol

Environmental analysis of the built environment				
Access to Grounds-- Numbers 14 – 21				
Answer each question with yes or no. If yes, provide the required description.				
Features -- Numbers 22 – 40				
Rate each item by circling a number. Operational definitions describing each are found below, in the section on <i>Operational Definitions</i> .				
0 = Not Present 1 = Poor 2 = Mediocre 3 = Good				
Special note on item 16) Play Equipment. If it is 'typical' equipment such as a slide, swings, horizontal bar; no description is necessary.				
When the equipment is unusual, please describe and use the Comments space as necessary.				
Amenities -- Numbers 41 - 54				
Rate each item by circling a number. Operational definitions describing each are found below, in the section on <i>Operational Definitions</i> .				
0 = Not Present 1 = Poor 2 = Mediocre 3 = Good				
Incivilities Numbers 55 - 69				
Rate each item by circling a number. Operational definitions describing each are found below, in the section on <i>Operational Definitions</i> .				
0 = Not Present 1 = Poor 2 = Bad 3 = Very Bad				
	Features	Poor	Mediocre	Good
22	Workshops	No equipment or in a dysfunctional state. Room not suitable for task related work.	Equipment need minor repair. Natural light and windows in room not enough. Inadequate storage.	Equipment in working condition. Room is maintained with adequate lighting, fresh air and storage.
23	Library	Space not functional. No books or in a derelict state.	Space functional, minor changes required. Books need slight repair. More books can be acquired.	Space functional with adequate lighting. Books in a good condition. Variety of books adequate.
24	Reading room	Light for reading not adequate. Seating and desks in dysfunctional condition.	More natural daylight required. Desks and seating not enough.	Enough seating and natural daylight. Desks are provided.
25	Multi-functional space	Space not functional.	Space adequate. Repair to furniture and fixtures required.	Space fully functional and all fixtures in working condition.

26	Permanent clinic	Equipment not in working condition. Place is dirty and unhygienic. No medical supplies.	Some equipment is not working. Space is adequate. Some medical supplies are out of stock.	All the equipment is in working condition. Space is adequate and in a hygienic condition.
27	Kitchen/ Feeding scheme	Space too small. Cooking equipment not in functional condition. Unhygienic conditions.	Space is adequate. Inappropriate cooking equipment.	Space is adequate. Cooking equipment adequate. Hygienic environment.
28	IT Facilities (computer)	Computers not in working condition or outdated. Seating and desks not adequate. No one available for assistance.	Some of the computers not in a working condition. More seating and desks required. No qualified person available to help with assistance.	Facilities provided in working condition. Adequate seating and desks. Qualified person available for assistance.
29	Internet connection	No internet connection	Internet connection. Expensive rates.	Internet connection. Allocated free access or affordable rates.
30	Public telephones	Broken equipment. Surroundings not in a good condition.	Equipment in working condition. Repair might be required. Surrounding area needs maintenance.	Equipment in working condition. Surrounding area in good condition.
31	Rental space	Space not in good condition.	Minor repairs required.	Space in good condition.
	Specify:			
32	Sport facilities	Not in working condition. Safety risk.	In working condition. Minor repairs required.	In working condition. Safe environment.
	Specify:			
33	Soccer field	Grass coverage may be poor in 50% or > of the field, rough surface, hazards and/or trash on the field	Grass coverage may be sparse in a few places, grass may be too high, some trash or debris on field	Field has uniform grass coverage and is well-mowed, no trash or debris on field; nets, if furnished, are intact

34	Bike rack	Rack is in poor condition, almost unstable or has poor access	Rack is bent, or missing paint, but otherwise usable	Rack is sturdy, usable, may have a few cosmetic blemishes
35	Exercise station/ Gym	4 or > stations need major repair – are not safe to use. Signage may be missing or in poor condition for several stations. Path between stations is unsafe.	3 or < stations may need minor repair or maintenance, path between stations need minor improvement	Stations themselves are in good condition and safe. 5 or > stations with safe path between them
36	Play equipment	Several pieces are in need of major repair and is almost or unstable, there is a lot of trash, and the ground is overgrown or barren	Some equipment is in need of minor repair, there is some trash, and the ground needs some improvement	In good condition, variety of pieces, ground in good condition, well-kept and clean
37	Hall	Not in functional condition.	Functional with minor repairs required.	Functional with some cosmetic repairs to be made.
38	Voyeur	Reception area in derelict condition. No seating provided. No staff member.	Reception provided. Seating not adequate. Staff member not always present.	Reception area with seating. Staff member present.
	Amenities	Poor	Mediocre	Good
39	Access points	Some appear as potentially unsafe areas, unkept, not well-marked	Not all access points are clearly marked. Some may have trash or overgrown grass.	Clearly visible, safe, free of debris or overgrown grass. If gated, works properly.
40	Bathrooms	Bathroom is not clean, not well-stocked. More than 50% of fixtures are in disrepair	Bathroom is fairly clean, moderately stocked, and most sinks' and toilets' plumbing is in good working order.	Bathroom is clean, well-lit, stocked, all plumbing is functioning well.
41	Showers	Unclean, may not be well-lit, , plumbing is almost unusable	Most areas are clean, , plumbing could be improved, but works	clean, well-lit, plumbing works well
42	Lockers	Not secure environment to store personal items. Space inadequate and dirty.	Lockers and dressing space provided. Space inadequate, relatively clean.	Lockers and/or dressing space provided with ample space, storage and security.

43	Seating	Benches are in bad condition, unusable	Benches are missing some paint or boards, may be crooked, but otherwise usable	In good condition but could have minor cosmetic flaws
44	Tables	Tables are in bad condition, unusable	Tables are missing some paint or boards, may be crooked, but otherwise usable	In good condition but could have minor cosmetic flaws
45	Potable water	Tap or fountain unusable. Surrounding area inadequate.	Tap, in working condition.	Working, clean fountains with clean surrounding area
46	Lighting	Area has limited lighting, inadequate for safety	They are usable, but need minor repair, partially clean	Area or building has effective overhead lighting which sufficient for safety
47	Shelter	Structures are not intact – so rain would get into area. If seating/tables are present, they are in major need of repair or are missing	Structures are in need of some repair, provide protection from weather. If seating/tables are present they are usable but need minor repair	Structures are intact, provide protection from weather. If seating/tables are present they are clean.
48	Shade (Vegetation)	Existing trees unkept or dead. Not located in the correct area to provide shade.	Trees available in moderate amount. Pruning and maintenance required.	Trees available in correct areas where seating are provided. Trees in healthy condition.
49	Landscaping	Shrubs or flowering plants appear dead or more than 50% overgrown with weeds. (Does not include grass)	Shrubs or flowering plants in ground, but do not appear healthy and/or colorful. Existing weeds.	Attractive live shrubs and/or flowering plants, perhaps decorative material such as rock or mulch
50	Dustbins(Waste)	Unclean and/or in poor condition, more care needed, Full with trash or overflowing.	Partially unclean or in < perfect condition, but scattered, and unstable	Clean on exterior, scattered throughout, not overflowing with trash
51	Walkways	Sidewalk has major damage and needs repair, almost unusable	Sidewalk has some debris, cracks or uneven surfaces, but otherwise usable	Sidewalk is smooth, clear of debris
52	Community Garden	Plants appear dead or more than 50% overgrown with weeds. (Does not include grass)	Edible plants in ground, but do not appear healthy and/or colorful. Existing weeds.	A Variety of healthy vegetables and other edible plants. No weeds, garden are well maintained.

	Incivilities	Poor	Bad	Very Bad
53	Auditory annoyance	Sound is not irritating, but is (hardly) noticeable	Sound(s) is (are) noticeable and interfere(s) with enjoyment of resources	Noticeable sounds which are unpleasant. Reaction is to leave area.
54	Broken glass	A few pieces of broken glass (the equivalent of 1 bottle)	Several pieces of broken glass (the equivalent of 2 – 4 bottles)	Many pieces of broken glass (5+ bottles)
55	Broken furniture	Furniture in a good condition. Minor cosmetic damage might be visible. All pieces in a functional condition.	Several pieces of furniture are broken. Maintenance is required.	All furniture broken and not functional. Replacement required.
56	Broken lights	1 light not working	1-3 lights not working	4+ lights not working
57	Dog refuse	1 refuse pile from dog	2 – 4 dogs refuse piles from dogs	5 or > refuse piles from dogs
58	Dogs unattended	1 dog unattended	2 – 4 dogs unattended; may be associated noise	5 or > dogs unattended, definitely unsafe, may be associated noise
59	Animals unattended [specify]	1 animal unattended	2 – 4 animals unattended; may be associated noise	5 or > animals unattended, definitely unsafe, may be associated noise
60	Evidence of alcohol abuse	1 bottles, cans, or bottle caps visible	2 – 4 bottles, cans, or bottle caps visible	5 or > bottles, cans, or bottle caps visible
61	Evidence of substance abuse	1 piece: syringes, paint cans, rags, baggies, rolling papers	2 – 4 pieces: syringes, paint cans, rags, baggies, rolling papers	5 or > pieces: syringes, paint cans, rags, baggies, rolling papers
62	Graffiti	1-3 small	4+ small or 1 large	6+ small or 2 large
63	Litter	A few items (<5) are on the ground	Several items (5-10) are on the ground	Many items are on the ground (11+)
64	No grass	A small area without grass	A moderate portion of the area without grass	A large area without grass (more than with grass)
65	Overgrown grass	A little bit, hardly noticeable	A moderate amount, noticeable	A lot, very noticeable, may be obstructing some equipment
66	Sex paraphernalia	1 used or unused contraceptive devices and/or 1 pieces of pornographic reading material visible	2 - 4 used or unused contraceptive devices and/or 2 - 4 pieces of pornographic reading material visible	5 or > used or unused contraceptive devices and/or 5 or > pieces of pornographic reading material visible
67	Vandalism	Hardly noticeable, but it appears up to a few pieces of equipment or an area of indoor space has been defaced	Noticeable, more than a few pieces of equipment are vandalized, or < 50 % of the space has been rendered unusable by vandalism	Very noticeable, more equipment in disrepair than in good order, between 50%-100%, because of vandalism. Signs of vandalism are obvious.

Appendix VII. Images for sort-process of pilot study at Lourierpark, Bloemfontein



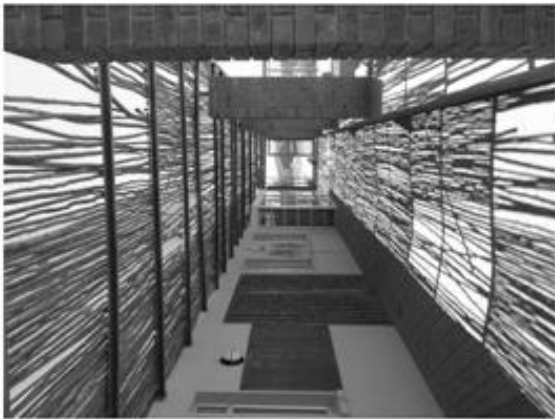






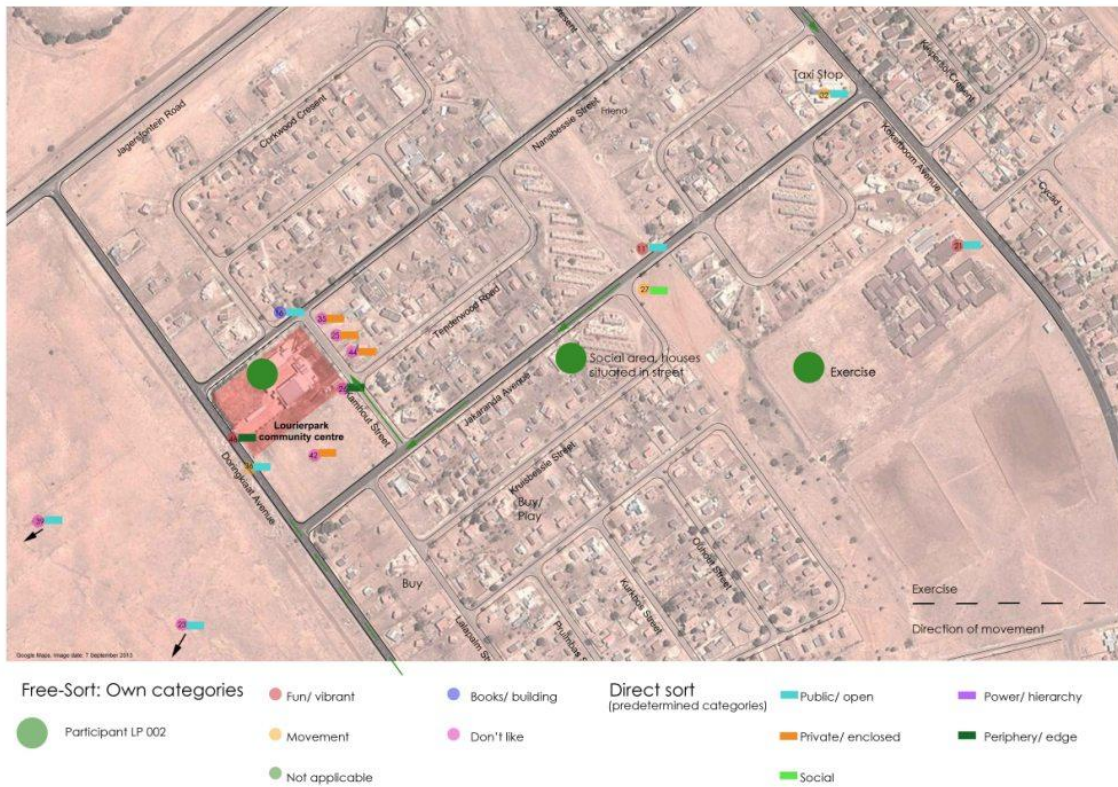




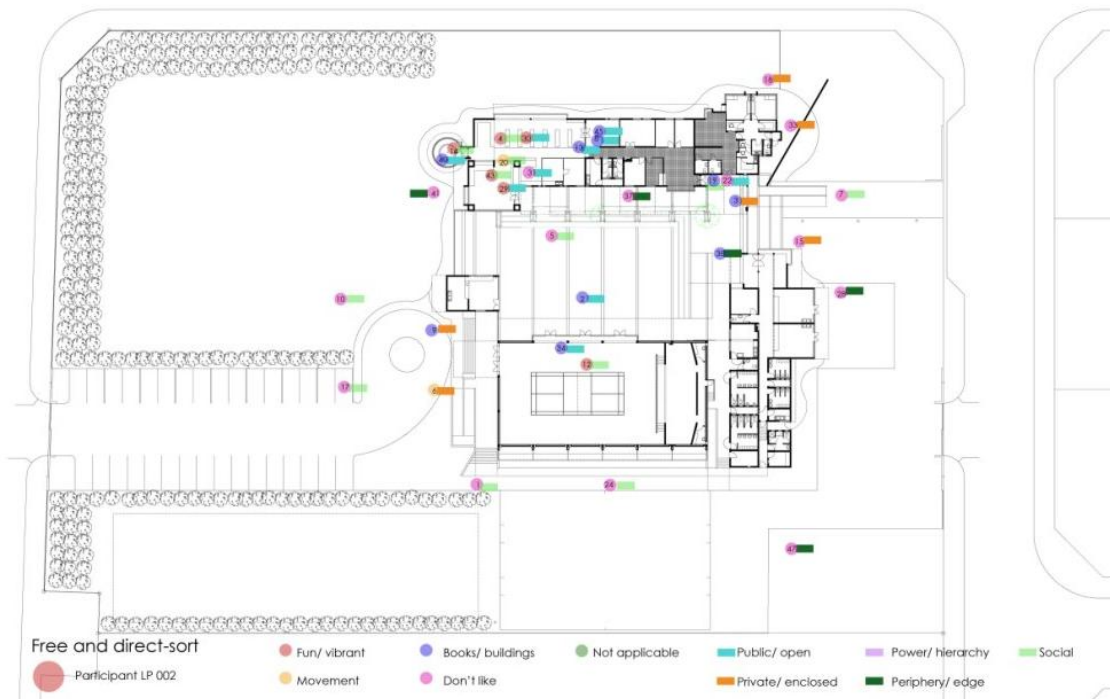




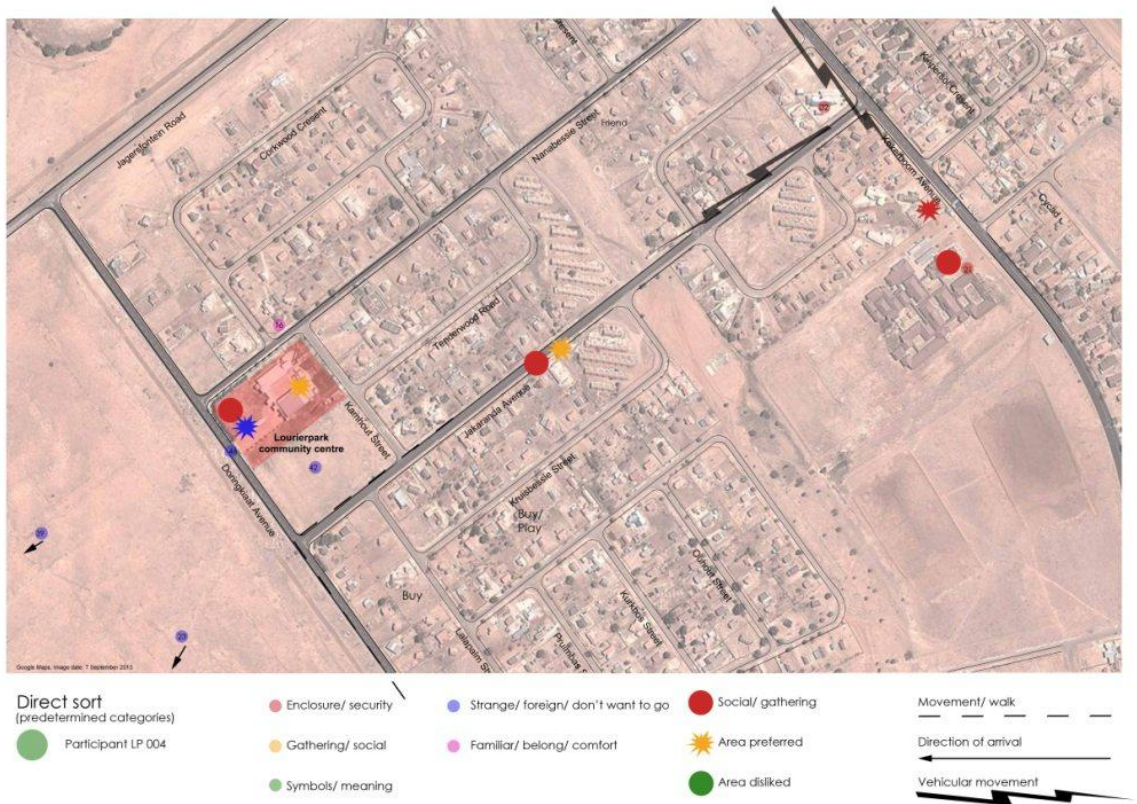
Appendix VIII. Pilot study at Lourierpark community centre: Free-sort on contextual map



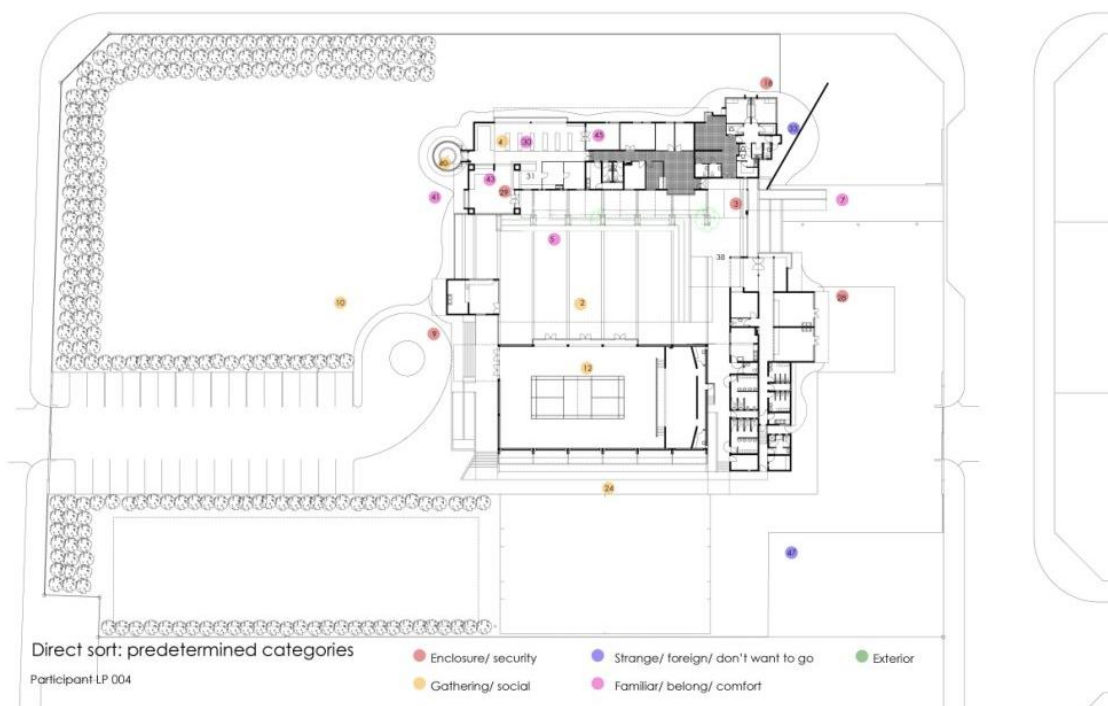
Appendix IX. Pilot study at Lourierpark community centre: Free-sort on plan



Appendix X. Pilot study at Lourierpark community centre: Direct-sort on contextual map

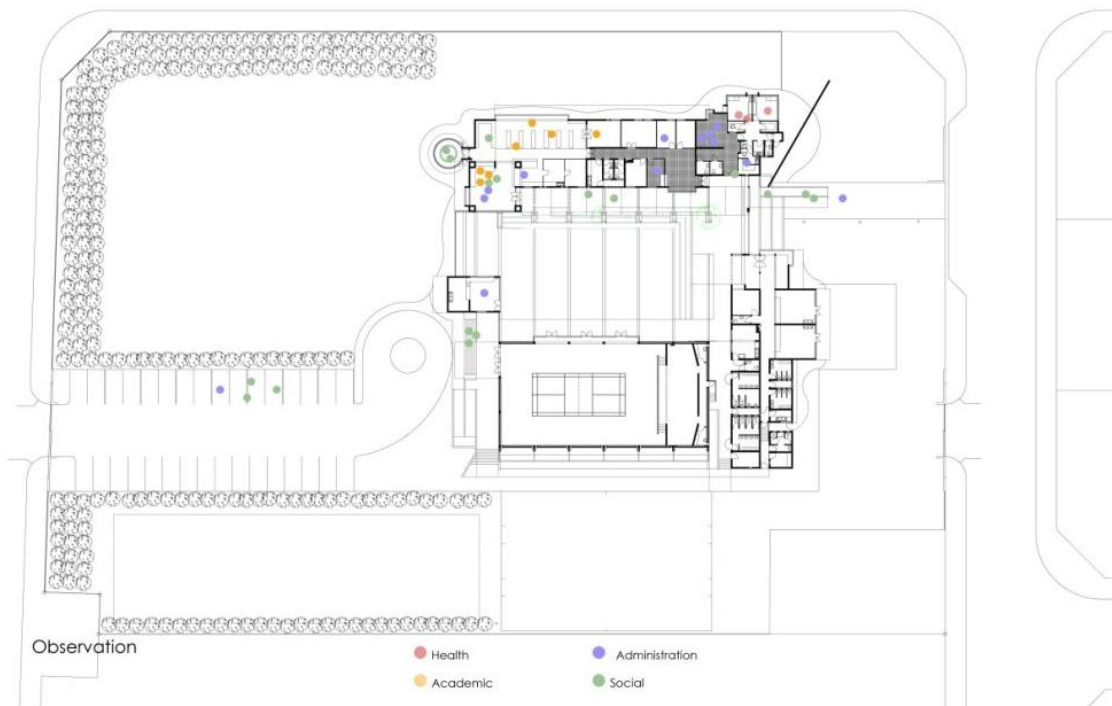


Appendix XI. Pilot study at Lourierpark community centre: Direct-sort on plan





Appendix XII. Pilot study at Lourierpark community centre: Observation of author



Appendix XIII. Protocol for fieldwork and interviews

Preparation done prior to interviews			
Consent form sent to relevant authority of community centre 4 weeks in advance	<ol style="list-style-type: none"> 1. Researcher to be familiarized with the environment. 2. Introduction to relevant authorities. 3. Set up instruments in allocated space 		
Interviews			
Briefing of participant			
Participant to be selected on site.	<ol style="list-style-type: none"> 1. Participant to be briefed about the research project 2. Discussion of the process and expectations 3. Protection of data and information discussed 4. Participants right to withdraw from the study discussed 5. Questions to be asked by participant 	<ol style="list-style-type: none"> 1. Explain the consent form to the participant 2. Participant sign the consent form 	To be repeated until required data is collected Each interview approximately 40 minutes
Preparation	Data Collection		
	Free-sort	Direct sort	
1. Explain the sort- chart process to the participant	<ol style="list-style-type: none"> 1. Participant to organise sort-charts into own categories 2. Questions on this process 3. Researcher to document the sort-chart groups 	<ol style="list-style-type: none"> 1. Participant to organise sort-charts into predetermined categories 2. Questions on this process 3. Researcher to document the sort-chart groups 	
	Networks	Social areas	
1. Explain the process to identify social areas and networks on the provided base map.	<ol style="list-style-type: none"> 1. Participant to place stickers on identified networks. 2. Drawing connections between different networks 3. Questions on network formation 	<ol style="list-style-type: none"> 1. Participant to identify different social areas 2. Participant to draw the circumference of the area 3. Questions on social areas 	
2. Participant familiarises himself with the map			
Debriefing of participant			
Observations: Researcher observing activities			
1. Familiarise with map an site	<ol style="list-style-type: none"> 1. Observe activities at each focus area for 15 minutes 2. Activities to be mapped on the diagram. 	Rotate between the different focus areas	over two consequent days for 8 hours
2. Identify focus areas			



Appendix XIV. Questions for semi-structured interview with community members

Spatial transformation: production of space in selected community centres built after democracy in South Africa

University of the Free State . Department of Architecture

Multiple Sorting Tasks, Identification of social areas and networks on map supported by a semi-structured interviews.

Semi-structured interview questions:

Questions regarding the free-sort process:

1. Please describe your thought process when choosing the categories for the free-sort.
2. Please identify what image/images helped you form the categories?
3. What spatial aspects helped you to make this decision?

Questions regarding the direct sort process:

1. Please describe why you chose to group image "A" into category "one".
2. Identify the spatial aspects that helped you to group the image into the chosen category.
3. What does the place or area identified in the image mean to you in terms of (a) power or (b) public space, or (c) social connectivity?

Questions regarding the identification of social areas:

1. How does the community centre influence the identified social areas?
2. Please describe how you perceive these spaces in terms of (a) power, (b) public space or (c) social connectivity?

Questions regarding the identification of networks:

1. How does the community centre influence the different networks within the area?
2. Please describe why the identified nodes within the network are important spaces?
3. Please explain where and why this network is perceived as (a) power, (b) public, or (c) social connectivity.





Appendix XV. Superimposed base map of Helenvale multi-purpose resources centre



Appendix XVI. Superimposed base map of Ubuntu community centre



Appendix XVII. Q-sets of the Helenvale multi-purpose resources centre







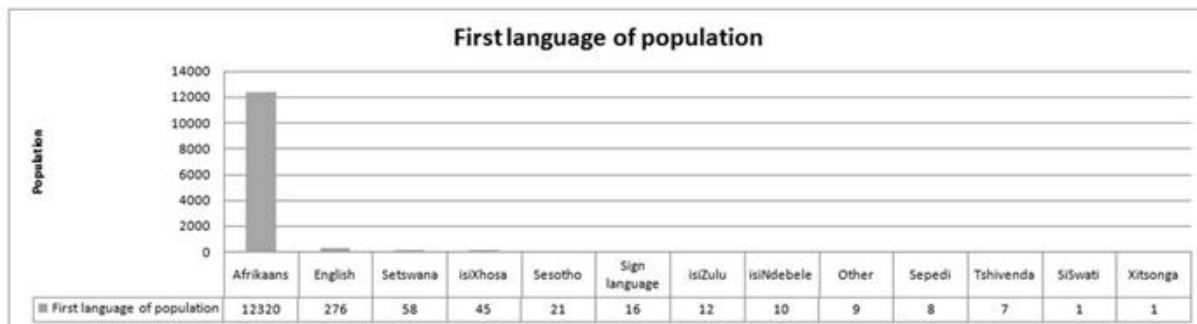
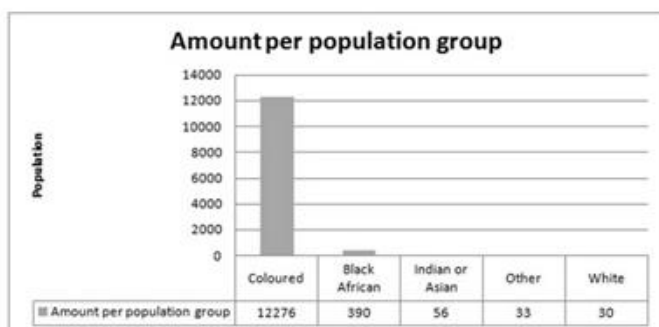
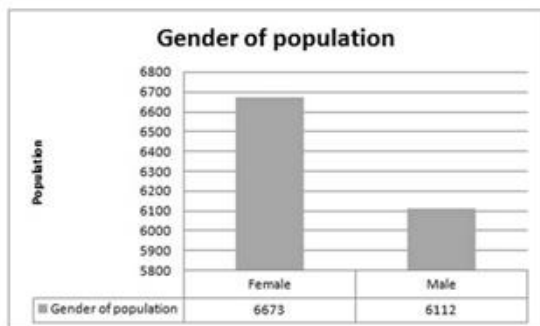
Appendix XVIII. Q-sets of the Ubuntu community centre



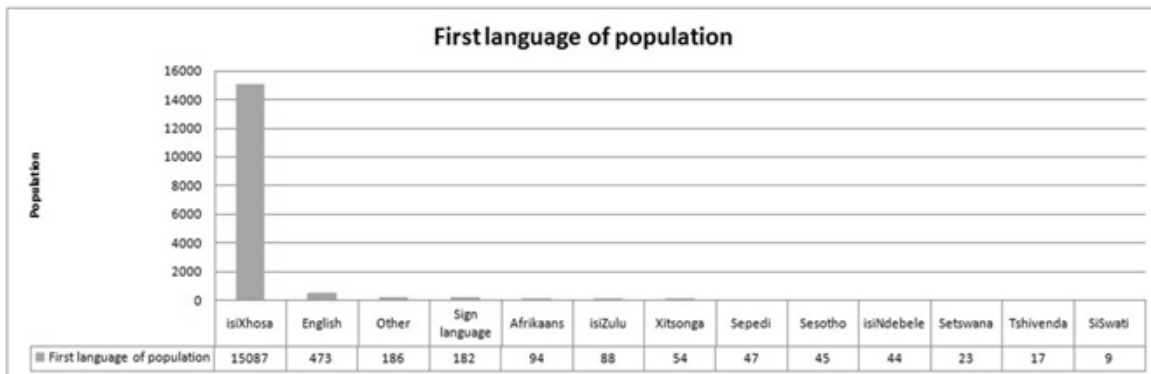
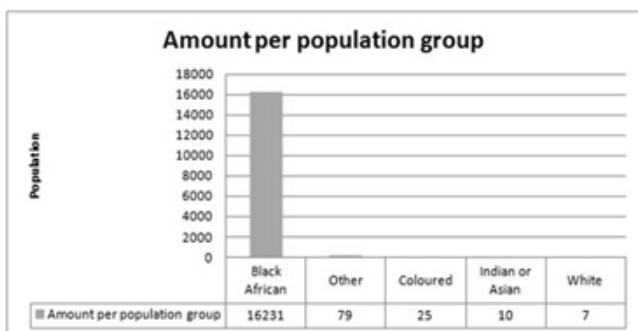
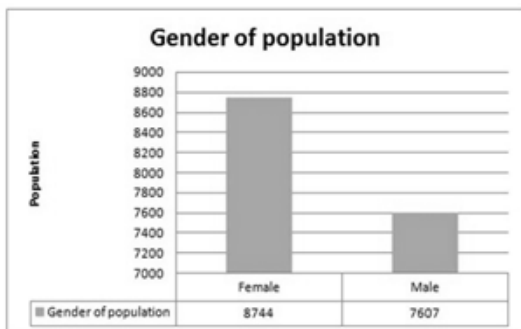




Appendix XIX. Tabulation of demographic information of Helenvale. Data obtained from Census 2011



Appendix XX. Tabulation of demographic information of Zwide 3. Data obtained from Census 2011



Appendix XXI. Selection of quotes before translated to English: Helenvale multi-purpose resources centre

Daar is die 'sign' Helenvale, so dit is ons identiteit (37-15:112-HV5).

Dié kinders is deel van Helenvale en die woorde wat daar geskryf is, hulle is deel van Helenvale se kinders, die 'youth' en dit is kinders wat nog gaan groot word - van hulle is klein. So dit is wat my herhinder aan die identiteit van die plek en hoe mense dit insien want baie mense as hulle hier kom dan gaan hulle altyd daar voor na toe om daai prentjie te gaan lees wat dit daar sê (36-8:88-HV6).

Ek kan ook Helenvale daarvan sien. Dit skep ook veiligheid en ons is omring deur veiligheid. Ek sal sê hier, dit wys dat.. .hier wys dit dat baie mense ook werk gekry het. Die gemeenskap het werk gekry want dit is werkers wat hier werk (39-7:70-HV4).

Die voorkant. Dis is net om vir my te bewys die is my plek. Ek kan ook vir my vriende van ver wys daar is onse gemeenskapsaal. Onse nuwe gebou. Ek kan trots daarop voel (40-13:206-208-HV5).

P: Kyk as ek hier staan kan ek die 'view' baie mooi sien agter die winkel en die, daai ronde ding daarso, daai silwer ronde ding is baie mooi. Dit is iets goed vir die gemeenskap.

I: Wat beteken dit vir jou, die silwer ding?

P: Vir my beteken dit hy is baie belangrik né. Hy is daar, hoe kan ek nou sê? Hy is daar vir die gemeenskap, ons kan 'photos' vat en ons het baie 'photos' gevat (20-14:114-HV4).

Die saal is nie gebou vir wit, swart, om te sê wittes behoort hier en die swartes behoort nie hier nie 'wat ever'. Die tipe saal is gebou vir, elkeen is welkom en 'thats why there is security'. Dis...dis sodat ons kan, geweld, mense wat miskien byvoorbeeld, mense wat kom met karre, hulle is mooi aangetrek, hulle kom hulle dinge doen. So ek dink dat daai 'photo' wys dat elkeen, 'rainbow nation', is welkom (35-10:91-HV4).

Hierdie een wys daar by die toilette hoe mooi en skoon, die 'cleaners' wat hierso werk, die opsigter wat so mooi kyk na onse plek en ek glo daar is nie 'n probleem. Wanneer ander mense van buitekant af kom, kan hulle met graagte kom en praat. Die plek is baie pragtig en mooi skoon (35-18:111-HV10).

Want die 'fence' is reg rondom (40-11:194: HV14).

Hier voel ek nou ook veilig want... dit is nou ook die heining hier (20-12:86).

Jy kan sien as jy op kom daarso, die hek is gesluit, jy kan sien dit is 'secure' en die heining daarbo [electrified fence] (21-21:9-2).

Ja die hek is gesluit en ek weet nou nie hoekom nie. Dit is seker vir 'security'. Die hek moet oop wees en daar ook sekuriteit sit. Dit is nader as wat ons só om moet loop, so dit is 'n ingang vir die onderste mense en die ander vir die boonste mense (27-13:111-115-HV2).

Hier sal ek ook sê dit is omsluiting en veilig binne want dit is ook nou die klein gemeenskapsaal. Dit is ook waar mense bymekaarkom om oor dinge te praat (36-13:116-HV8).

Omdat dit wys 'open space' waar ons dit self kan gebruik vir ontspanning en om uit te kom. Die veld die, dit is vir basketball, dit is meer vir ons gemeenskap om te gebruik. Al die kinders gebruik dit en bly lekker uit die kwaad uit (40-9:186-HV11).

Die is ook mos maar vir die gemeenskap want dit is waar die kinders kom sokker speel, gewoonlik netbal speel hier buite op die gras en hulle voel ook welkom en omsluiting wanneer hulle hier kom want hulle voel as hulle hier binne is, is hulle is veilig. Hulle is nie buite in die strate waar die 'gangsters', hulle hardloop met die 'meste' [messe] en so aan (36-17:124-HV3).

Ek meen die kinders wat speel, hulle lyk vredevol, als is net lieflik (26-5:99-HV6).

Die ingang is maar net om vir my te bewys dat die is my plek. Ja en ek kan ook vir my vriende van ver af kom sê daar is onse gemeenskapsaal. Dit is onse nuwe gebou (40-13:206-208-HV5).

Die 'photo' hy wys die liefde vir die kinders, die speelgrond, die kinders kan kom speel. Daar is 'n speelgrond. Daar is 'even' baie dinge, wat mense daar buitekant staan, 'photo' vat, hulle wys hulle vriende (35-12:95-HV6).

Dit herinner my aan die kinders wat dood geskiet is. Kinders wat dood geskiet is, nee rerig. Daai ding was opgesit toe is daar nog nie 'n kind dood nie (16-8:113-HV6).

En die stuk is mos die 'entrance'. Dit is ook 'n goeie simbool want jy sien daar wanneer jy inkom kry jy die stukkie mos en dit is om mense te, dit is wat mense 'know', dit is 'what they know' (36-14:116-HV5).

Ek dink dit is pragtig want dit is ook van Helenvale se kinders wat hulle daar gesit het. So dit speel 'n belangrike rol want dit is deel van ons geskiedenis (36-4:48-HV6).

Is veilig. Als is reg rondom hier toe. Enige 'violence' wat buitekant gebeur, die is weg gestee (26-6:103-HV12).

As ons nou hier in kom is dit die sekuriteit wat daar sit, ek voel sommer veilig om hier in te kom. Die 'securities' is daar by die hek (22-5:159-HV13).

I: Wat is die toring se betekenis vir jou?

P: Want dit is 'n simbool van Helenvale, dit is welkom. Die uitsig is so mooi, ek voel veilig en ek voel terselde tyd welkom as ek daarso staan (37-17:119-122-HV13).

I: Hoekom is nommer 13, met die toring, onder welkom?

P: Die rede hoekom hy onder welkom is, is sodat hy gesien word. Dat hy gesien moet word (15-18:112-HV13).



Die toring is 'n baken (24-11:96-HV13).

Dit beteken vir my baie want as jy in 'extension' 12 staan en jy kyk af dan sien jy die simbool en dit gee... dan jy sien geskryf 'Helenvale resource centre' [op die toring]. So dit is 'n simbool dat dit die plek is van die gemeenskap want dit sê 'Helenvale resource centre'. Dit is waar die gemeenskap kom om ook die raadslid te kan sien, want hier is miskien mense wat hier binne kan help en so aan (36-9:94-HV13).

Die een wys ook dat die plek aan ons behoort as gemeenskap en soos u kan sien, hoe groen is die grass daar buitekant, die ligte wat brand, selfs in die aand kan jy sien hoe mooi skyn die lig (35-19:113-HV12).



Appendix XXII. Correspondence analysis for Helenvale community centre

Correspondence Analysis of a Two-Way Table

Variables and number of categories:

Row variables: Helenvale 2(15)

Column variables: Association HV(5)

Variable with counts (or other correspondence measure): Freq HV

Eigenvalues: .2786 .1538 .0559 .0116

Total chi-square=114.475 df=56 p=0.000

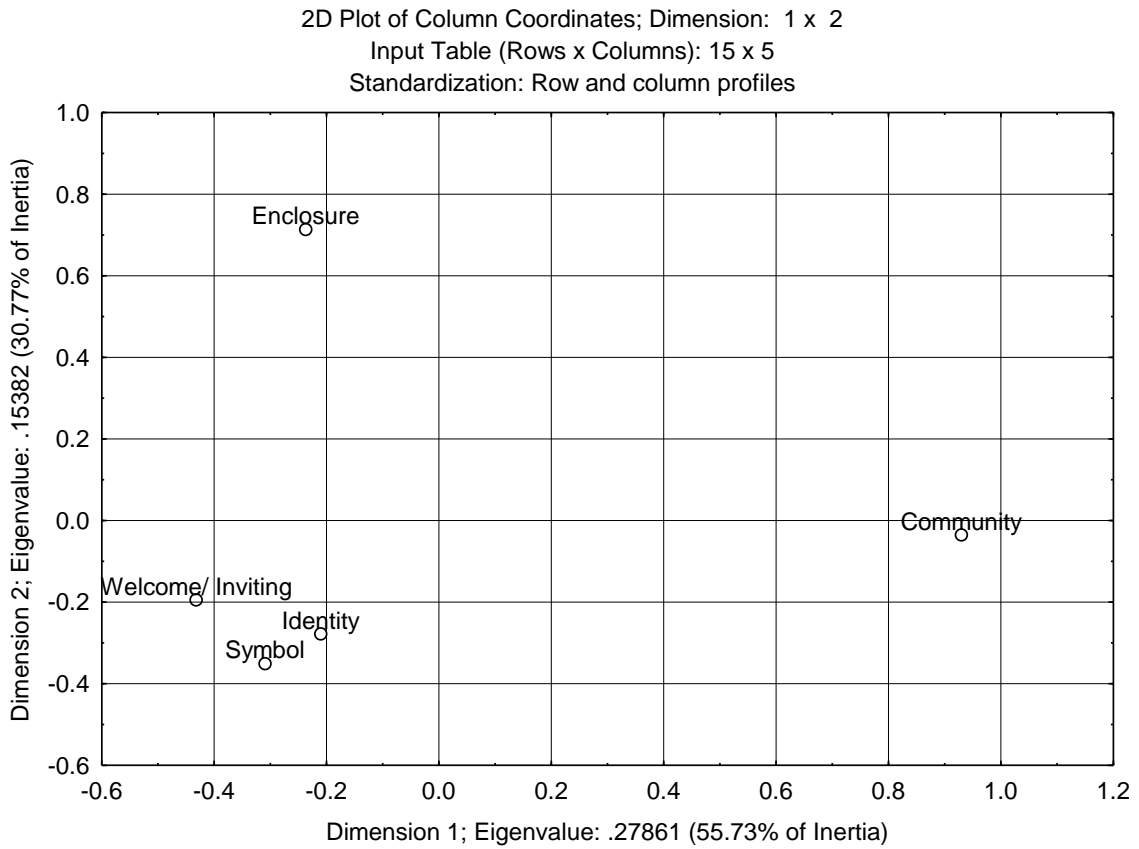
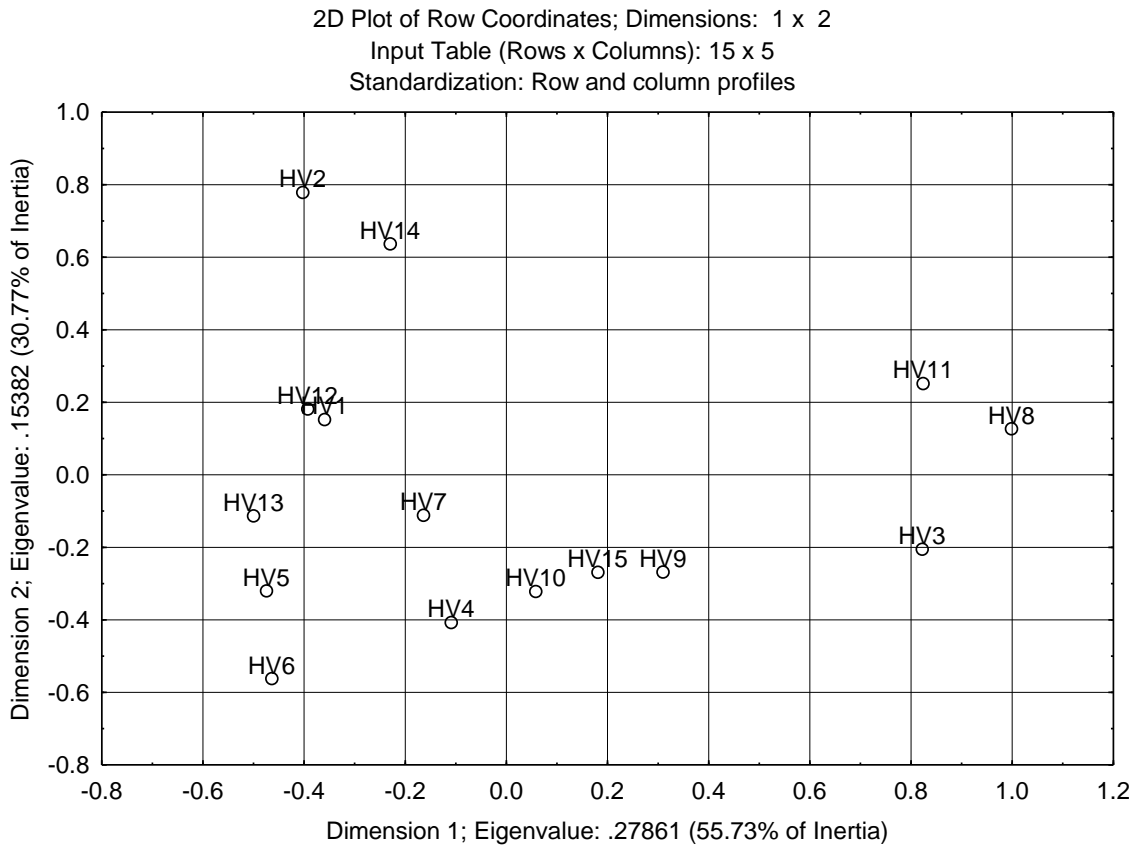
Row Name	Row Coordinates and Contributions to Inertia (MadStoff Helenvale 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles						
	Row Number	Coordin. Dim.1	Coordin. Dim.2	Mass	Quality	Relative Inertia	Inertia Dim.1
HV1	1	-0.359447	0.152369	0.056769	0.530056	0.032655	0.026326
HV2	2	-0.402607	0.778783	0.091703	0.987697	0.142752	0.053352
HV3	3	0.821891	-0.204832	0.074236	0.992974	0.107300	0.179991
HV4	4	-0.109270	-0.407316	0.052402	0.261605	0.071264	0.002246
HV5	5	-0.474323	-0.319754	0.069869	0.800488	0.057135	0.056421
HV6	6	-0.463838	-0.562228	0.087336	0.946573	0.098053	0.067443
HV7	7	-0.163817	-0.111507	0.048035	0.606426	0.006222	0.004627
HV8	8	0.998842	0.127065	0.078603	0.985148	0.161818	0.281474
HV9	9	0.309720	-0.267627	0.048035	0.748988	0.021496	0.016539
HV10	10	0.058205	-0.321335	0.048035	0.758577	0.013509	0.000584
HV11	11	0.824006	0.252147	0.074236	0.987609	0.111657	0.180918
HV12	12	-0.393057	0.181447	0.065502	0.969142	0.025340	0.036322
HV13	13	-0.499662	-0.113514	0.082969	0.624753	0.069750	0.074350
HV14	14	-0.229969	0.636735	0.069869	0.974710	0.065720	0.013263
HV15	15	0.180756	-0.268825	0.052402	0.717566	0.015330	0.006145

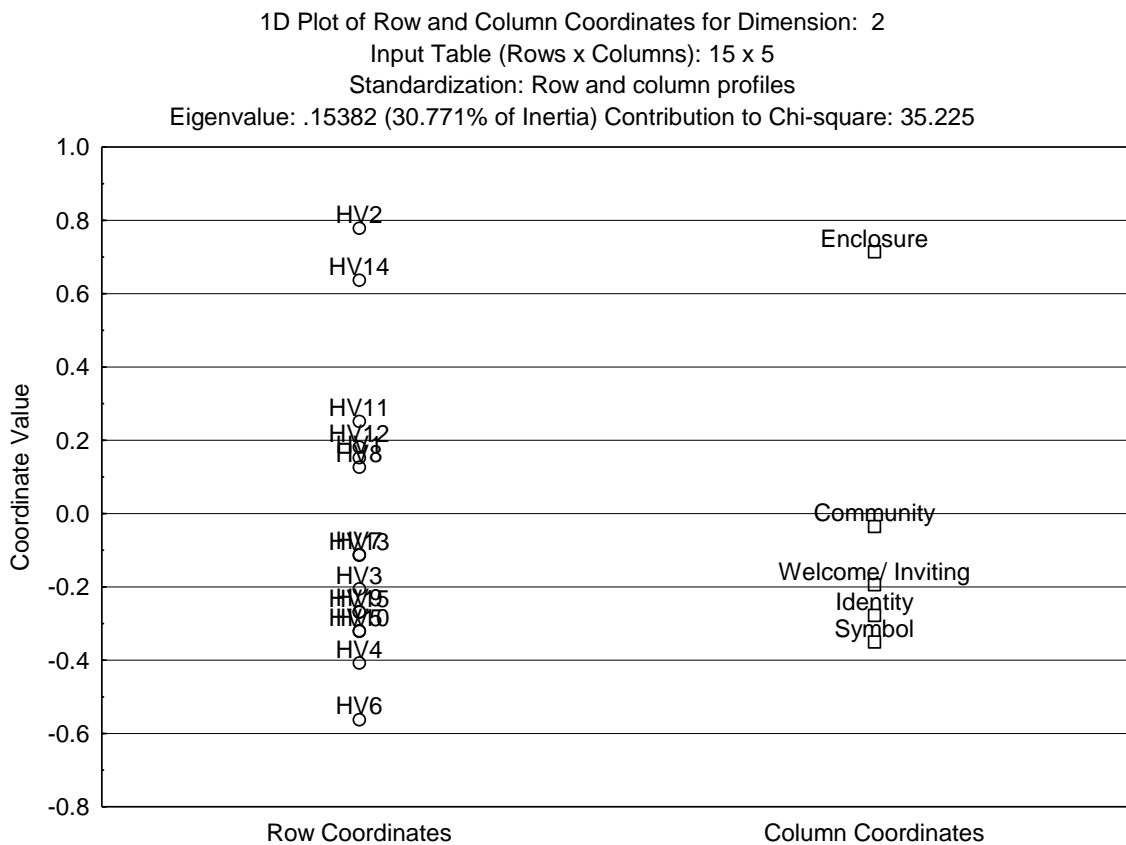
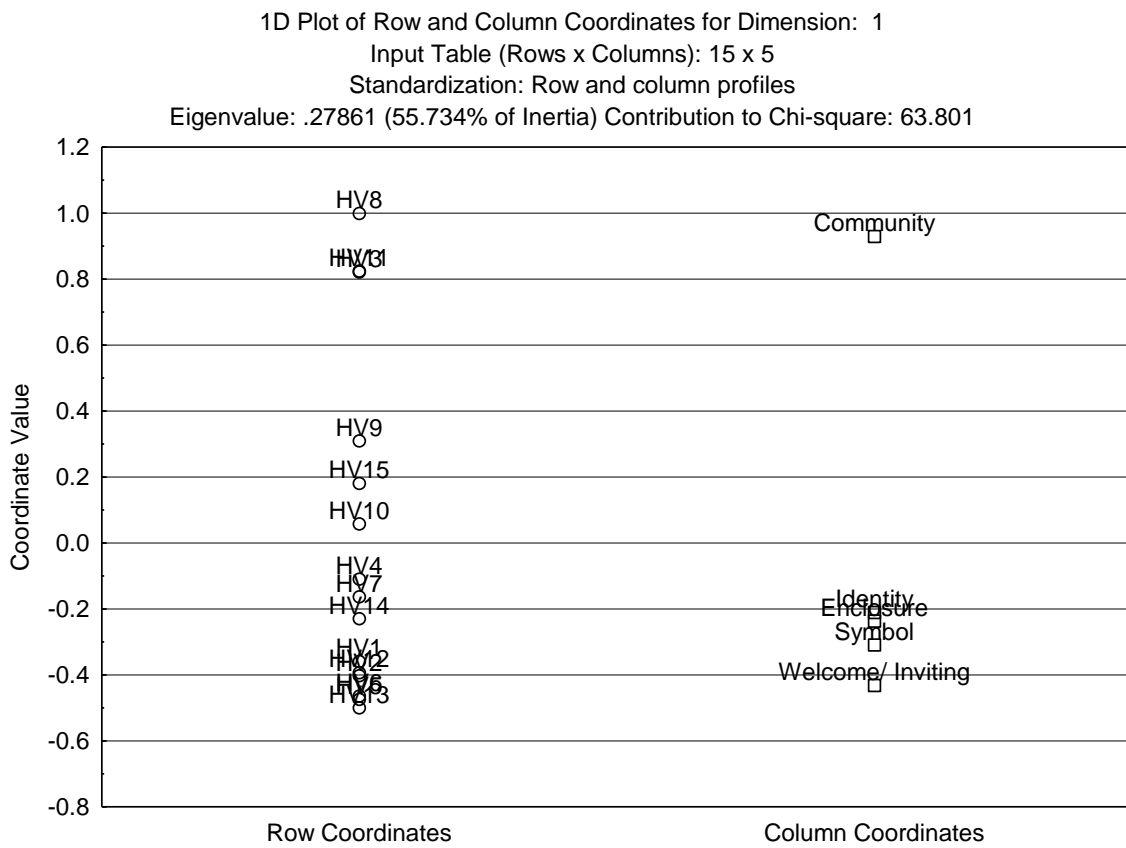
Row Name	Row Coordinates and Contributions to Inertia (MadStoff Helenvale 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles		
	Cosine ² Dim.1	Inertia Dim.2	Cosine ² Dim.2
HV1	0.449318	0.008568	0.080738

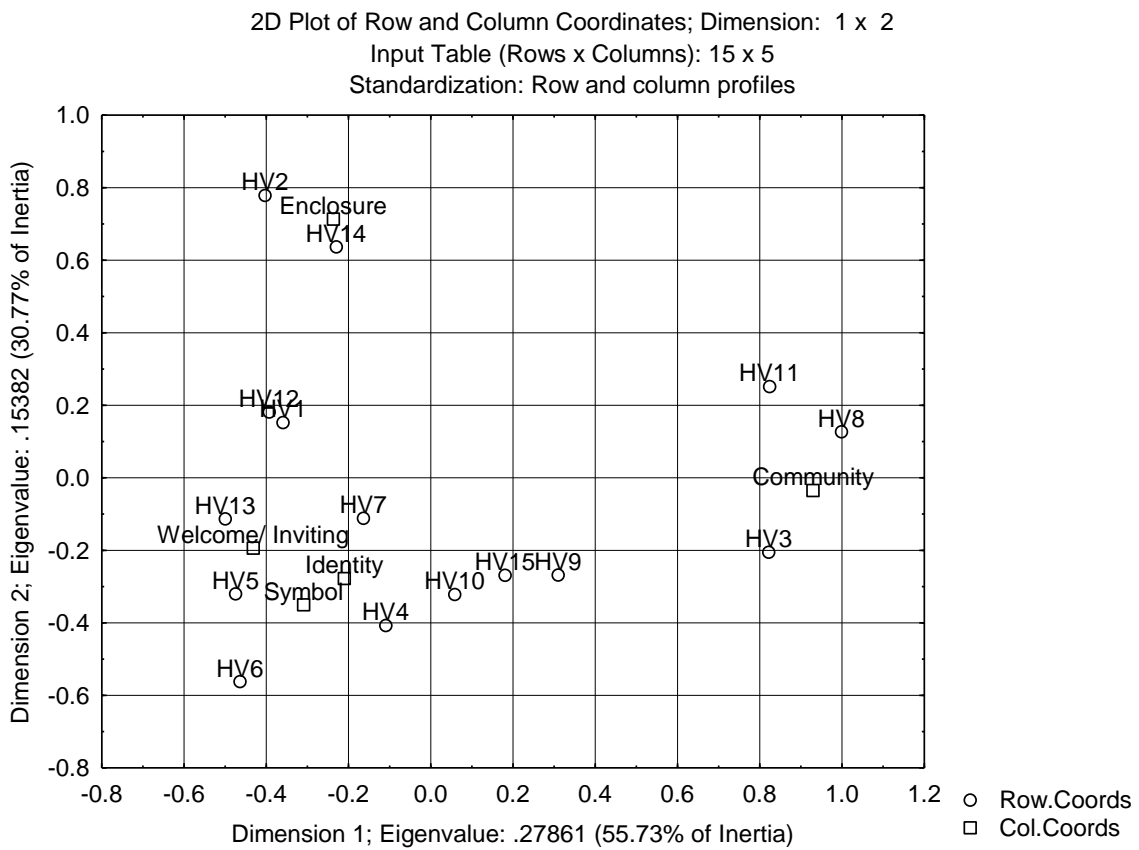
Row Name	Row Coordinates and Contributions to Inertia (MadStoff Helenvale 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles		
	Cosine ² Dim.1	Inertia Dim.2	Cosine ² Dim.2
HV2	0.208300	0.361577	0.779398
HV3	0.934906	0.020249	0.058068
HV4	0.017563	0.056519	0.244042
HV5	0.550372	0.046441	0.250116
HV6	0.383346	0.179474	0.563227
HV7	0.414416	0.003883	0.192010
HV8	0.969459	0.008250	0.015689
HV9	0.428812	0.022367	0.320176
HV10	0.024098	0.032245	0.734479
HV11	0.903050	0.030684	0.084559
HV12	0.798895	0.014020	0.170246
HV13	0.594091	0.006950	0.030662
HV14	0.112473	0.184156	0.862237
HV15	0.223412	0.024619	0.494154

Column Name	Column Coordinates and Contributions to Inertia (MadStoff Helenvale 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles					
	Column Number	Coordin. Dim.1	Coordin. Dim.2	Mass	Quality	Relative Inertia
Community	1	0.929446	-0.035184	0.240175	0.996795	0.416981
Enclosure	2	-0.237160	0.713769	0.218341	0.997433	0.247725
Identity	3	-0.210501	-0.277588	0.187773	0.387217	0.117733
Welcome/ Inviting	4	-0.431938	-0.194096	0.183406	0.657783	0.125076
Symbol	5	-0.309452	-0.350386	0.170306	0.805000	0.092485

Column Name	Column Coordinates and Contributions to Inertia (MadStoff Helenvale 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles			
	Inertia Dim.1	Cosine ² Dim.1	Inertia Dim.2	Cosine ² Dim.2
Community	0.744703	0.995369	0.001933	0.001426
Enclosure	0.044078	0.099168	0.723159	0.898266
Identity	0.029864	0.141373	0.094063	0.245844
Welcome/ Inviting	0.122819	0.547275	0.044919	0.110508
Symbol	0.058536	0.352752	0.135927	0.452248

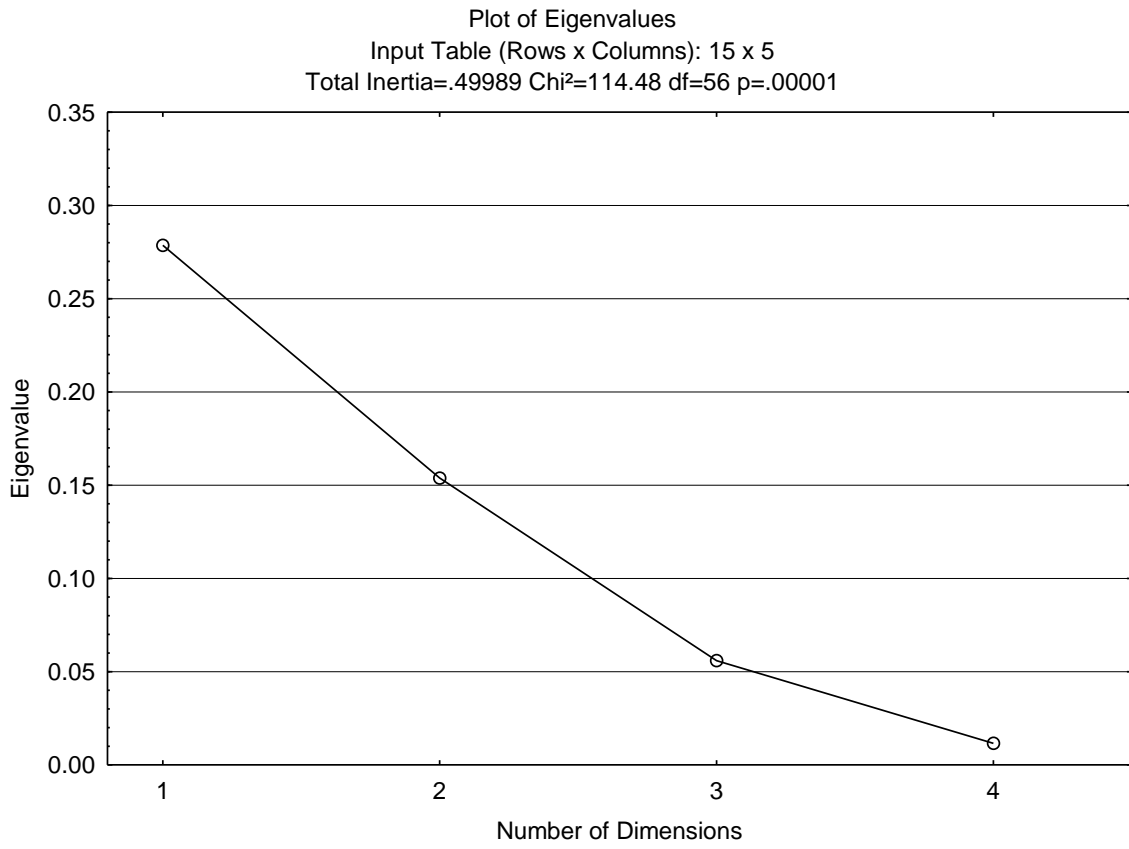






Number of Dims.	Eigenvalues and Inertia for all Dimensions (MadStoff Helenvale 2.sta)				
	Singular Values	Eigen-Values	Perc. of Inertia	Cumulatv Percent	Chi Squares
1	0.527832	0.278607	55.73357	55.7336	63.80103
2	0.392201	0.153821	30.77096	86.5045	35.22508
3	0.236379	0.055875	11.17744	97.6820	12.79538
4	0.107646	0.011588	2.31803	100.0000	2.65357





Appendix XXIII. Correspondence analysis for Ubuntu community centre

Correspondence Analysis of a Two-Way Table

Variables and number of categories

Row variables: Ubuntu 2(15)

Column variables: Association Ub(5)

Variable with counts (or other correspondence measure): Freq Ub2

Eigenvalues: .2354 .1288 .0735 .0306

Total chi-square=110.507 df=56 p=.0000

Row Name	Row Coordinates and Contributions to Inertia (MadStoff Ubuntu 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles						
	Row Number	Coordin. Dim.1	Coordin. Dim.2	Mass	Quality	Relative Inertia	Inertia Dim.1
UB1	1	-0.78798	0.038163	0.076271	0.823421	0.123115	0.201176
UB2	2	0.14548	-0.566876	0.072034	0.640717	0.082237	0.006476
UB3	3	0.27364	0.008174	0.059322	0.997647	0.009517	0.018870
UB4	4	0.31474	0.101315	0.076271	0.316470	0.056270	0.032096
UB5	5	0.28584	0.139316	0.029661	0.736164	0.008700	0.010295
UB6	6	0.42621	-0.391935	0.050847	0.800789	0.045464	0.039238
UB7	7	-0.53169	0.342325	0.088983	0.900795	0.084359	0.106858
UB8	8	0.68291	0.701611	0.067797	0.933591	0.148669	0.134312
UB9	9	0.19240	0.321780	0.076271	0.419108	0.054628	0.011994
UB10	10	0.41926	0.273932	0.050847	0.705594	0.038600	0.037968
UB11	11	-1.00788	0.187355	0.080508	0.978615	0.184639	0.347410
UB12	12	0.25392	-0.005345	0.050847	0.169753	0.041264	0.013927
UB13	13	-0.07719	-0.488225	0.084746	0.915613	0.048293	0.002145
UB14	14	0.36604	-0.163110	0.063559	0.853662	0.025535	0.036176
UB15	15	-0.05887	-0.472850	0.072034	0.717103	0.048708	0.001060

Row Name	Row Coordinates and Contributions to Inertia (MadStoff Ubuntu 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles		
	Cosine ² Dim.1	Inertia Dim.2	Cosine ² Dim.2
UB1	0.821494	0.000863	0.001927
UB2	0.039591	0.179761	0.601126

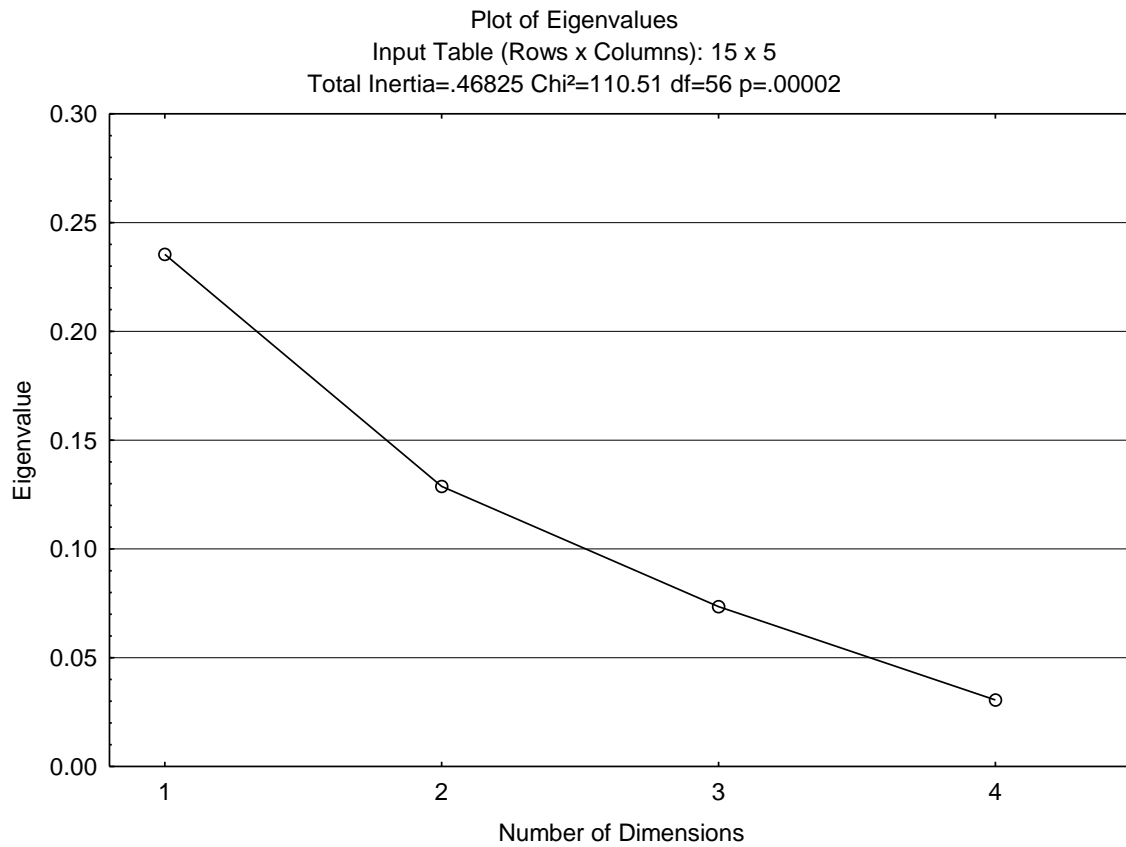
Row Name	Row Coordinates and Contributions to Inertia (MadStoff Ubuntu 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles		
	Cosine ² Dim.1	Inertia Dim.2	Cosine ² Dim.2
UB3	0.996758	0.000031	0.000889
UB4	0.286756	0.006080	0.029713
UB5	0.594855	0.004471	0.141309
UB6	0.433886	0.060657	0.366903
UB7	0.636815	0.080978	0.263981
UB8	0.454187	0.259169	0.479403
UB9	0.110379	0.061328	0.308730
UB10	0.494496	0.029630	0.211098
UB11	0.945929	0.021946	0.032687
UB12	0.169678	0.000011	0.000075
UB13	0.022328	0.156870	0.893285
UB14	0.712239	0.013132	0.141423
UB15	0.010945	0.125074	0.706158

Column Name	Column Coordinates and Contributions to Inertia (MadStoff Ubuntu 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles					
	Column Number	Coordin. Dim.1	Coordin. Dim.2	Mass	Quality	Relative Inertia
Community	1	-0.752271	0.143567	0.250000	0.973763	0.321582
Enclosure	2	0.499369	0.455350	0.220339	0.880543	0.244065
Identity	3	-0.199869	-0.152210	0.156780	0.274767	0.076910
Welcome/ Inviting	4	0.252838	-0.623258	0.190678	0.882652	0.208705
Symbol	5	0.335680	0.035576	0.182203	0.298096	0.148738

Column Name	Column Coordinates and Contributions to Inertia (MadStoff Ubuntu 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles			
	Inertia Dim.1	Cosine ² Dim.1	Inertia Dim.2	Cosine ² Dim.2
Community	0.600992	0.939543	0.040016	0.034220
Enclosure	0.233408	0.480784	0.354785	0.399759
Identity	0.026605	0.173908	0.028207	0.100859
Welcome/ Inviting	0.051780	0.124730	0.575201	0.757922
Symbol	0.087214	0.294785	0.001791	0.003311

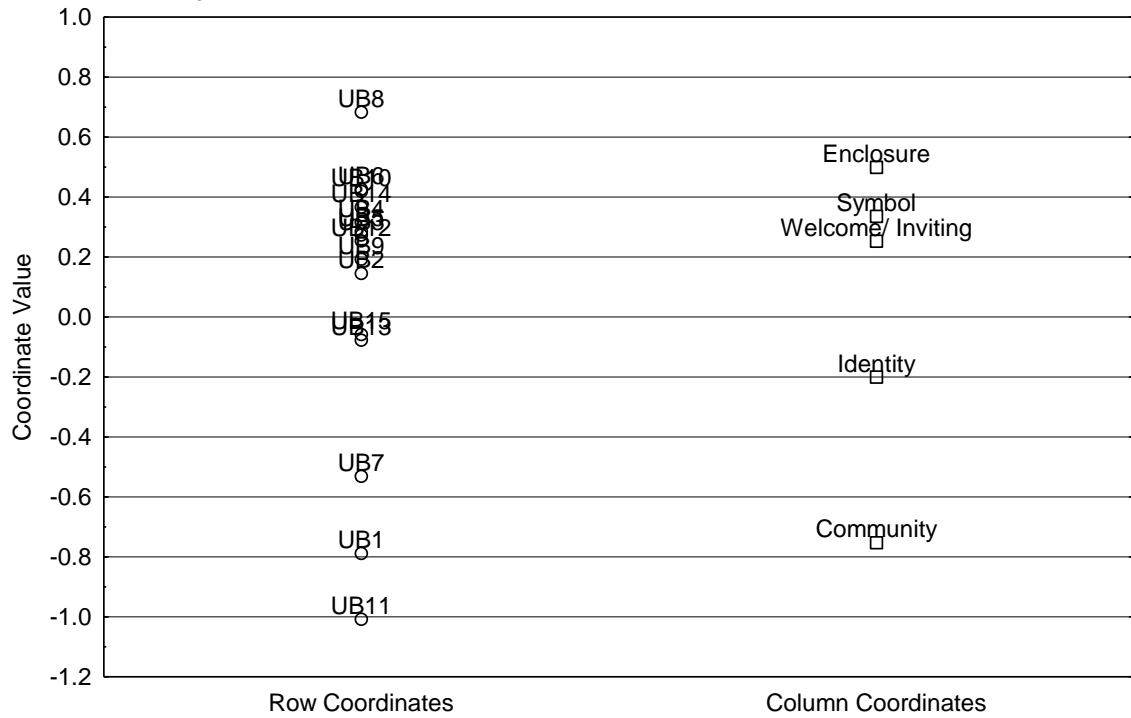
Number of Dims.	Eigenvalues and Inertia for all Dimensions (MadStoff Ubuntu 2.sta) Input Table (Rows x Columns): 15 x 5 Total Inertia=.46825 Chi ² =110.51 df=56 p=.00002

	Singular Values	Eigen-Values	Perc. of Inertia	Cumulatv Percent	Chi Squares
1	0.485188	0.235407	50.27359	50.2736	55.55608
2	0.358846	0.128771	27.50031	77.7739	30.38990
3	0.271126	0.073509	15.69863	93.4725	17.34816
4	0.174829	0.030565	6.52748	100.0000	7.21335

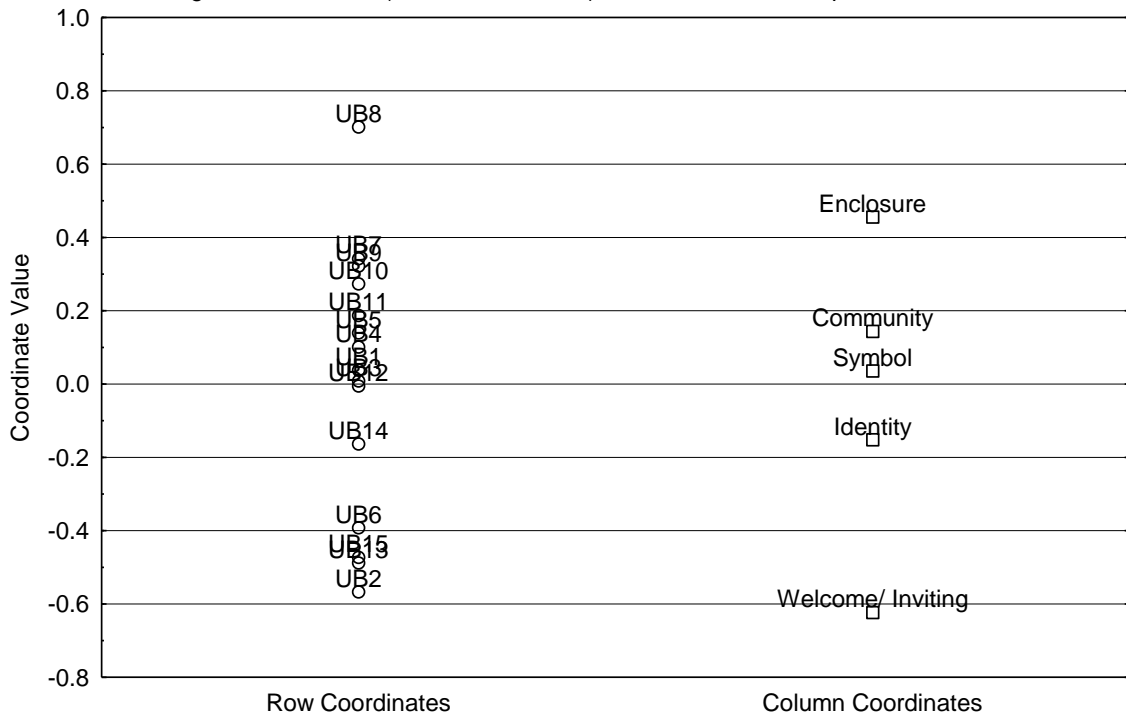


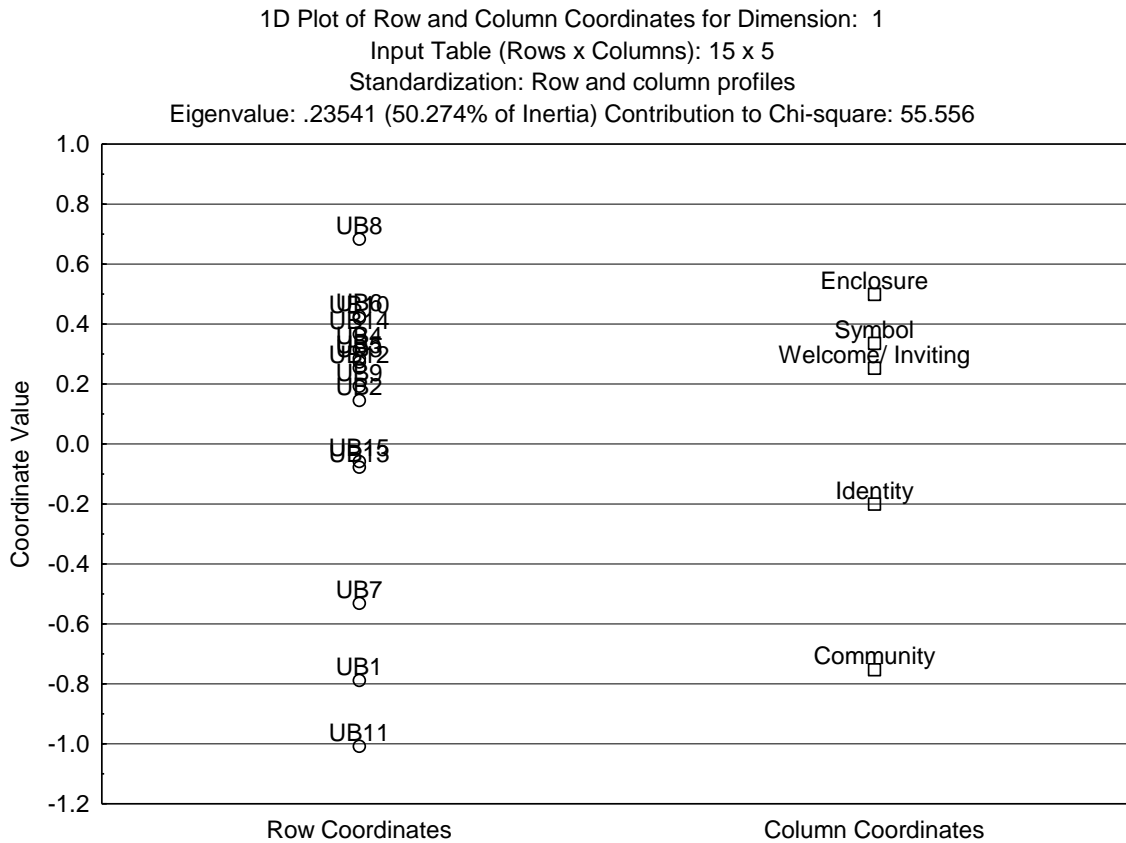


1D Plot of Row and Column Coordinates for Dimension: 1
 Input Table (Rows x Columns): 15 x 5
 Standardization: Row and column profiles
 Eigenvalue: .23541 (50.274% of Inertia) Contribution to Chi-square: 55.556



1D Plot of Row and Column Coordinates for Dimension: 2
 Input Table (Rows x Columns): 15 x 5
 Standardization: Row and column profiles
 Eigenvalue: .12877 (27.500% of Inertia) Contribution to Chi-square: 30.390





Column Name	Column Coordinates and Contributions to Inertia (MadStoff Ubuntu 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles					
	Column Number	Coordin. Dim.1	Coordin. Dim.2	Mass	Quality	Relative Inertia
Community	1	-0.752271	0.143567	0.250000	0.973763	0.321582
Enclosure	2	0.499369	0.455350	0.220339	0.880543	0.244065
Identity	3	-0.199869	-0.152210	0.156780	0.274767	0.076910
Welcome/ Inviting	4	0.252838	-0.623258	0.190678	0.882652	0.208705
Symbol	5	0.335680	0.035576	0.182203	0.298096	0.148738

Column Name	Column Coordinates and Contributions to Inertia (MadStoff Ubuntu 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles			
	Inertia Dim.1	Cosine ² Dim.1	Inertia Dim.2	Cosine ² Dim.2
Community	0.600992	0.939543	0.040016	0.034220
Enclosure	0.233408	0.480784	0.354785	0.399759
Identity	0.026605	0.173908	0.028207	0.100859
Welcome/ Inviting	0.051780	0.124730	0.575201	0.757922
Symbol	0.087214	0.294785	0.001791	0.003311



Number of Dims.	Eigenvalues and Inertia for all Dimensions (MadStoff Ubuntu 2.sta) Input Table (Rows x Columns): 15 x 5 Total Inertia=.46825 Chi ² =110.51 df=56 p=.00002				
	Singular Values	Eigen-Values	Perc. of Inertia	Cumulatv Percent	Chi Squares
1	0.485188	0.235407	50.27359	50.2736	55.55608
2	0.358846	0.128771	27.50031	77.7739	30.38990
3	0.271126	0.073509	15.69863	93.4725	17.34816
4	0.174829	0.030565	6.52748	100.0000	7.21335

Row Name	Row Coordinates and Contributions to Inertia (MadStoff Ubuntu 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles						
	Row Number	Coordin. Dim.1	Coordin. Dim.2	Mass	Quality	Relative Inertia	Inertia Dim.1
UB1	1	-0.78798	0.038163	0.076271	0.823421	0.123115	0.201176
UB2	2	0.14548	-0.566876	0.072034	0.640717	0.082237	0.006476
UB3	3	0.27364	0.008174	0.059322	0.997647	0.009517	0.018870
UB4	4	0.31474	0.101315	0.076271	0.316470	0.056270	0.032096
UB5	5	0.28584	0.139316	0.029661	0.736164	0.008700	0.010295
UB6	6	0.42621	-0.391935	0.050847	0.800789	0.045464	0.039238
UB7	7	-0.53169	0.342325	0.088983	0.900795	0.084359	0.106858
UB8	8	0.68291	0.701611	0.067797	0.933591	0.148669	0.134312
UB9	9	0.19240	0.321780	0.076271	0.419108	0.054628	0.011994
UB10	10	0.41926	0.273932	0.050847	0.705594	0.038600	0.037968
UB11	11	-1.00788	0.187355	0.080508	0.978615	0.184639	0.347410
UB12	12	0.25392	-0.005345	0.050847	0.169753	0.041264	0.013927
UB13	13	-0.07719	-0.488225	0.084746	0.915613	0.048293	0.002145
UB14	14	0.36604	-0.163110	0.063559	0.853662	0.025535	0.036176
UB15	15	-0.05887	-0.472850	0.072034	0.717103	0.048708	0.001060

Row Name	Row Coordinates and Contributions to Inertia (MadStoff Ubuntu 2.sta) ; Input Table (Rows x Columns): 15 x 5; Standardization: Row and column profiles		
	Cosine ² Dim.1	Inertia Dim.2	Cosine ² Dim.2
UB1	0.821494	0.000863	0.001927
UB2	0.039591	0.179761	0.601126
UB3	0.996758	0.000031	0.000889
UB4	0.286756	0.006080	0.029713
UB5	0.594855	0.004471	0.141309
UB6	0.433886	0.060657	0.366903
UB7	0.636815	0.080978	0.263981
UB8	0.454187	0.259169	0.479403
UB9	0.110379	0.061328	0.308730
UB10	0.494496	0.029630	0.211098
UB11	0.945929	0.021946	0.032687
UB12	0.169678	0.000011	0.000075



Row Name	Row Coordinates and Contributions to Inertia (MadStoff Ubuntu 2.sta) ; Input Table (Rows x Columns): 15 x 5; Standardization: Row and column profiles		
	Cosine ² Dim.1	Inertia Dim.2	Cosine ² Dim.2
UB13	0.022328	0.156870	0.893285
UB14	0.712239	0.013132	0.141423
UB15	0.010945	0.125074	0.706158

Column Name	Column Coordinates and Contributions to Inertia (MadStoff Ubuntu 2.sta) Input Table (Rows x Columns): 15 x 5 Standardization: Row and column profiles					
	Column Number	Coordin. Dim.1	Coordin. Dim.2	Mass	Quality	Relative Inertia
Community	1	-0.752271	0.143567	0.250000	0.973763	0.321582
Enclosure	2	0.499369	0.455350	0.220339	0.880543	0.244065
Identity	3	-0.199869	-0.152210	0.156780	0.274767	0.076910
Welcome/ Inviting	4	0.252838	-0.623258	0.190678	0.882652	0.208705
Symbol	5	0.335680	0.035576	0.182203	0.298096	0.148738

2D Plot of Row and Column Coordinates; Dimension: 1 x 2
 Input Table (Rows x Columns): 15 x 5
 Standardization: Row and column profiles

