

PART 1: PATTERNS OF URBAN GROWTH

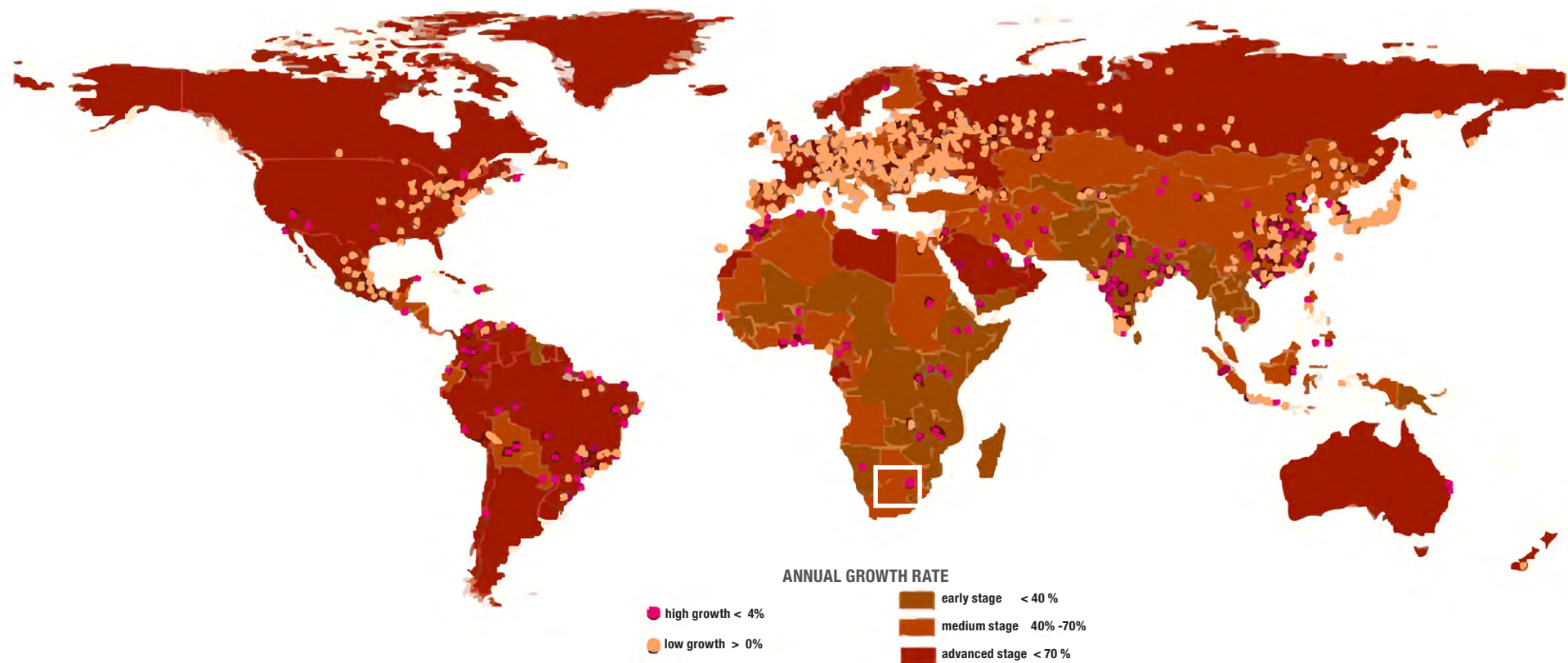
The year 2008 marked the point in human history where more than half the world's population, 3.3 billion people, was estimated to be living in urban areas - this figure is forecasted to be at 5 billion by 2030. (United Nations,2007:vi)

The effects of this unprecedented rate of urbanization is particularly seen in developing continents of Africa and Asia, where the population is expected to double between 2010 and 2030.

Urbanization is inevitable; and while urbanization is considered both a positive and negative occurrence, unplanned urbanization is taking a huge toll on human health and the quality of the environment.

Urbanization contributes to social, ecological and economic instability in many countries. A sixth of the earth's population are homeless and live in crowded tenements, boarding houses or settlements. (Atterhwaite,2007:3)

Yet no country in the industrial age has ever achieved significant economic growth without urbanization. Cities concentrate poverty but they also represent the best hope of escaping it. (United Nations,2007: vi)



Illus: 10 Diagram depicting the global rates of urbanization (Nordregio, 2011: www.nordregio.nw)

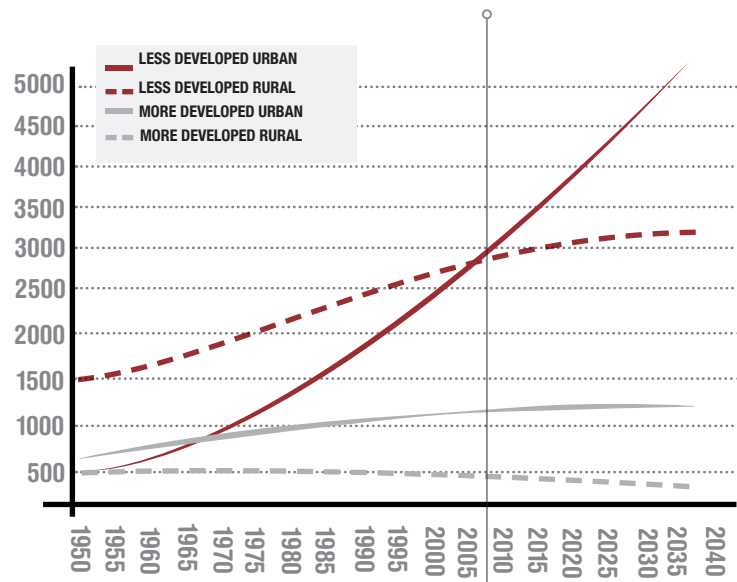


Fig: 2 Urban and rural population by development regions in millions (UN, 2007: 23)

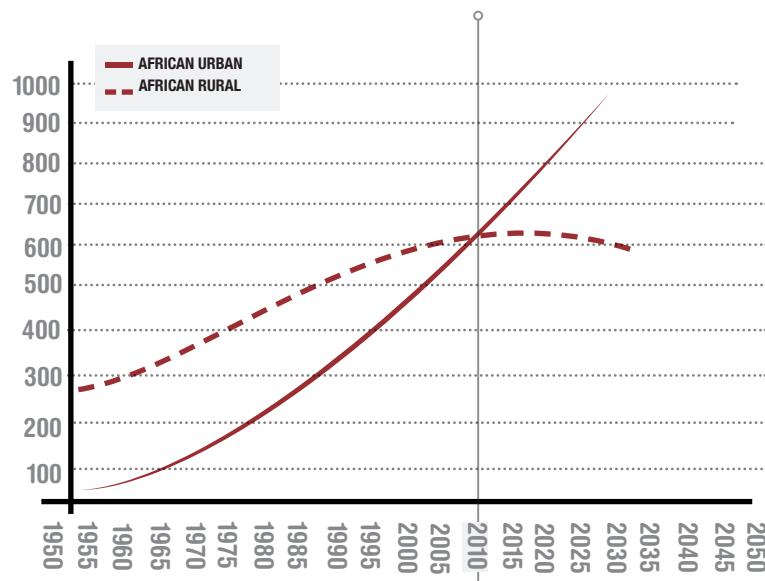


Fig: 3 Urban and rural population by major region in million (UN, 2007:34)

2.1.1 URBANIZATION DEFINED

Urbanization is defined as the movement of people from rural to urban areas with population growth increasing through this urban migration (UN, 2006: 34),

Generally, it takes place when people leave rural areas in search of better economic, health or social opportunities.

Rural-to-urban migration is just one of the three drivers of urbanization, accounting for about 25 per cent of urban population growth.

The other two factors are natural population increases and the reclassification of rural areas into urban ones. (UN, 2007:65)

2.1.2 TRENDS OF URBANIZATION

The first wave of modern transitions began in Europe and North America in the early 18th century. These regions experienced the first demographic transition, the first industrialization and the first wave of urbanization. (UN,2007:7)

This first wave was a comparatively slow process in contrast to the past half-century, where less developed regions of the world have begun a similar transition of urbanization. (see Fig: 2)

Within both waves, population growth combined with economic changes to fuel the demographic, economic and urban transitions.

The second wave is considerably larger and much faster than the first, with the speed and size being made greater by global improvements in medical and public health technology. (UN,2006:34)

According to the *United Nations World Report of 2007* the overall rate of urban growth has consistently declined in most developed world regions and rapidly increased in the developing sectors of the globe. (UN,2007:13) (see Illus: 10)

The rapid growth of this second wave has major implications for cities in poorer countries. The need for urban infrastructure will be more rapidly and effectively required than during the first wave of global urbanization. (UN,2007:7) (see Fig: 3)

2.1.3 SOUTH AFRICA'S FLUXUAL URBANIZATION

The Population Reference Bureau, in its annual World Population Data Sheet for 2008, estimated that 59% of the South Africa's population is urbanized. (Stats SA, 2009:8)

This is ahead of the global curve of 49%, and well ahead of Sub-Saharan Africa at 35%. (Roux, 2009:8)

The definition of Urban and Rural settlements in South Africa is made difficult by the large number of dense settlements that were created in rural areas by processes of resettlement, displacement and so-called 'betterment planning' under Apartheid policy.

The distinction between rural and urban areas is seen to be very artificial, yet needed by compartmentalized ideas, planning efforts and data. (Roux, 2009: 14)

Since the abolition of the Group Areas Act (see Definitions: (page x)) in 1991, South Africa has been experiencing an increase in the urban population, as people mainly from the rural and the previously disadvantaged outlying areas move to urban areas.

(Cox & Hermson, 2004; 28)

Statistics South Africa's 2009 midyear population estimates state that more than 60% of the population now lives in urban centres. (Stats SA, 2009: 56) (see Fig: 5)

One in six of this growing sector in the South African population was counted to be living in informal housing in 2003, with 25% of this total occurring in Gauteng. (Stats SA, 2009:78)

2.1.4 CAUSE OF CURRENT FLUX IN URBANIZATION

The infamous Influx Control, Group Areas Acts enforced during the apartheid regime and associated pass laws resulted in an enforced impermanence in the urbanization process of the Black population. (see Fig: 5)

The inept regulations resulted in inadequate planning in urban areas as well as a division of urban settlements into sprawling peri-urban areas. (Roux, 2009:14)

Apartheid spatial planning marginalized a large proportion of the country's population by locating them far away from social and economic opportunities in homeland areas. (Roux, 2009:ii)

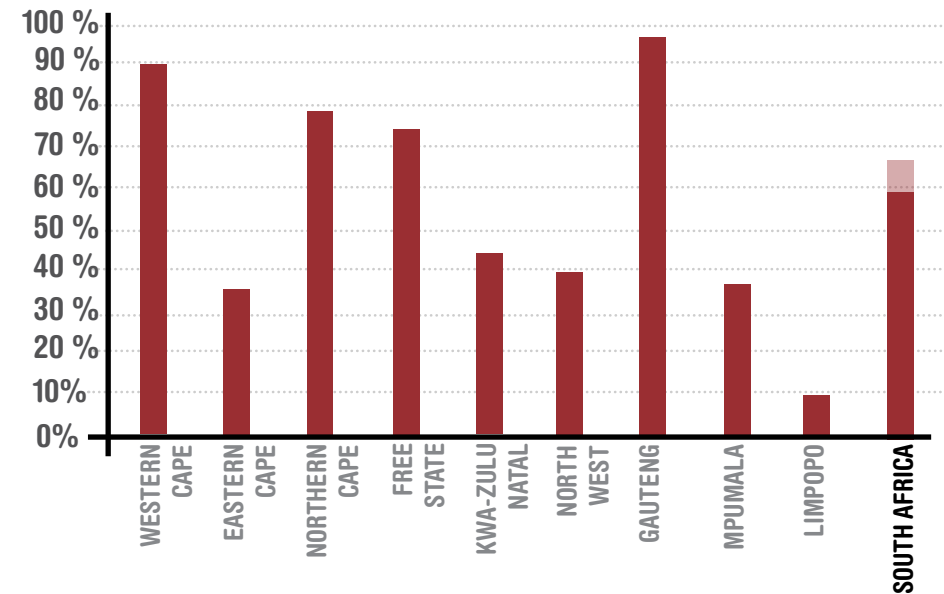


Fig: 4 Urbanization per province in South Africa (Kok & Collinson, 2006: 24)

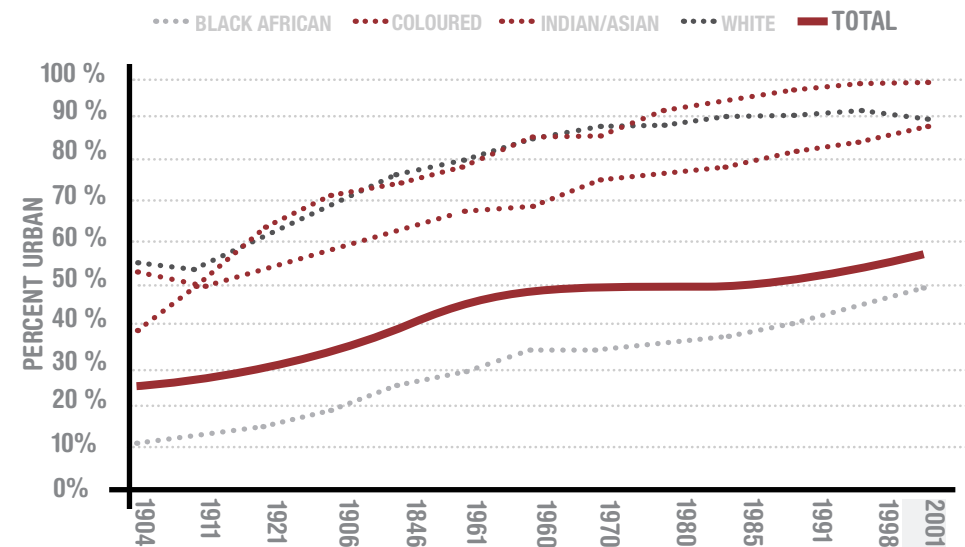


Fig: 5 Rates of urbanisation for the last century in South Africa (Kok & Collinson, 2006: 22)

2.1.5 NEGATIVE EFFECTS OF URBANIZATION

Metropolitan areas continue to be the fastest growing sector of the South African population. These metropolitan areas draw the most migrants, followed by secondary towns, while rural areas are experiencing a net loss of migrants. (Kok & Collinson, 2006: 26)

Large numbers are moving into local smaller towns, dense peri-urban or even rural settlements that offer the promise of access to housing and services, although relatively weak economies makes finding employment very unlikely. (Roux, 2009: i)

Combined with the modern mass migration to these growing settlements due to urbanization, the metropolitan bodies are struggling to adequately service these developing peri-urban areas. (Cox & Hermson, 2004: 14)

The local municipalities are often unable to deal with the large demand. Urban areas, the fastest growth in population and households, are the least able areas to keep pace with growing needs. (Roux, 2009: i)

The need for such affordable housing in the inner CBD, and economic disparities around transport and job availability breed conditions of vulnerability. (Kok & Collinson, 2006: 26)

2.1.6 POSITIVE EFFECTS OF URBANIZATION

Urban migration patterns within urbanization have far-reaching effects on the social, economic and environmental conditions of the migrant population. (Roux, 2009: iv)

This migration can be described as a response to a structural dis-equilibria between, and within, sectors of the economy.

This disjuncture within migration groups is created by the deepening and widening inequality in income and opportunities within South Africa and between its neighbours.

However, it should be noted that migration is often a central component of households' livelihood strategies, and that it not only offers hope for the future, but could play a vital role in redressing past imbalances. (Roux, 2009: iv)

2.1.7 GOVERNMENTAL RESPONSE TO URBANIZATION

The current population and development paradigm follows the 1998 Population Policy, which places population at the centre of development, as both the driving force and ultimate beneficiary. (Roux, 2009: iii)

According to the Population Policy, development is seen as a process of enlarging people's choices with a view to creating an enabling environment for them to enjoy long, healthy and creative lives.

The National Spatial Development Perspective was created to address the legacy of apartheid-based spatial planning and carries with it the potential to alter future migration streams and the urbanization prospects for the country.

When the ANC was elected in 1994, one of the stated objectives was to improve housing development which resulted in the Reconstruction and Development Programme (RDP).

The programme began building dwellings to house the urban poor, which by 2009 numbered 2.3 million. Despite this, the programme's inability to keep up with demand fuels the continuing need for informal development. (Todes et al, 2007: 8)

The Government's position on planning and delivery of aid in these settlements has been met with a myriad of issues, the key problems being addressed by the changing stance on development policy since the 1994 elections.

Planning and delivery has tended to focus on providing new or upgraded infrastructure. This has led to an under-emphasis on ongoing management of assets, basic service delivery, and addressing the problems that arise at a local level with service breakdowns and by-law enforcement. (GAPP, 2010: 87)

The cost of replacing infrastructure of once vibrant districts is considerably higher than maintaining existing assets.

In response municipalities have begun developing programmes to specifically address the lack of appropriate management systems and resources in a localized area that can in turn begin retaining capital asset value. (GAPP, 2010: 89)

PART 2: POPULATION OF NETWORKS - NOT 'COMMUNITY'

Currently designers use methods taught in the schools of architecture, employing 'models' and 'typologies' as a means of setting up precedents in stereotypes or categories. (Murray et al, 2007: 3)

This oversimplification of the complex energies within social capital has the potential to undermine the future of development in South Africa.

William J Mitchell's 2003 essay on his role in the networks and boundaries of his existence lay the first point in the re-conceptualisation of the contemporary community as an organic network made up of many layers, connected in undefinable ways.

"I consist of a biological core surrounded by extended, construct systems of boundaries and networks. These boundaries and network structures are topological and functional duals of each other. The boundaries define a space of containers and places, while the networks establish a space of links and flows. Walls, fences, and skins divide; paths, pipes, and wires connect..." (Sykes et al [Mitchell], 2010:232)

Greg Crysler argues that we cannot consider cities as bounded domains, but rather as interconnected urban networks. (Crysler, 2003;1) John Habraken describes these networks in the built environment as levels existing in different hierarchies.

Although he refers more to tangible networks of mobility and infrastructure, the human habitation infil forms the bonding agent between these disparate elements. (Habraken, 2008: 85) To support this notion, Crysler explains that the categories of nation, city, architecture and building cannot be understood as separate entities: they exist as simultaneous and overlapping conditions. (Crysler, 2003;1)

With the proliferation of networks and our increasing dependence upon them, there has been a gradual inversion of the relationship between the barriers and links. Within the discipline of Architecture in South Africa, design consciousness is most often spoken of in regard to ideas of 'humanism'.

Whereby human values found in communities are identified and categorized into stable 'design informants'; culture and identity are reduced to 'values', domesticated and easily translated into spatial forms. (Deckler et al,2006; 9).

2.2.1 ENGAGING WITH AN UNFAMILIAR NETWORK

If we consider that urban landscapes are not simply just the urban fabric of the tangible, but a hybrid of relationships between people and the landscape, it could be said that what constitutes the abstraction of the city are layers of networks each containing complex relationships between each other. (Crysler, 2003;2)

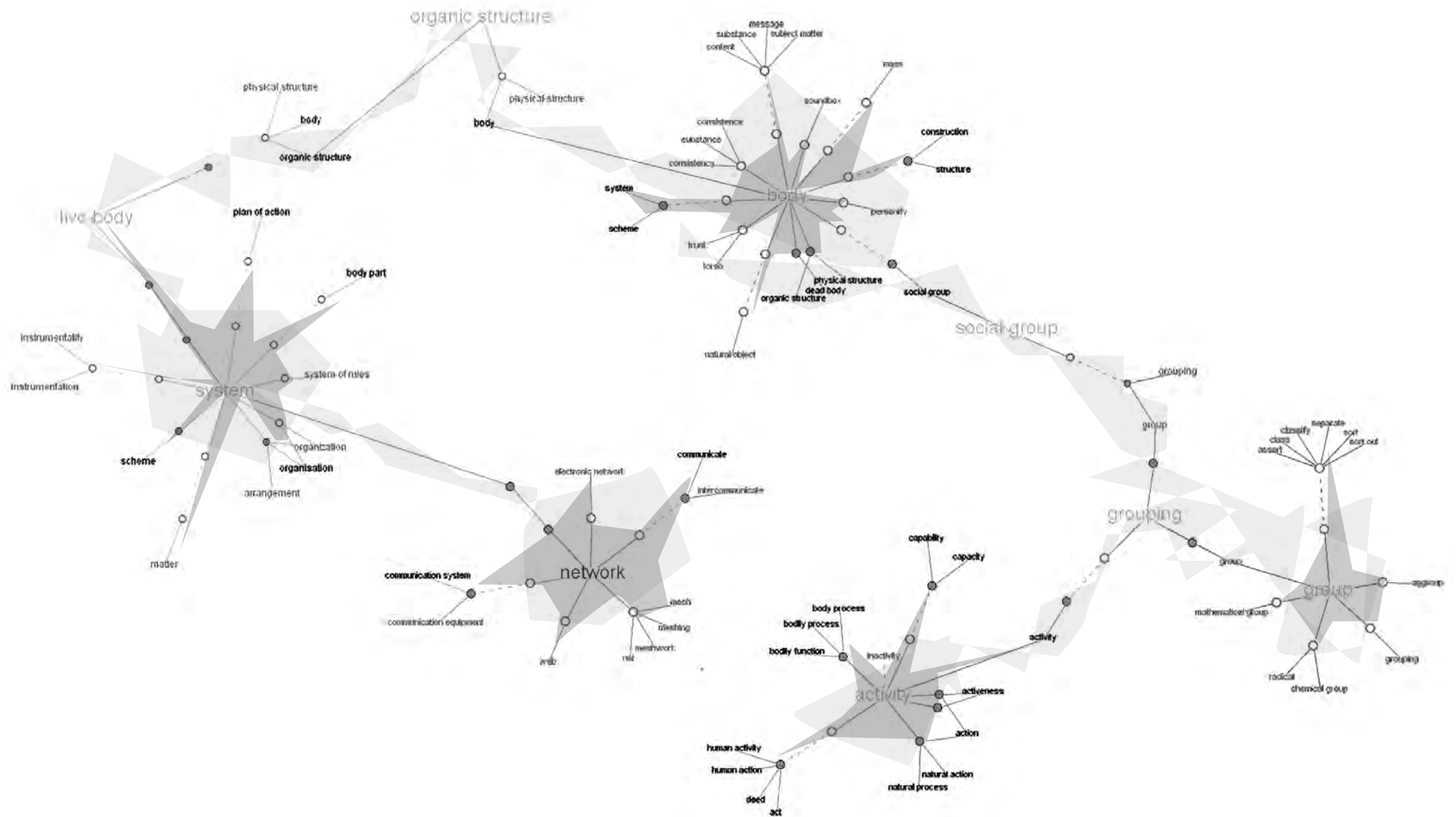
But as Mitchel observed *'..I am a connecting creature who must always separate and who cannot connect without separating...'*(Sykes et al,2010 [Mitchell];232)

As a component of these networks one is intimately involved with the flows of energy and matter of one's immediate intensive network. One is aware of the ramifications of change when it occurs within that immediate network, while changes to the wider extensive network are less tangible.

One can engage with a network on an organic level. When this network is seen to be organic, the process of engagement can be one of mutual respect and ultimately deeper understanding. This understanding will be used to form the basis from which a design intervention will be identified.



Illus: 11 Example of a Network of Cohesion, A group of Women workers in Protest (UN, 2007)



Illus: 12 Visual thesaurus exploration of terms around 'Networks' (Author, 2011)

2.2.2 DEFINITIONS OF COHESION IN 'COMMUNITY'

In the co-edited publication of *Desire Lines*, Noeleen Murray questions; Who exactly is 'The Community' in South Africa? (Murray Et Al, 2007: 54)

This generic phrase is thrown around in defense against any decision or non decision in developmental areas.

Within the Southern African context it is particularly difficult to define a group of people sharing an area of settlement as a community. This question alludes to the stereotypical definitions of 'communities' and lays the foundation to forming an approach to engage with such a 'community'.

Traditionally a 'community' has been defined as a group of interacting people living in a common location. (Kelder[Thornton], 2008:56)

In human communities intent, belief, resources, preferences, needs, risks, and a number of other conditions may be present and common, affecting the identity of the participants and their degree of cohesiveness. (Kelder[Thornton],2008: 56)

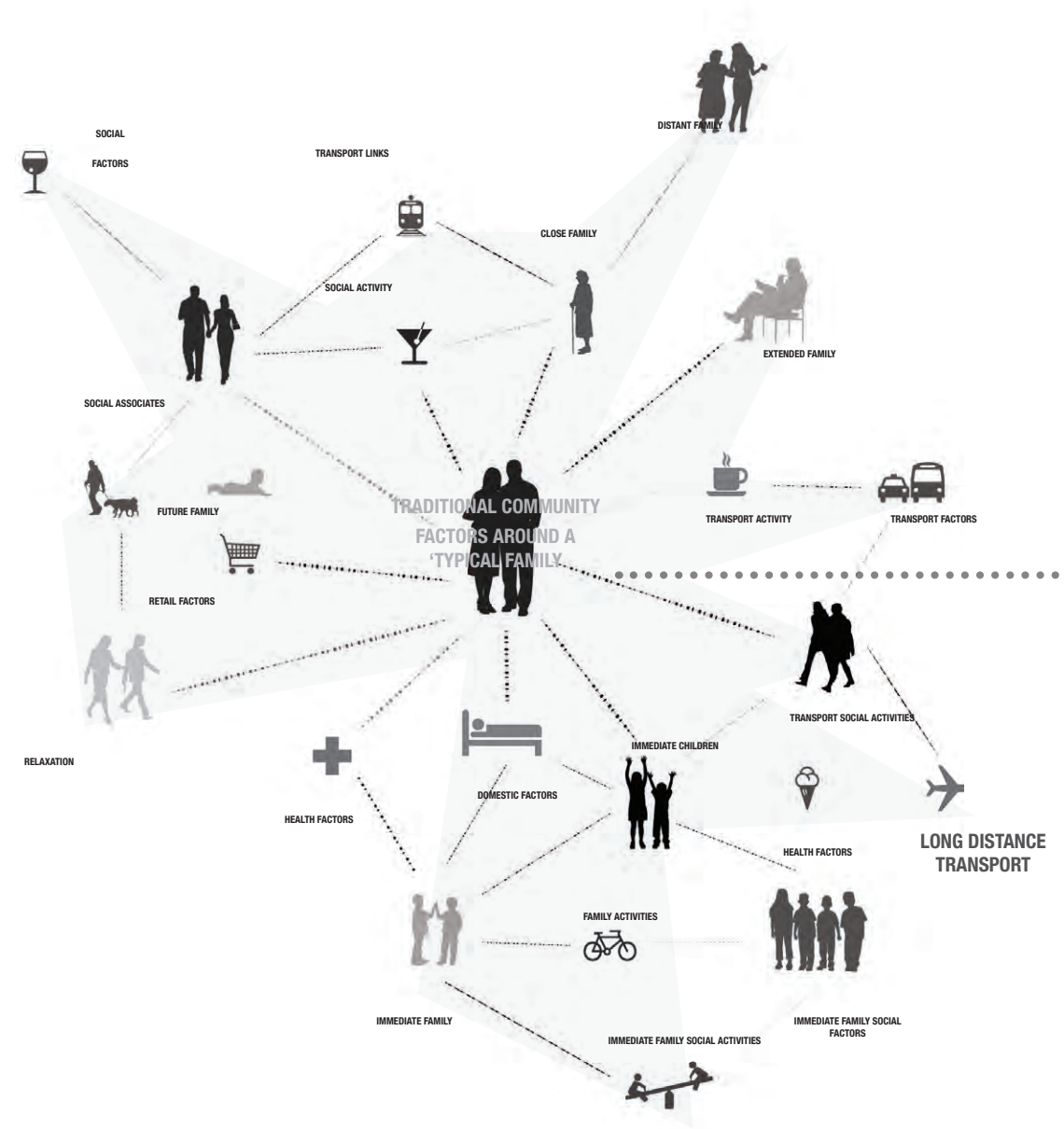
The word 'community' is often used to refer to a group that is organized around common values and is attributed with social cohesion within a shared geographical location, generally in social units larger than a household.

Sarah Thornton offers that a community suggests a more permanent population, often aligned to a neighborhood, of which family is a key part. (Kelder[Thornton], 2010: 78)

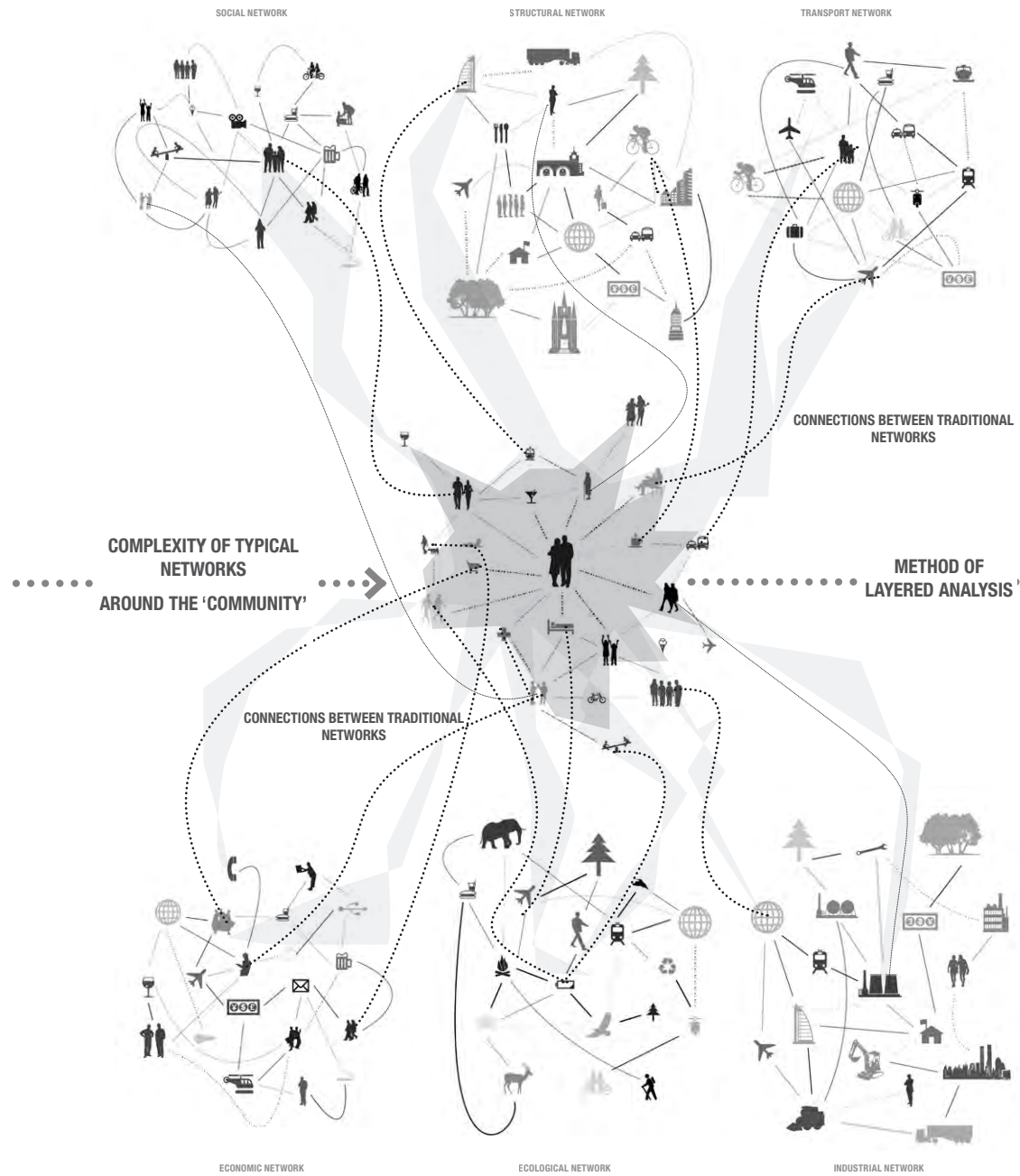
Although settlement groups are easily defined as communities by virtue of their proximity to each other, this is not always the case, as houses might revolve immediately around family but are actually much more connected to disparate groups, cultural divisions or family beyond their immediate settlement, as well being highly mobile and temporary in their nature. (see Illus: 13)

Beyond the immediate familiar connections within a typical family's boundaries the tangible and intangible networks of larger systems play a more concise role in their existence than their immediate context. (see Illus: 15)

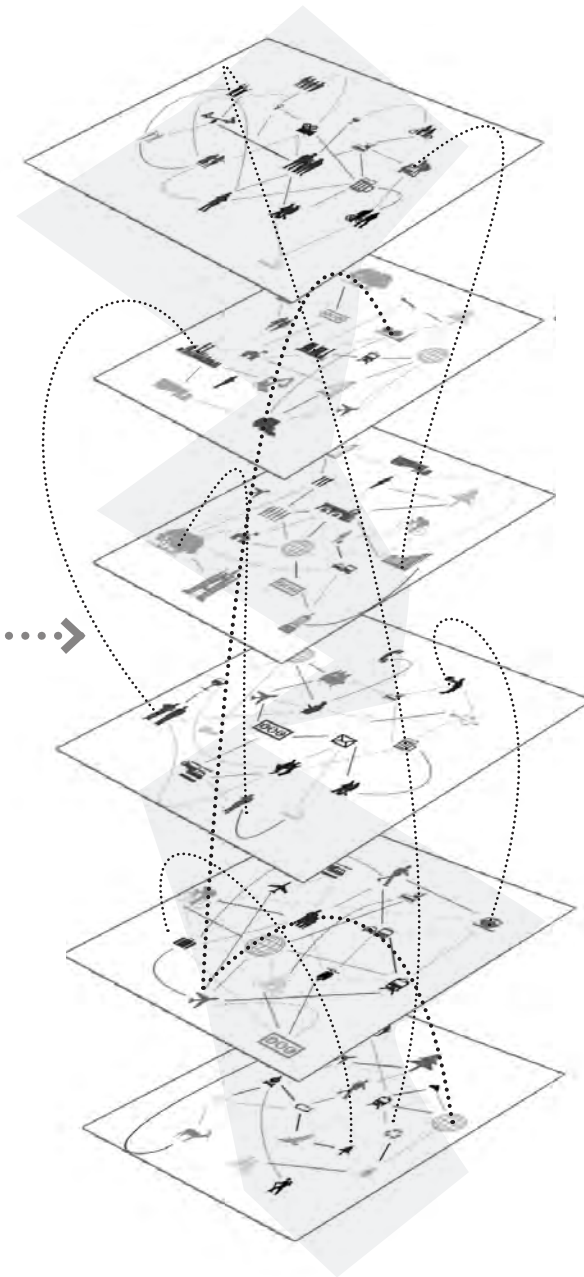
In order to garner an understanding of the relationships within a settlement the effects of the larger tangible and the intangible networks depicted in (see Illus: 15) should be considered.



Illus: 13 Diagram depicting the connections within a family network (Author, 2011)



Illus: 14 Diagram depicting networks around family network (Author, 2011)



Illus: 15 Layering of networks to gain better understanding of the connections (Author, 2011)

2.2.3 NEED FOR RE DEFINITION

From the aforementioned points it can be said that the definitions around 'community' do not appropriately capture the true nature of the relationships between intangible and tangible factors within the current urban landscape.

(see Illus: 15) aims to exemplify that a simplification of the relationships cannot describe or sufficiently capture the nature of the relationship between the factors in layered intangible/tangible relationships. The connections considered in the larger context become more complex and possibly undefinable.

These relationships pertain more towards a type of network. A network of intangible relationships between the individuals and the objects and actions within the intangible network.

This description of classifying social groups by what connects them, begins to offer a clearer definition of the relationship between the individuals and the objects within these networks.

By overlaying these networks, (see Illus: 16), a more complex and holistic view is offered of the intricacy of the relationships between the layers within the network and the factors that capture the nature around a family network.

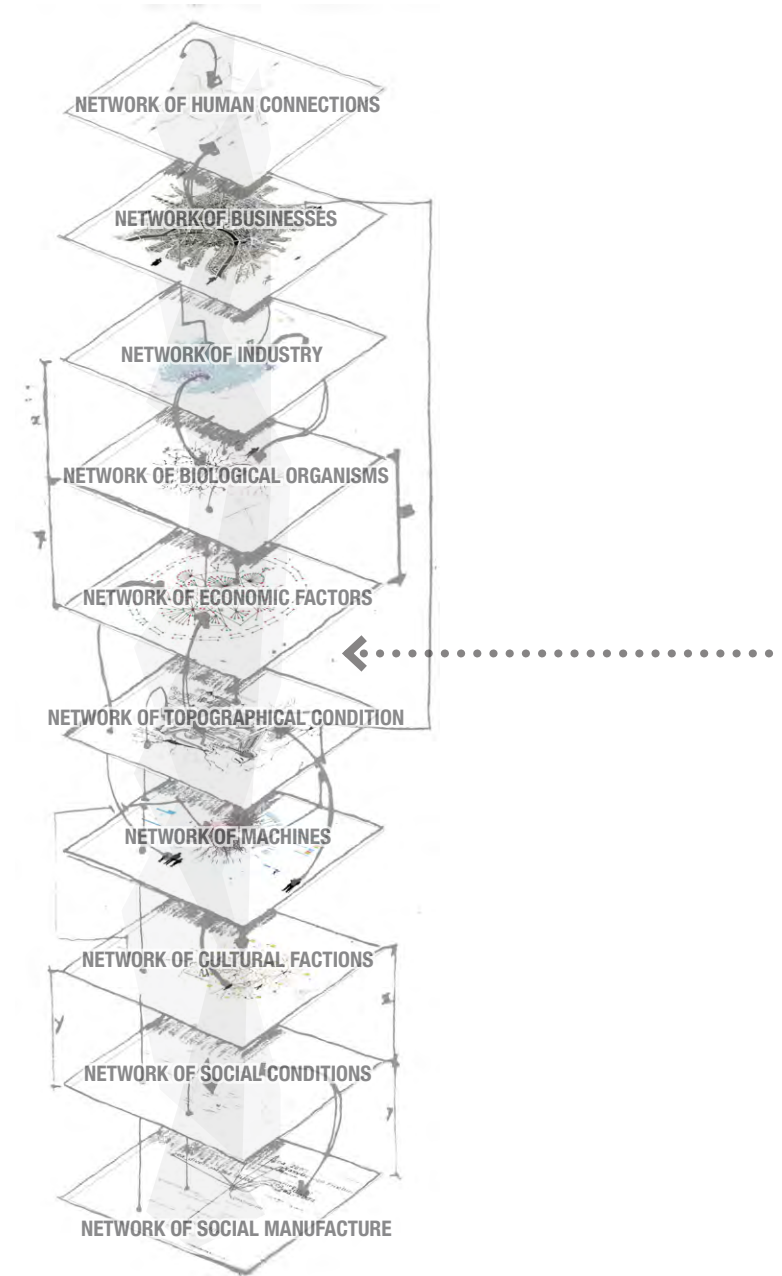
2.2.4 CONCEPT FOR RE DEFINITION

The term 'community' in biological terms, describes a group of interacting organisms sharing a specific location. (Cannon, 2011: 312) The biological metaphor of community alludes to a more appropriate description of what one could possibly describe as 'community'.

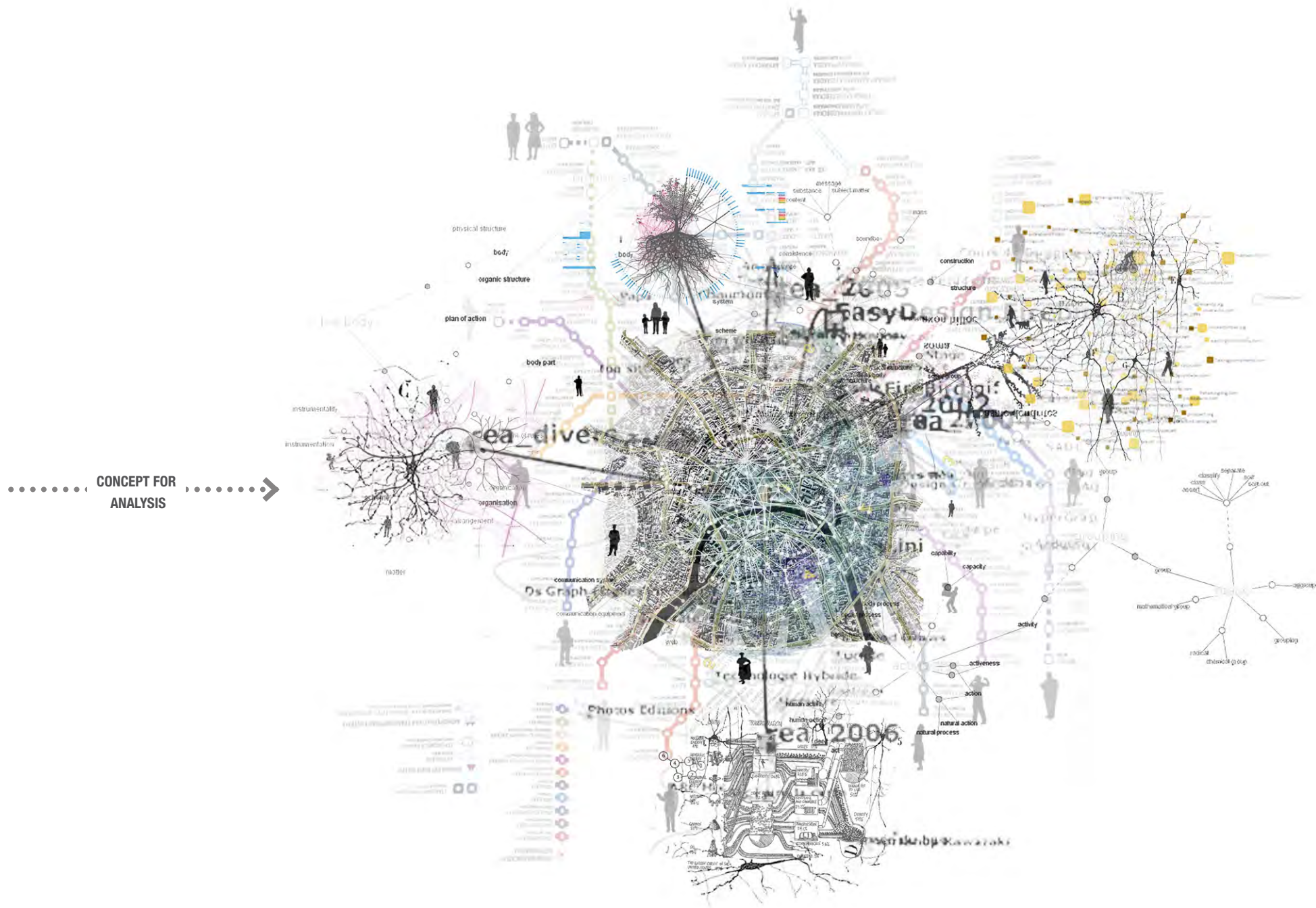
Walter Cannon, the George Higginson Professor of Physiology at Harvard in 1906, proposed the question of interpreting social, domestic or industrial organizations in light of the organic body. (Cannon, 2011: 313)

It is appropriate in this context and this debate to view 'communities' in South Africa more as organic and complex networks than simply space and service sharing 'neighborhoods'. (see Illus: 17)

An understanding of the flows of energy and matter within these networks is crucial in order to engage and determine an appropriate architectural intervention.



Illus: 16 Analogy of the social organism in regard to networks (Author, 2011)



Illus: 17 Concept for analysis of networks, a social organism (Author, 2011)

PART 3: DEFINING AN APPROACH

For South African Architects working within a nation that is in a process of discovering its identity, a question arises: is a built intervention the correct action through which to truly engage with the intangible nature of a complex society?

Murray offers that the Architectural project is possibly one of a series of sites of engagement, and should be seen as one form of practice. (Decker et al [Murray],2007;3)

This statement may appear to shift the argument away from built Architecture as an appropriate tool for engagement, but the author feels that if one does not question the role of Architecture then one cannot explore how and where the discipline fits into today's context.

In her work, Murray explains that she chooses three sites of engagement to explore the possibilities of critical practice in her work:

WRITING

HER PUBLICATIONS INCLUDE MANY PAPERS AND CO-EDITED DESIRE LINES

BUILDING

MURRAY HAS BEEN CLOSELY INVOLVED WITH 2610 SOUTH ARCHITECTS

EXHIBITION

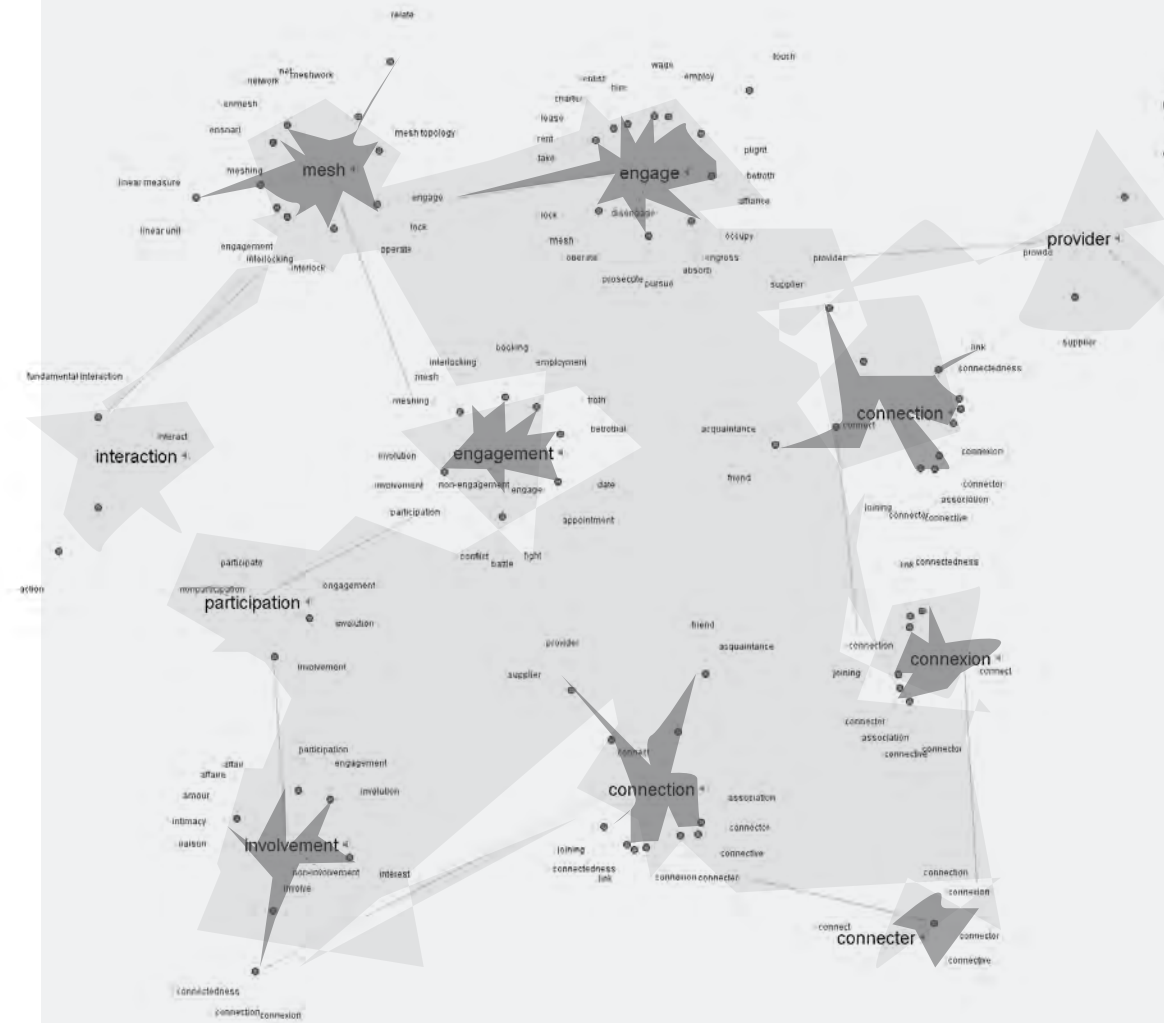
SHE EXHIBITED HER WORK WITH SHARP CITY IN 2005

The author has chosen to interpret this in relation to what is expected for a dissertation:

WRITING	- DISSERTATION DOCUMENT
BUILDING	- DISSERTATION DESIGN
EXHIBITION	- FINAL PRESENTATION

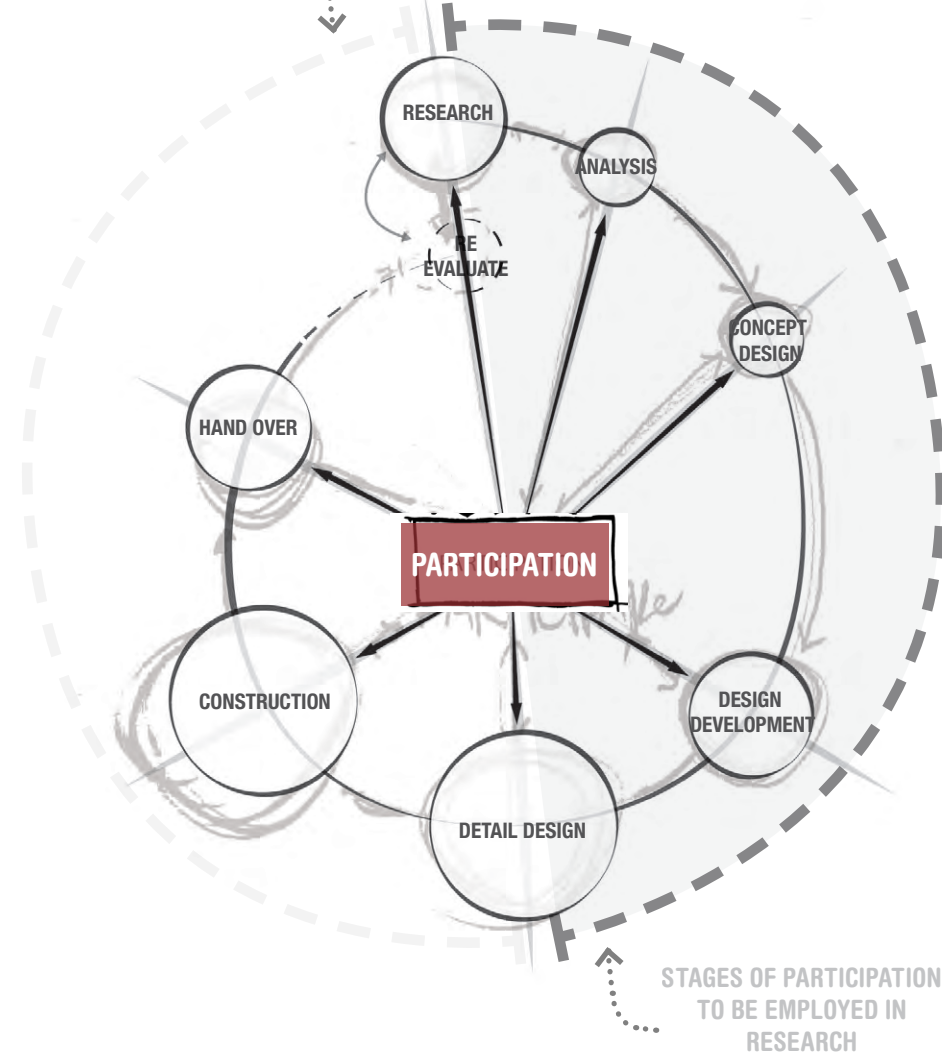
Murray confirms the value of Architecture as the core process of engagement:

'...Spatial disciplines in South Africa have in some ways begun to consider other 'external' disciplinary determinants, in general the focus remains on buildings as the core component of architectural and urban practice.' (Murray et al,2005;5)



Illus: 19 Visual Thesaurus exploration of terms within 'engagement' (Author, 2011)

STAGES OF PARTICIPATION
REQUIRED IN
PROFESSIONAL REALM
NOT TO BE EXPLORED



Illus: 20 Diagram depicting the author's understanding of participation (Author, 2011)

2.3.1 ENGAGEMENT THROUGH PARTICIPATION

In order to enter into a dialogue with an intangible network, tangible engagement with the actors and agents of the intangible networks needs to be established.

To begin to understand one must participate.

To harvest a level of understanding one has to engage with that network on a personal basis and accept the reality that is revealed through the process of engagement. (Breed, 2010: 2)

Participation can be perceived on several levels. In this dissertation the act of engagement on a personal level with a network on only select stages of the research, analysis, design, construction process and eventual ownership of the completed project is explored. (see Illus: 21)

Engagement is not just a process of understanding a network; but of letting a network understand the researcher, of forming a relationship that allows one to co-operatively enter into dialogue, to optimize an intervention's effectiveness.

2.3.2 FORESEEN CHALLENGES WITHIN ENGAGEMENT

Murray offers that South African Architecture has to function in a political, physical and social landscape that is equally hybrid and diverse; a space in which multiple publics exist and compete for resources and opportunities. (Murray et al, 2007: 8)

These resources and opportunities, previously viewed as limitless, are foreseen to be in short supply soon.

Between the looming resource crisis, and the 'jamming together' of previously distinct social categories and their associated distinctly formed spaces, the spatial disciplines and specifically the practice of Architecture will be confronted with new sets of unforeseen challenges. (Murray et al, 2006: 7)

In light of this the author questions whether the current methods generally employed by designers have embraced the required socially-inclusive and 'culturally respectful' methods of undertaking research as is practiced in the social sciences.



Illus: 21 Slovo Park: Engagement through Research (Author, 2010)



Illus: 22 Slovo Park: Engagement through public participation (Slovo-Group, 2010)



Illus: 23 Slovo Park: Engagement through construction1 (Author, 2010)

2.3.3 THE SLOVO PARK PROJECT - PRECEDENT OF ENGAGEMENT

The Slovo Park project was the basis from which the author, who was personally involved, began the investigation in this dissertation. For this reason, it has been included as a local precedent of an approach with an intangible network.

PART 1: RESEARCH & DESIGN PROJECT

In 2010 the University of Pretoria Department of Architecture, under Carin Combrinck, offered its Honours year students the opportunity to work with a small informal community just South of Soweto, named Slovo Park.

The Slovo Park Project began as a small research project in the University of Pretoria's Housing and Urban Environments module of the Architectural Honours Year.

It began as a process of engagement in order to experience the issues faced by South Africa's urban poor. The process culminated in a joint project towards a built goal with not only a physical product, but many intangible outcomes that extended beyond simply 'another community project'.

The student group of Bennett, Casson, Fillipe, Hattingh and Makgabutlane, started the project with a sensitive and holistic research process to begin to understand the socio-economic context of day-to-day life in Slovo Park. (see *Illus: 21*)

From this process, a larger urban framework was proposed that sought to link Slovo Park to its neighbouring community; while developing the neighborhood from within and maintaining the existing sense of community that the area demonstrated to the students during the research phase.

From here the students were required to propose their own individual theoretical projects that they felt would aid in the development of Slovo Park which were well received by the University and were presented to the Department of Human Settlements at their Indaba in September of 2010 as well as to the community themselves during their meeting with government on-site.

The responses from the students were dynamically varied in nature with some designing a processional route from the township to the adjacent cemetery, incorporating the myriad of African cultures and their relationship to death.

Others focused on development around housing through 'housing clinics'. All projects were an attempt to capture the humble manner in which the inhabitants throughout South Africa exercise their power to build their own houses yet benefit from assistance and knowledge sharing.

PART 2: THE BUILT INTERVENTION - SLOVO HALL

As the designs proposed over the research period were far too large and costly to build in the 8 week period, therefore the student group decided that they would combine the principles from each project into the design of a social facility within a civic space - Slovo Hall.

This hall and civic area would provide the people of Slovo Park with a place for them to meet and determine the future for themselves. An existing dilapidated structure that housed the 1994 election station was chosen since the student group felt that this was where the first change began and should continue.

Slovo Hall was specifically designed with a larger future in mind and phased into five early Construction Phases and five larger Future Development Phases.

This scheme was then taken to the community for further design assistance of the future Slovo Hall.

Early Construction Phases allowed the functions of the Future Development Phases to still operate on-site without the actual infrastructure of the Future Development, and as part of the formal hand-over these construction plans were given to the people of Slovo Park. (see Illus: 23)

Building began in September 2010 and the support received from the people of Slovo Park the local business was overwhelming. (see Illus: 24) Each day varied from the previous. Daily more people would join the workforce and get involved in some way.

The project was completed on the 20th of November 2010 and opened during an exuberant day of celebration and deliberation.

Locals met and discussed the future of Slovo Park in their new hall, while children and the adults danced on the fresh paving area and inaugurated in their newly completed and opened public structure. (see Illus: 26)



Illus: 24 Slovo Park: Engagement through construction 2 (Author, 2010)

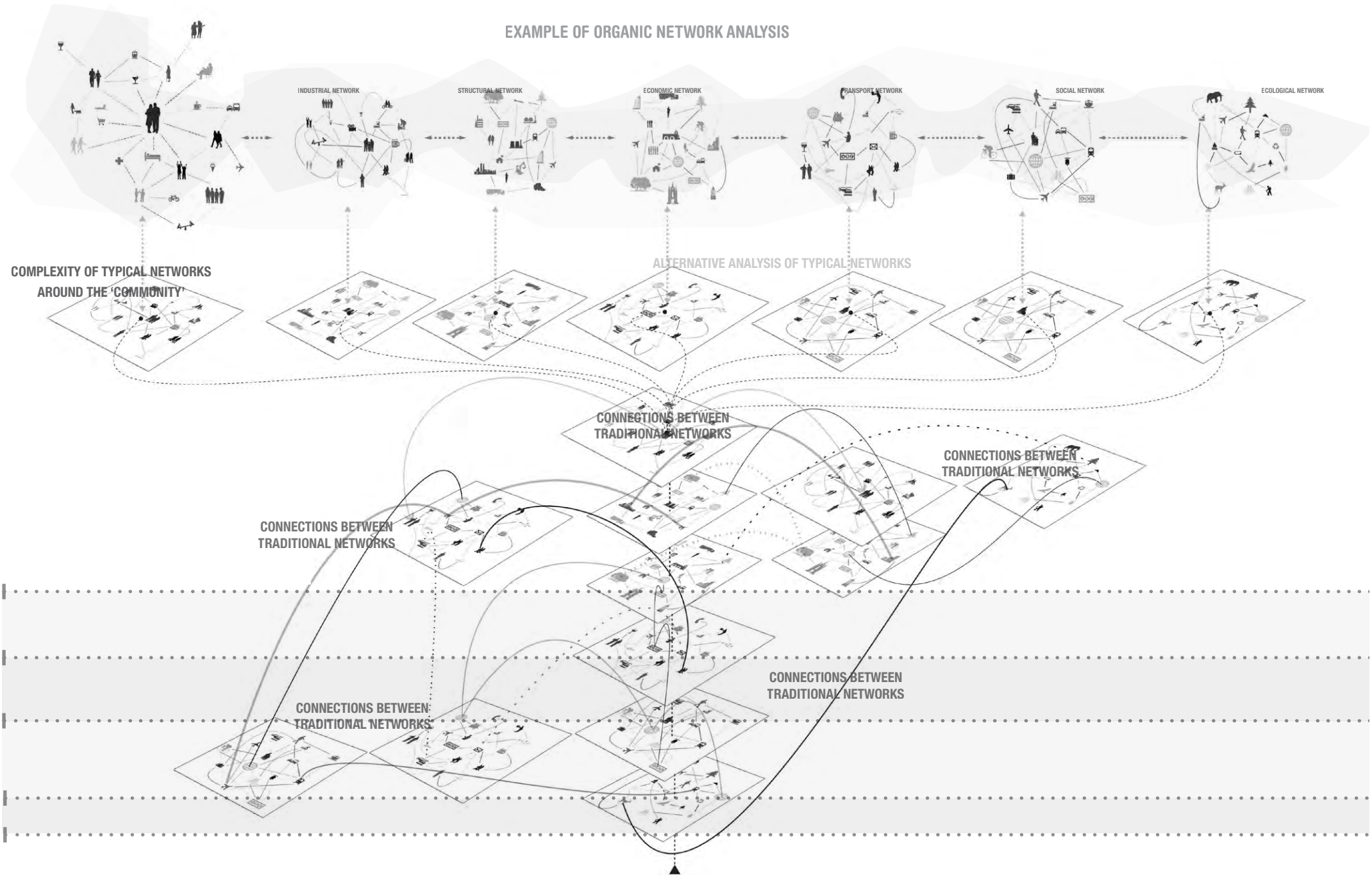


Illus: 25 Slovo Park: Engagement through process (Author, 2010)



Illus: 26 Slovo Park: Engagement through completion of Slovo Hall (Author, 2010)

EXAMPLE OF ORGANIC NETWORK ANALYSIS



Illus: 27 Diagram depicting the analysis of network through respect as a social organism (Author, 2011)

2.3.4 METHODOLOGY OF ENGAGEMENT

Walter Elsasser, 1989, a holistic biologist from John Hopkins University, explains in his manifesto that the nature of any organism can be seen in understanding the most basic component, the living cell. He argues that the structural complexity of even a single living cell is 'trans computational' - i.e. It is beyond the power of any imaginable system to compute. (Elsasser, 1989: x)

Locally, Clarke and Fischer's paper on ecotropic approach towards design mention how projects aim to create an awareness of the biophysical, not only in the possibilities that it might hold for the designer, but also in the impact on the biophysical. (Clarke & Fischer, 2011: 21)

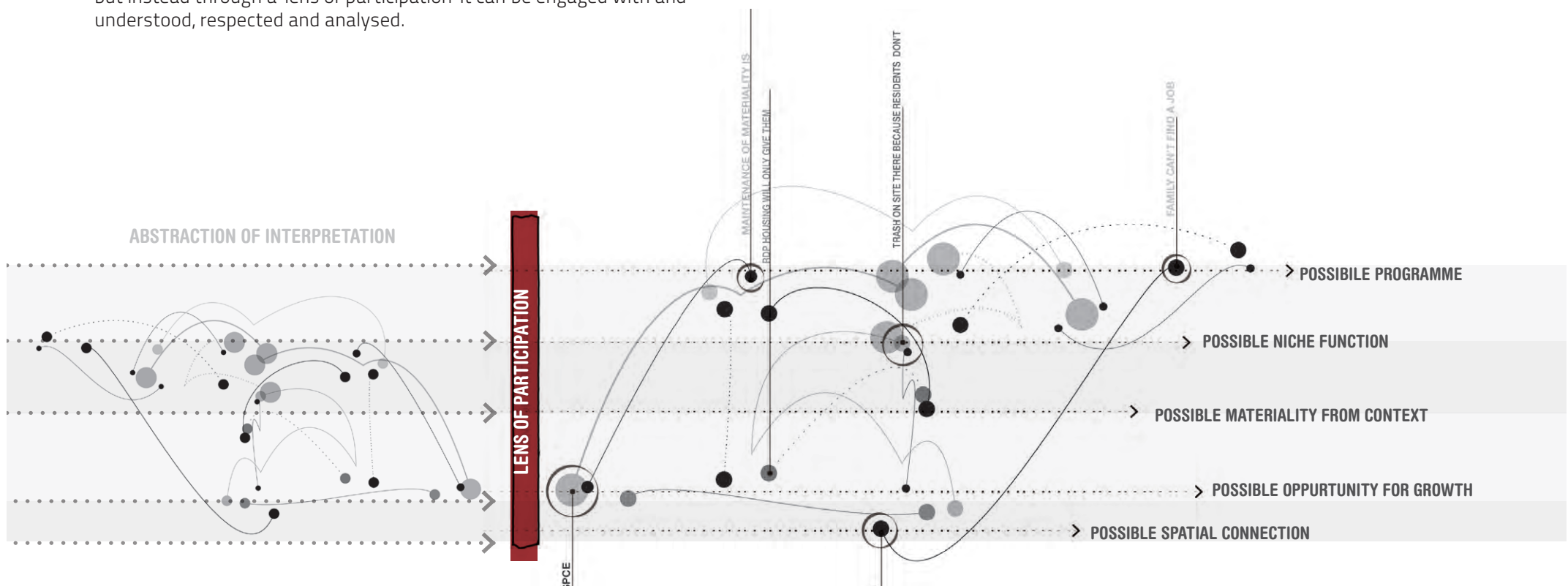
Expanding on this notion, the nature of an organism network cannot be defined, but instead through a 'lens of participation' it can be engaged with and understood, respected and analysed.

2.3.5 LENS OF PARTICIPATION

Through this lens the weaknesses, strengths, threats and opportunities of the organic network can be identified. By unpacking and identifying the layers of a network, this organically complex network can be qualitatively evaluated.

Abstracting the essence of these relationships and interpreting it (through the lens of participation) one can begin to interpret the organic nature of the network itself.

As illustrated below, an example of an interpretation offers that through this lens of participation, several possible spatial, material, programmatic and niche interventions can be derived through engagement and analysis. (see Illus: 28)



Illus: 28 Diagram depicting an example of extraction of strengths, weakness's, threats and opportunities of network through a process of participation and engagement (Author, 2011)

2.3.6 RESEARCH QUESTION

HOW CAN AN ARCHITECTURAL INTERVENTION SUPPORT AND FACILITATE AN INTANGIBLE NETWORK WITHOUT NEGATIVELY IMPACTING ON THE GROWTH AND RESILIENCE OF THE NETWORK?

2.3.6.1 RESEARCH HYPOTHESIS

THROUGH A PROCESS OF ENGAGEMENT AND ANALYSIS, IT IS ASSUMED THAT A HIERARCHY OF NEEDS AND POSSIBLE OPPORTUNITIES, STRENGTHS AND WEAKNESSES WILL EMERGE. (see Illus: 28)

One cannot truly engage with a data print-out or have a conversation with a spreadsheet, but one can interpret, respect and engage with something alive - an organic network in order to determine the reasons behind actions.

By relying purely on quantifiable data and information the products of design can only be quantifiable, and lack necessary elements such as ownership that is required for a structure to survive in its context within its host network.

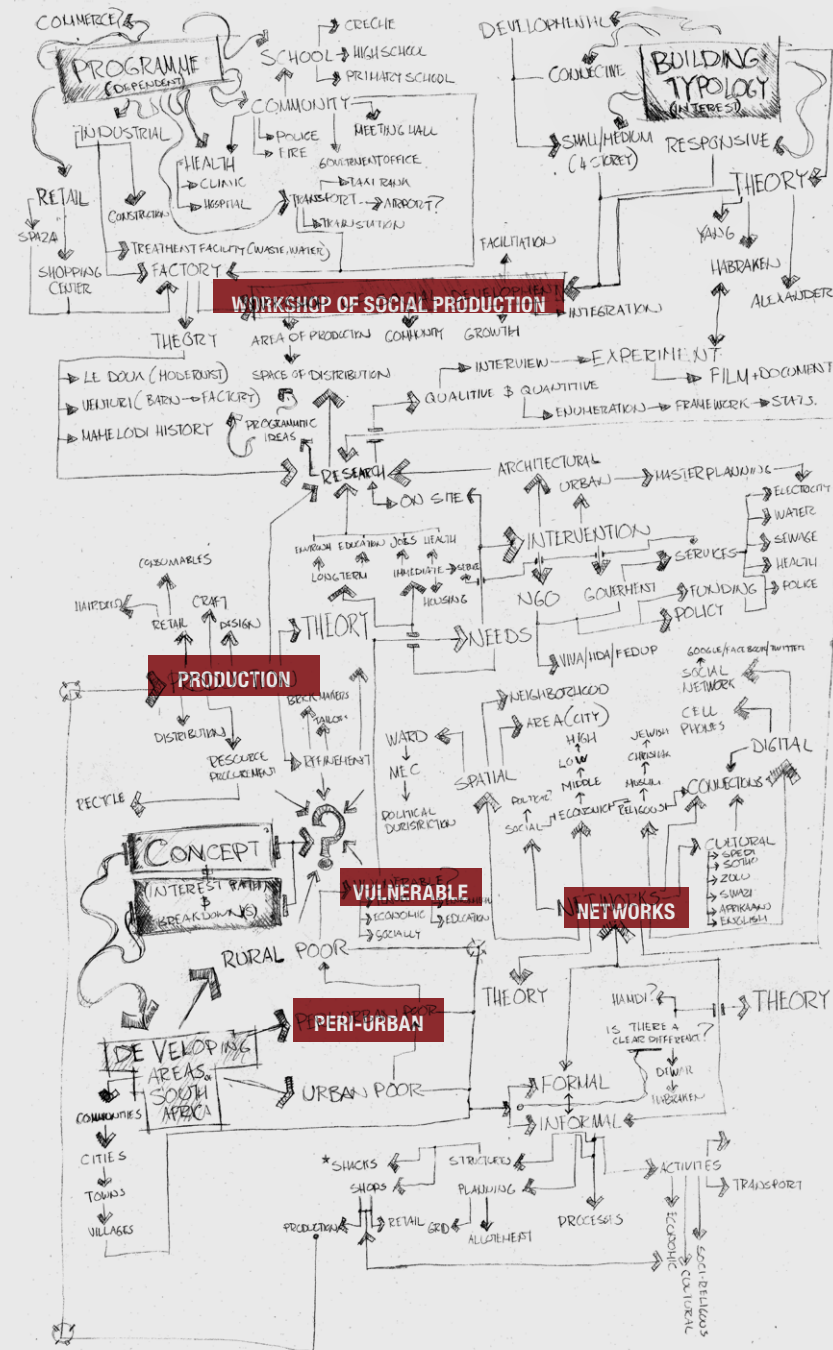
2.3.6.2 DESIGN HYPOTHESIS

THAT A PARTICIPATIVE MAPPING OF A NETWORK CAN BE TRANSLATED INTO ARCHITECTURAL COMPONENTS THAT WILL SUPPORT AND FACILITATE THAT NETWORK.

The themes identified as a result of the participatory process are key in designing the intervention to not only be embraced by local networks when completed, but to be appropriated while in intermediate stages of construction, thus working within the fluxual patterns of vulnerable networks.

This will be in the form of Architectural elements that work first as simple elements, but later provide support for more complex functions. Once ownership has been established the intervention (tangible) and network (intangible) can exist in symbiosis with each other.

This concept is the underpinning aspect of sensitive design with vulnerable networks, and is crucial as ultimately, the network will prevail over the structure.



Illus: 29 Mindmap of Ideas from process that led to research and eventual design (Author, 2011)

2.3.6.3 PROGRAMME HYPOTHESIS

THROUGH THE RESEARCH, KEY POINTS AT WHICH THE NETWORK REQUIRES INTERVENTION WILL BE IDENTIFIED AND FORM THE PROGRAMMATIC AND STRUCTURAL SPECIFICATIONS OF THE DESIGN.

- No action should take place on entirely altruistic grounds. In order to sustain ownership, respect and management, an intervention should have incentive for all stakeholders. Possibly, in a mutually beneficial relationship of tangible resources.
- The intervention cannot replace any of the primary sensitive functions in the network. The identified niche within the intangible network, will generate a programme that would support and enhance the intangible network.
- The intervention should required to perform an educational function in order to truly be a positive factor in development. The nature of education through practical application i.e. workshops, hands-on exercises or public demonstrations is considered appropriate for this context.

2.3.7 RESEARCH AIM

TO ENGAGE WITH AN INTANGIBLE NETWORK AND OBTAIN FROM IT APPROPRIATE GUIDELINES FOR A DESIGN INTERVENTION IN ORDER TO MAINTAIN ITS GENIUS WHEN MADE TANGIBLE.

Subsequently an in-situ documentation of the flows of energy, information and resources seeks to identify how exactly an intervention can begin to positively affect the identified network without disrupting any of the strong relationships between the components of that network.

This, coupled with spatial studies of current relationships between formal components around the building, construction and distribution networks will form the documentary process towards the programmatic, spatial and material aspects of the intervention.

These points will be identified, documented and capitalized upon in the form of an intervention that works with the adds resilience to a network.



Illus: 30 Author undertaking the process of engagement (Author, 2011)