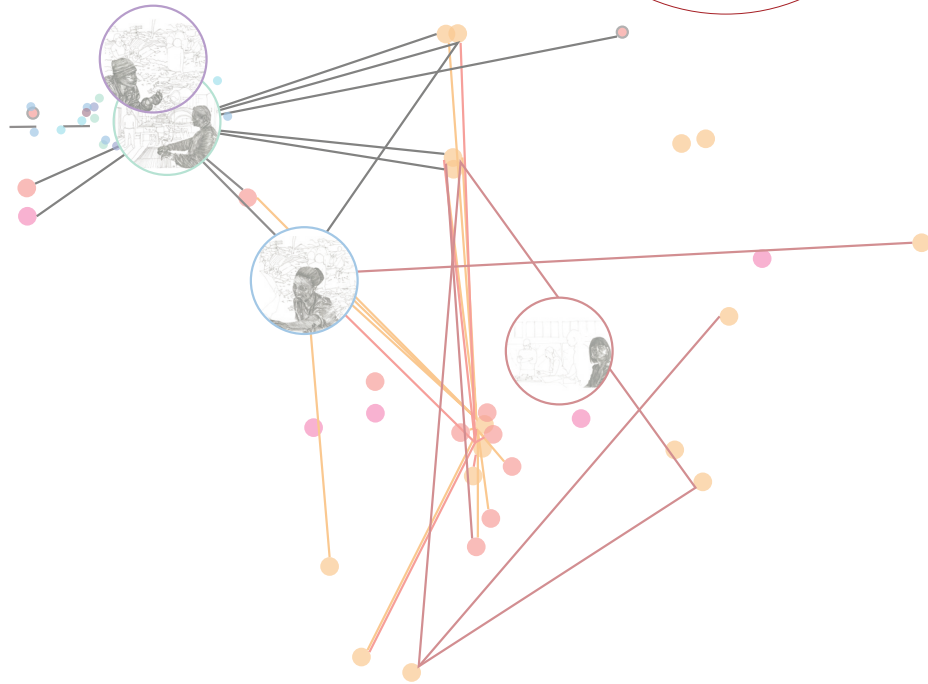


Five Regenerative Development

Theoretical Approach to Architecture



Janeke's¹ approach to architecture focuses on regenerative development as she is committed to bringing out the latent potential in a place and its people. This is one of the factors that led to her active involvement in the Homeless Forum to find “pathways out of homelessness”.

The architectural practice in which she works encourages her to approach her projects with the intention of regenerating the site through nature and the re-establishment of place. She usually explains regenerative development to her clients in order to gain their sympathy for the project.

The goal towards sustainability in architecture is no longer sufficient. Sustaining our environments would only slow down imminent processes like climate change. Regenerative design goes beyond merely sustaining the environment in its current state; it is a place-based approach that improves the environment².

She goes on to tell them that the regenerative approach to architecture is a broad and complex field and that regenerative development is one approach within this field.

Regenerative development is defined as giving new life or energy to (regenerative) and bringing out the most potential or to evolve (development)³.

In the context of regenerative development, Janeke takes the ecological worldview into consideration as well as the essence of place in order to create healthy human networks, within the natural networks.

When describing the ecological worldview she often quotes Bill Reed, “[o]ur mental model of the way the world works must shift from images of a clockwork, machine-like universe that is fixed and determined, to the model of a universe that is open, dynamic, interconnected, and full of living qualities”⁴.

Figure 16: (above) Janeke's perspective of events is narrated in this chapter - highlighted within the greater network (Patrick: 2016)

Figure 17: (left) Graph illustrating how regenerative design goes beyond merely sustaining the environment in its current state through “Green Architecture” (Guenther et al. : 2013: 409)

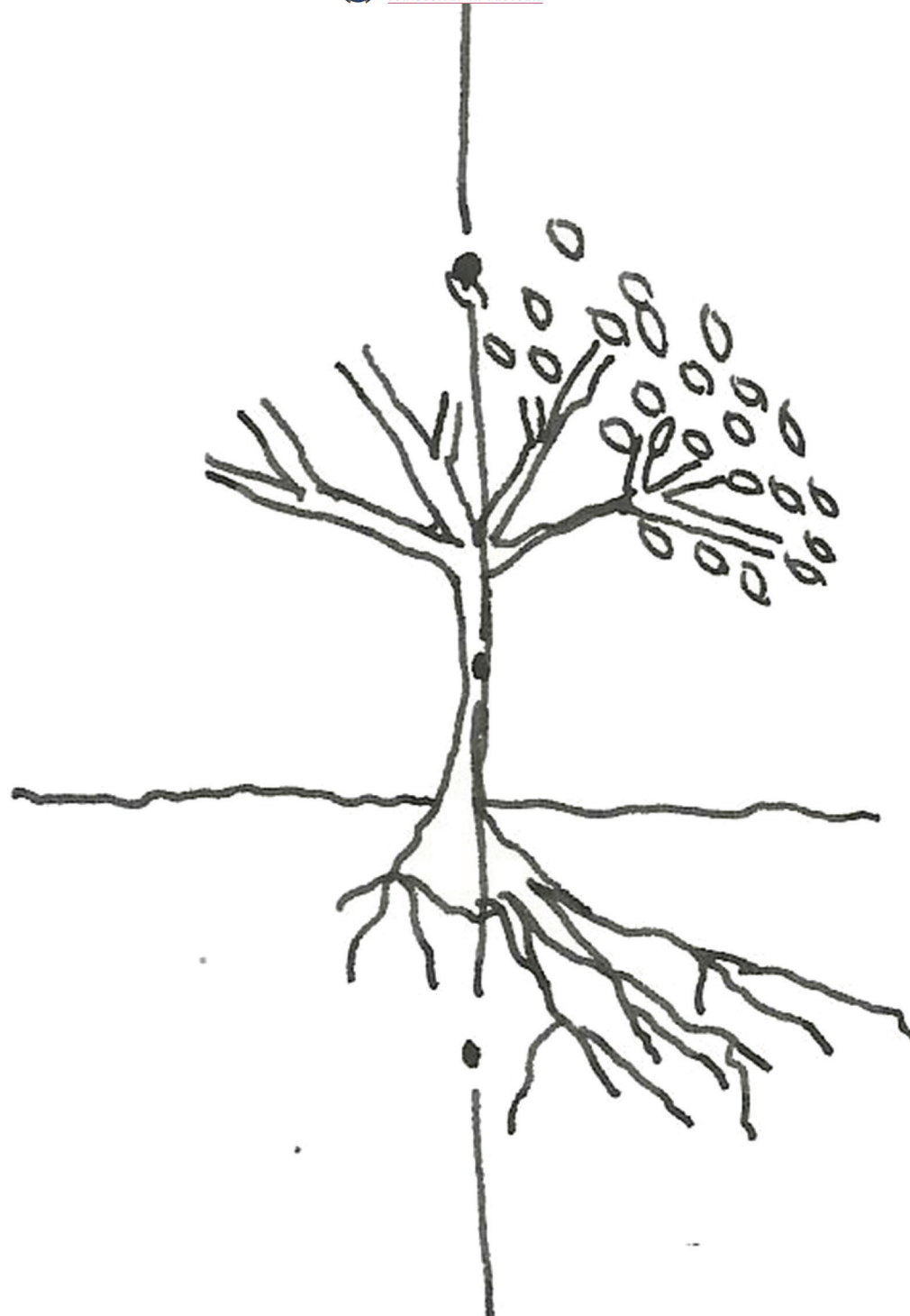
1 See Figure 16

2 Reed, B, *Shifting from “Sustainability” to Regeneration. Building Research & Information* (2007) Available online: www.regenesis.com/resources/ Accessed: 22/02/2016

3 See Figure 17: diagram showing that regenerative design goes beyond sustainability Guenther, R. & Vittori, G., *Sustainable Healthcare Architecture. 2nd Edition* (Wiley: 2013), 409

4 Reed, B, *Living Systems Approach to Design* (AIA National Convention Keynote Address – Regensis & Integrative Design Collaborative (2007) Available online: www.regenesis.com/resources/ Accessed: 26/02/2016, 1-3

Reed, B, *Shifting from “Sustainability” to Regeneration. Building Research & Information* (2007) Available online: www.regenesis.com/resources/ Accessed: 22/02/2016, 675



The ecological worldview considers the human aspect of our context in relation to our biophysical context and how our intervention contributes to a functional system⁵. An understanding of how the intervention is embedded in its natural and social environment, grounds one in the understanding of the positive influence of the life-cycle of the potential building on the natural environment and the community who use it⁶.

When talking to her clients about their projects she explains that architectural interventions need to facilitate positive change and transformation of the systems into which they are built⁷.

This implies a strong dialogue between nature and building. A building that is in harmony with nature has the potential to sustain and generate life. Architectural interventions also need to recognise the existing sense of place⁸ in order to tap into the latent potential for transformative development. The ‘geist’ of place can be woken once again through the empowerment of the community – allowing for a connection between people and the places they inhabit⁹.

These connections form part of a greater complex network (ecological and social). They support the greater network, but are also supported by it¹⁰. When we understand the interconnectedness between humans and nature in this way it is easier to understand the mutual benefit of restoring an unhealthy environment and giving back meaning to a place¹¹.

She explains the concept of re-establishing place as the connection between people and the places in which they dwell. She tries to relate Heidegger’s¹² thoughts on the essence of dwelling – to explain that dwelling does not simply refer to inhabiting a home.

Our human ability to relate intimately to our world is seen as a poetic sensitivity that is the foundation of dwelling. “Genius loci” – the spirit of place – is inseparable from our existence and the poetic sensitivity that we experience spatially, environmentally and architecturally. Dwelling is “the basic character of being” that involves belonging to the environment (being comfortable inside a place). Home is a place that people inhabit – it does not have to be a house (whereas a house should be a home). Home is any place we can feel comfortable and find identity with other places. It is a place that is able to provide dwelling for the biological functions of the body, the intellect and emotions¹³.

Relating this back to architecture, she explains that the Old High German word “buan” means ‘to dwell’ but

5 Hes, D. & Du Plessis, C., *Designing for Hope: Pathways to Regenerative Sustainability* (Routledge: 2014)
6 Capra, F., *The Web of Life: A New Scientific Understanding of Living Systems* (New York, Anchor Books: 1996), 6
7 Haggard, B., Reed, B. & Mang, P., *Regenerative Development* (2005) Available online: http://regenesishgroup.com/wp-content/uploads/2015/02/RD_Revitalization_Mag.pdf Accessed:22/02/2016
8 Haggard, B., Reed, B. & Mang, P., *Regenerative Development* (2005) Available online: http://regenesishgroup.com/wp-content/uploads/2015/02/RD_Revitalization_Mag.pdf Accessed:22/02/2016
9 Haggard, B., Reed, B. & Mang, P., *Regenerative Development* (2005) Available online: http://regenesishgroup.com/wp-content/uploads/2015/02/RD_Revitalization_Mag.pdf Accessed:22/02/2016
10 Haggard, B., Reed, B. & Mang, P., *Regenerative Development* (2005) Available online: http://regenesishgroup.com/wp-content/uploads/2015/02/RD_Revitalization_Mag.pdf Accessed:22/02/2016
11 Mang, N. S., *The Rediscovery of Place and Our Human Role within it* (California: 2009), 4
12 Heidegger was a German philosopher that wrote about “being”
13 Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 189

Figure 18: (left) The author’s notional concept of regenerative design (Patrick: 2016)



also carries the additional meaning 'to build'¹⁴.

So, building is really dwelling, dwelling is the manner in which mortals are on earth, and building as dwelling unfolds into the building that cultivates things or the building that erects edifices¹⁵.

A phenomenological approach to architecture, which adds human quality, can be re-established through this intuitive sensibility towards the world. As architects, we can implant values into the environment with the intention that they are discovered, cultivated and nourished by the people of the place – regenerating a sense of human rootedness of place¹⁶.

The human quality of architecture allows us to experience a building and question how it make us feel¹⁷. Do we enjoy being in the building, dwelling in its spaces and passing through it? A building should acknowledge, receive and greet the passer-by¹⁸. A building is also successful when it is organically connected to the earth, sky and its surrounding landscape¹⁹. It is not merely a mundane, functional object on landscape.

Janeke goes on to explain that the common thread between the topics within regeneration is networks.

Ecology, from the Greek word “oikos” (household) is the study of the relationship that interlinks all members of the earth household²⁰. Ecological communities have been seen, since the beginning of ecology, as consisting of organisms linked together in network style through feeding relations²¹.

Living systems seen as networks provide a new perspective: an ecosystem is seen as a network with a few nodes and each node is a network²². In other words, living systems are non-linear pattern organisations of

14 Heidegger, M., *Poetry, Language, Thought* (Harper Perennial Modern Classics, New York: 2001), 350

15 Heidegger, M., *Poetry, Language, Thought* (Harper Perennial Modern Classics, New York: 2001), 350

16 Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 195-196

Heidegger describes the earth, sky, divinities and mortals in terms of a fourfold of primal oneness. He goes on to explain that building allows a site (space) for the fourfold to exist as one. Places and paths are determined in space. He concludes that the relation between man and space is essentially dwelling. All according to: Heidegger, M., *Poetry, Language, Thought* (Harper Perennial Modern Classics, New York: 2001), 350-359

“A fully human building, be it body, house or city, refers us fundamentally to a movement between the poles of a self-evident foundation and a mysterious source of revelation” according to Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 224

17 Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 221

18 Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 222

19 Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 223

Building is founding and joining of spaces that protect the fourfold. The preservation of the fourfold (the building) is the essence of dwelling. According to Heidegger, M., *Poetry, Language, Thought* (Harper Perennial Modern Classics, New York: 2001), 360

20 Capra, F., *The Web of Life: A New Scientific Understanding of Living Systems* (New York, Anchor Books: 1996), 33

21 Capra, F., *The Web of Life: A New Scientific Understanding of Living Systems* (New York, Anchor Books: 1996), 34

22 Capra, F., *The Web of Life: A New Scientific Understanding of Living Systems* (New York, Anchor Books: 1996), 35

Figure 19: (left) The author's notional concept of how nature and architecture can come together (Patrick: 2016)

BIOPHILIC DESIGN PRINCIPLES

1. Environmental features:
 - Natural materials
 - Natural colors
 - Sunlight
 - Water
 - Natural ventilation
 - Plants and animals
 - Natural views and vistas
 - Facade greening
 - Geological and landscape forms
 - Habitats and ecosystems
 - Fire
2. Natural shapes and forms:
 - Botanical motifs
 - Animal motifs
 - Shell and spiral forms
 - Egg, ovular, and tubular forms
 - Arches, vaults, domes
 - Columns and treelike supports
 - Shapes that resist right angles
 - Simulation of natural features
 - Biomorphism (resemblance to organic forms)
 - Natural morphology (e.g., stratified surfaces and rooted relationships)
 - Biomimicry (mimicry of organic structures and functions)
3. Natural patterns and processes:
 - Sensory variability
 - Information richness
 - Time, aging, and change
4. Light and space:
 - Natural light
 - Filtered and diffused light
 - Light and shadow
 - Reflected light
 - Light pools
 - Warm light
 - Light as shape and form
 - Spatial variability
 - Spaciousness
 - Space as shape and form
 - Spatial harmony (the integration of light, mass, and scale)
 - Inside/outside spaces (e.g., atria, colonnades)
5. Place-based relationships:
 - Growth and efflorescence
 - Central focal point
 - Patterned whole
 - Bounded spaces (e.g., borders, territories)
 - Transitional spaces (e.g., gateways, thresholds)
 - Complementary contrasts (e.g., light/dark, high/low)
 - Dynamic balance and tension
 - Similar forms at different scales (e.g., fractals)
 - Hierarchically organized scales
 - Ordered complexity
 - Relation and integration of parts to whole
 - Linked series and chains
 - Historical connection to place
 - Cultural connection to place
 - Geographical connection to place
 - Ecological connection to place
 - Use of indigenous materials
 - Compatible orientation to landscape
 - Landscape features that define building form
 - Landscape ecology (connections, corridors, biodiversity)
 - Integrating culture and ecology
 - Sense or spirit of place
 - Avoiding placelessness
6. Evolved human relations to nature:
 - Prospect and refuge
 - Exploration and discovery
 - Mystery and enticement
 - Order and complexity
 - Change and metamorphosis
 - Information and cognition
 - Attraction and beauty
 - Mastery and control
 - Security and protection
 - Affection and attachment
 - Fear and awe
 - Reverence and spirituality

Source: Kellert and Heerwagen (2008)

*networks within networks*²³.

Relating these ideas to the subject of architecture, Janeke explains that thinking about a building as merely a part of the whole, a nexus point in a larger network, highlights the importance of our contribution to a functional system.

*A building can be designed in such a way that it illuminates or mimics the organisation of living systems' – strengthening the relationship between humans and nature. This can be done by increasing the efficiency of the resource flows of a building and then considering this in the context of the city, the country and the world*²⁴.

She concludes that our relationship with life-cycle events affects our behaviour, and our everyday lives in the process, as we understand these living systems²⁵.

The way in which Janeke realises and develops these regenerative ideas is through biophilic design. Sometimes the clients are intrigued by this and ask her to elaborate. She explains that an ecological worldview implies that humans need to live in harmony with nature: that the essence of dwelling relates to this concept, focussing on the human experience of architecture in relation to the environment. But she asks how an experience of nature could transcend the visual?

*Biophilic design taps into natural processes, patterns and ways of place-making to facilitate reintegration with nature*²⁶. *It provides a way of designing architecture that illuminates the existing living systems for humans to be able to experience them*²⁷.

Janeke further explains that according to Stephen Kellert, "...contact with nature can foster human health, productivity, and wellbeing...[and] humans possess a basic need for contact with natural systems and processes"²⁸.

An architecture that attempts to renew the relationship between humans and nature could enforce new habits of accountability for nature, by the inhabitants of a place. This connection with nature can be established through buildings and constructed landscapes in places of cultural or ecological significance to improve the everyday lives of the community.

*Some design guidelines are necessary for a building to become a healing insertion within the landscape. Environments are nourishing when they support human mood and feeling as well as providing comfort and creating the correct biological climate*²⁹.

Architecture should create a pleasant environment for the human being, allowing for privacy and social

23 Capra, F., *The Web of Life: A New Scientific Understanding of Living Systems* (New York, Anchor Books: 1996), 82

24 Guenther, R. & Vittori, G., *Sustainable Healthcare Architecture. 2nd Edition* (Wiley: 2013), 15

25 Guenther, R. & Vittori, G., *Sustainable Healthcare Architecture. 2nd Edition* (Wiley: 2013), 16

26 Hes, D. & Du Plessis, C., *Designing for Hope: Pathways to Regenerative Sustainability* (Routledge: 2014)

27 Figure 20 alongside shows the principles of Biophilia

Guenther, R. & Vittori, G., *Sustainable Healthcare Architecture. 2nd Edition* (Wiley: 2013), 69

28 Guenther, R. & Vittori, G., *Sustainable Healthcare Architecture. 2nd Edition* (Wiley: 2013), 68

29 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 29

Figure 20: (Left) Biophilic principles as set out by Stephen Kellert. (Guenther et al: 2013: 69)

*“we shape our environments and our
environments shape us” - Winston Churchill*

interaction³⁰. It should communicate with us through the senses because they tell us what is important in our surroundings³¹. Considering the function of a space in relation to the senses, we need to think in terms of colour, light and geometry, which affect the quality of the space³². The metamorphosis of space is necessary to reflect the change in mood experienced from one space to another³³.

Humans intuitively seek rejuvenation in natural surroundings. They are drawn to spaces with a strong spirit of place and this is generally at the points where the natural elements meet³⁴. Architectural elements need to come together in the same way³⁵.

“Similarly, architectural elements need to be brought into conversation or they fight against each other.”³⁶

In order to create an environment that initiates and supports the processes of healing, we need to shape it with these qualitative aspects in mind. As Churchill said, “we shape our environments and our environments shape us”³⁷.

30 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 22

31 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 49

32 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 22

33 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 70

34 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 28

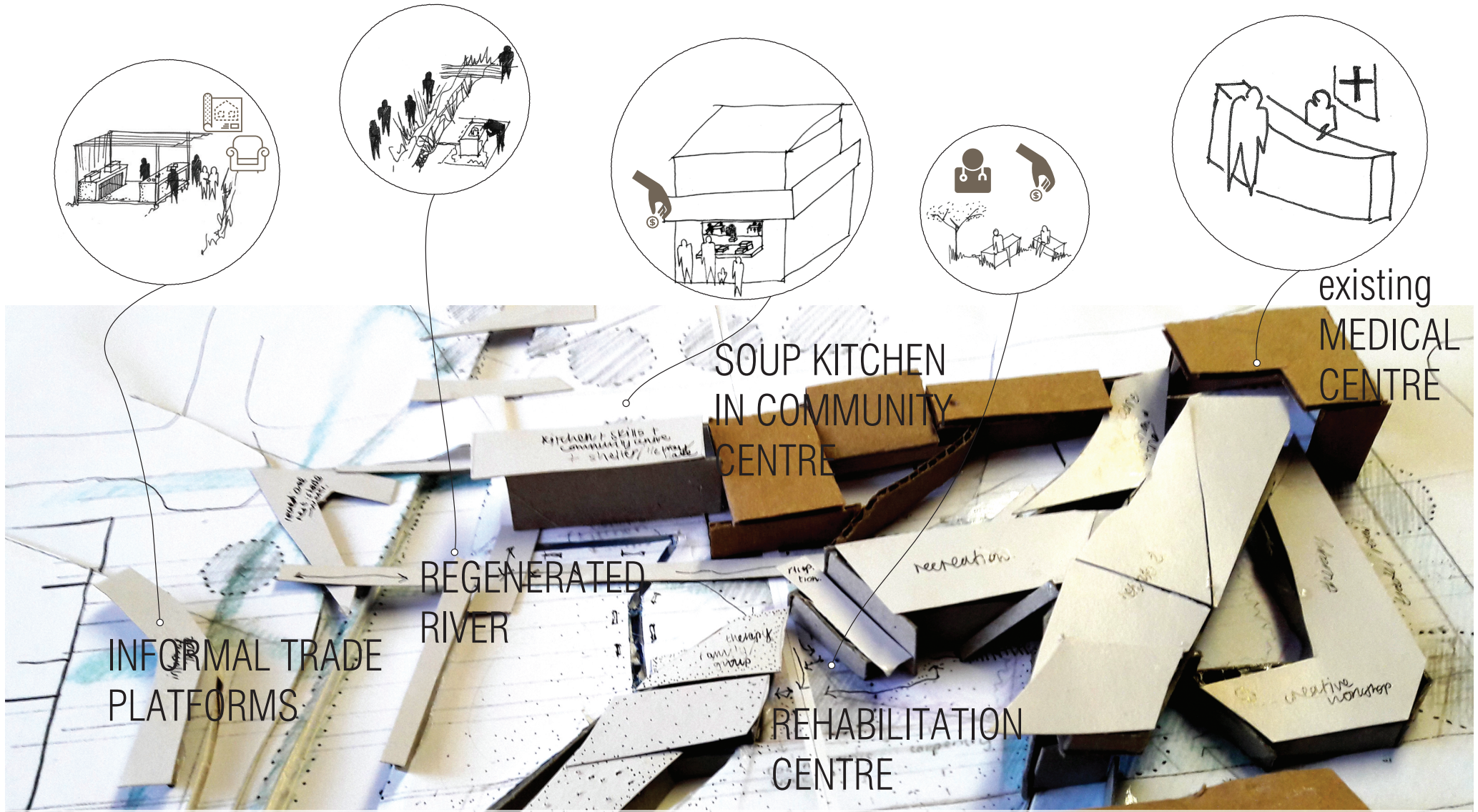
35 Christopher Day explains this:

“In nature, life is its most vigorous where the elements meet...When we seek rejuvenation in natural surroundings we are drawn to those places where the spirit of place is strongest - where there are meetings between elements - places which emphasise the meeting of, for instance, earth and sky or water and rock.”

Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 28-29

36 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 29

37 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 23



Legend:



Mr. Pillay: shop owner



Janeke: architect



Katlego & other vulnerable people



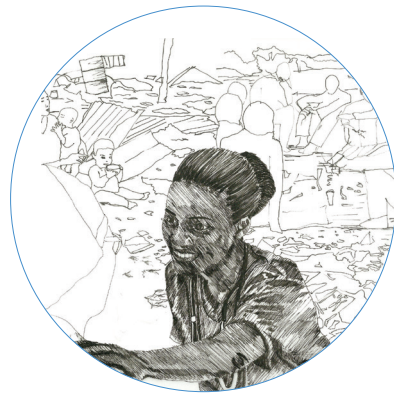
Dr. Radebe & other health professionals

Six Heterotopia

Project Proposal

Dr Radebe introduces Mr Pillay to Janeke and after discussion they¹ devise a project for a much-needed drug rehabilitation facility to be built in Marabastad that would harness the existing support networks.

Janeke, the architect, is able to facilitate the various architectural processes because of her involvement with 'Pathways Out of Homelessness'. They feel that drug addiction treatment should not adhere to the norms of a prison-like environment, but should rather function beyond the simple notion of detoxification of drug addicts, and create a place in which people would feel both nurtured and supported². She describes the project to the community group as one that "re-thinks drug addiction, rehabilitation and re-integration, as well as the support platforms for the homeless people of Marabastad." Mr Pillay asks her to elaborate. Janeke explains the methodology, the way in which the architecture would be designed through regenerative development. She goes on to discuss regenerative development which entails giving new life and energy to a place, and restoring its potential³. She adds that this is where the input of the community is also vital to the architecture. The involvement of the community is vitally important in this process and it is essential that they have their input, when considering the architecture.



Social Support Networks
Dr Radebe



Knowledge of Past Utopias
Mr Pillay



Regenerative Architect
Janeke

Figure 21: (Left) Conceptual model with narrative characters in architectural design (Patrick: 2016)

Figure 22: (Above) The narrative characters involved in the proposal (Patrick: 2016)

1 See Figure 22
2 See Figure 21
3 Reed, B, *Living Systems Approach to Design (AIA National Convention Keynote Address – Regenes & Integrative Design Collaborative* (2007) Available online: www.regenesis.com/resources/ Accessed: 26/02/2016, 1-3