

THE UNIVERSITY OF WESTERN CAPE
Department of Anthropology & Sociology



A minor dissertation submitted in partial fulfillment of the requirements for the award of the Degree of Master of Anthropology MA (ANT 2808)



Title:
Exploring 'assemblages': A multispecies ethnography of the relationship between plants and people in the gardens and mountains of Klaver in the Matzikama municipal region, South Africa.

Candidate: Tihana Nathen

Student Number: 2958347

Date: 23 November 2016

Table of Contents

Declaration:.....	iv
Acknowledgements.....	v
Abstract.....	vi
CHAPTER 1: Introduction	1
1.1 Reviewing the literature: exploring limitations.....	1
1.1.1 Garden studies in Anthropology.....	1
1.1.2 Medicinal plants.....	2
1.1.3 Actor-network theory (ANT) and material semiotics.....	4
1.2. Conceptualizing plant agencies.....	6
1.2.1. Actor-network theory.....	6
1.2.2. Rastafarianism.....	8
1.3. Background to Klaver.....	9
1.4. Glossary of fundamental concepts.....	10
1.5. Chapter outline (chapters 2-6).....	12
CHAPTER 2: Actor-network theory (ANT) in practice: methods to ‘following plants’	14
2.1. An ethnographic survey, gardens and gardened plants.....	15
2.2. Introducing Rastafarians: following plants through conversations with a Rasta.....	17
2.3. “Interviewing” plants.....	18
2.4. Journaling: from raw data to themed chapters.....	21
2.5. Positionality and reflexivity.....	21
2.6. Ethical considerations.....	23
Conclusion.....	24
CHAPTER 3: Gardens, plants and gardeners.....	26
3.1. Gardens as an ‘assemblage’: introducing the actor-network approach.....	27

3.2. Gardened plants as agentive-actants through their “laws” of continuity.	29
3.2.1 Gardened plants as actants.	30
3.2.2. “Laws” of continuity.	33
3.2.3. Gardened plants as agentive-actants.	34
3.2.3.1. The idea of enrolment in an assemblage.	35
3.2.3.2. Pushing boundaries: moving between actants and agentive-actants.	36
3.3. Medicinal plants in home gardens.	42
Conclusion.	43
CHAPTER 4: Mountain stories: following medicinal plants from the garden into the mountains.	45
4.1. Moving between spaces: choosing the mountain.	46
4.2. Rastafarianism: Bossiedokters and Kruiemanne.	47
4.3. The mountain as an assemblage.	49
4.4. Ethnographies of the Mountains.	51
4.4.1. Fresh water from the Maskam Mountain.	51
4.4.2. Finding Sutherlandia in Gifberg.	54
4.4.3. Collecting plants on the Maskam Mountain.	56
4.5. ‘Die Gees’ [the spirit]: becoming one with nature.	58
4.5.1. Assembling the assemblage.	61
4.5.2. Medicinal plants as agentive-actants.	62
Conclusion.	63
CHAPTER 5: Conclusions: Moving towards a ‘plantthropology’ (Myers, 2016)	64
5.1. ‘Metalanguage’: assemblages, subjects and agentive-actants.	64
5.1.1. Assemblages.	64
5.1.2. Subject versus object.	65
5.1.3. Agentivity.	66

5.2. An Afro-centric approach towards transdisciplinary knowledge.....	66
5.2.1. De-constructing binaries: nature/culture/society.	67
Conclusion.....	71
CHAPTER 6: Medicinal plant monographs	72
6.1. Commonly gardened medicinal plants.....	73
Malva (Afr)/ Pelargonium Graveolens (Scientific name)	73
Wynryk/Wynruit (Afr)/ Rue/Ruta graveolens (Scientific name)	74
Wildeals or Als (Afr) / Artemesia afra (Scientific name)	75
Geneesbos (Afr) / Bulbine frutescens (Scientific name)	77
Wilde knoffel (Afr) / Tulbaghia Voilacea (Scientific Name).....	78
Groen-a-mara (Afr).....	79
Plakkieblaar (Afr)	80
6.2. Medicinal plants from the Matzikama Mountains.	81
Renosterbos (Afr) / Elytropappus rhinocerotis.....	81
Koorsbos/Ysterhout(toppe)/Volteinbos (Afr) / Dodonea angustifolia (Scientific name) 83	
Matunga (isiXhosa) / Haemanthus coccineus (Scientific name).....	84
Dawidwortel (Afr) / Cissampelos capensis (Scientific name).....	86
Rooistorm (Afri) / Galium tomentosum (Scientific name)	87
Afrika Aartappel or Afrika-patat (Afr) / Hypoxis hemerocallidea (Scientific name)	88
Wildedagga (Afr) / Leonotis Leonurus(Scientific name).....	90
Geneelbal (Afr) / Pelargonium triste (Scientific name).....	92
Duiwels poeier (Afr) / Pisolinthus tinctorius (Scientific name)	94
Camphorbos or Camphorhout (Afr) / Tarchonanthus camphorataus	96
Dassiepis (Afri) / Hyraceum (Scientific name)	98
REFERENCE LIST	99

Declaration:

**Master's minor dissertation submitted to the Department of Anthropology and
Sociology, Arts Faculty, The University of the Western Cape.**

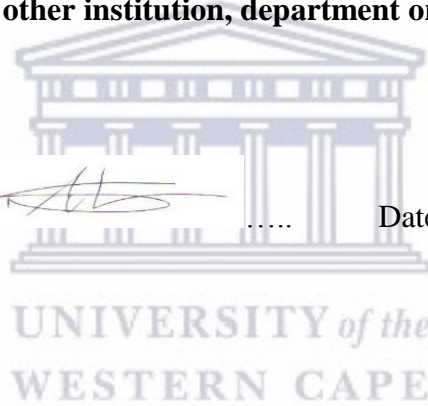
Candidate: Tihana Nathen
Student number: 2958347
Supervisor: Doctor William Ellis
Co Supervisor: Professor Diana Gibson

I Tihana Nathen declare that Exploring 'assemblages': A multispecies ethnography of the relationship between plants and people in the gardens and mountains of Klawer in the Matzikama municipal region, South Africa is my own work and has not been submitted to any other institution, department or for publication.

Signature:(Candidate).....



..... Date: 23 November 2016



Signature:(Supervisor).....



.....

Date: 23/11/2016

Signature:(Co-Supervisor)....



.....

Date: 23/11/2016

Acknowledgements

I want to give thanks and praise to my Heavenly Father because it is through his grace and favour that I have come to complete this project.

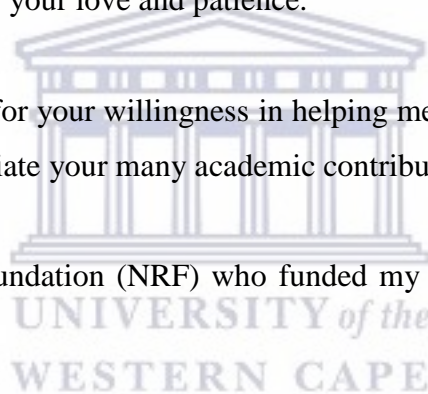
I thank to my supervisors Doctor William Ellis and Professor Diana Gibson for their invaluable contributions, academically and otherwise. Thank you for all your support.

To my research participants who have now become my friends; I thank you for your time and willingness to contribute to my study. I am forever thankful for your expertise and efforts.

To my pillar of strength, my fiancé, I could not have walked this journey without your support. I am truly grateful for your love and patience.

To my colleagues, thank you for your willingness in helping me to complete my research and ultimately this thesis. I appreciate your many academic contributions, honesty and support.

To the National Research Foundation (NRF) who funded my project; I am grateful for the financial support.



Abstract

The theme of this thesis is to illustrate a perspective of learning with plants and not simply about them. I posit a move towards a kind of ‘plantthropology’ (Myers, 2016). In Anthropology from the 1960’s onwards there has been an increased interest towards multi-species ethnographies also referred to as the ontological turn. This perspective has also gained momentum in other disciplines such as Geography, Environmental Studies, Botany and Philosophy. As a result, inspired by the work of Bruno Latour on the Actor-network theory, I began this thesis by following the trail of medicinal plants through home gardens. My intention was, which is evident throughout this thesis, to explore multispecies relations from the perspective of the plants. The objective to learn with plants and the method of following the trail of medicinal plants led me to a variety of plant spaces such a gardens, onto porches, taxi ranks (where medicinal plants are traded), local nurseries and mountains.

Located within the Matzikama municipality in the Western Cape Province, South Africa; I begin my multispecies endeavour in the home gardens of residents living in Klawer. In an attempt to decenter the human in theories of agency, I argue that plants in gardens have transformative abilities thus I suggest calling them *agentive-actants*.

Moreover, with a special interest in medicinal plants I also include an extensive encounter with local Rastafarian *Bossiesdokter* (bush doctors) and *Kruiemanne* (medicinal plant men/herbsman). Through several vignettes from the mountains I explore the unique relationships between Rastafarians and medicinal plants. As a result I further posit that non-human things-like medicinal plants- also possess a kind of botanical agentivity and thus should also be referred to as *agentive-actants*.

My objective is to advance the Actor-network approach to illustrate the ways in which we ought to re-think other than human agency. Consequently I push theoretical boundaries by extending the Actor-network approach and relational philosophies. I posit that gardened plants and medicinal plants also act with intent and not only as an effect of their relations.

Key words: Actor-network, Agentivity, Plants, Gardens, Mountains, Rastafarians.

CHAPTER 1

Introduction

The objectives of this thesis are to propose new ways of re-thinking the relationships between people and plants and non-human agency. Pitt mentioned that it is a complex task to think of non-human things like plants as “independent agents” (2015:48). As such, more attention has been given to non-human agencies of animals (cf Ginn, 2013). However the aim of this dissertation is to re-consider and re-conceptualize the notion of non-human agency. In so doing, I hope to contribute to the growing literature in anthropology to what is referred to as the ontological turn also known as multispecies, other-than-human, or more-than-human ethnographies (Kirksey and Helmreich, 2010; Rose *et al.*, 2012; Smart, 2014) My research focus is on ornamental garden plants and the gardeners who grow and care for the plants in their gardens. In addition, I also focus on medicinal plants as well as the people who use, cultivate and sometimes sell them. Moreover, I am particularly interested in the plants themselves and what they ‘do’. I aim to explore the ways in which plants transform people and exert their own agency.

1.1 Reviewing the literature: exploring limitations.

1.1.1 *Garden studies in Anthropology.*

Historically anthropologists have had an interest in gardens, especially in settings where people produced food through gardening. Two well-known examples are Malinowski’s (2013) research on Samoan gardeners and Descola’s (1998) study of Jivaro people and their gardens. However these garden studies were very human centred in that the anthropologists focused on the methods and practices of agriculture (Conan, 1999). As a result the focus on food gardens placed more emphasis on the human as an agent of gardening and thus the subject of research while taking for granted non-human objects and their affective or transformative abilities in gardens and towards people (see also, Omohundro, 1995). Albeit limited, recent garden studies in anthropology have increasingly focused on the affective role of ornamental plants towards gardeners (cf Archambault, 2016). In addition, other garden studies like the work of Davids (2010) draw on an anthropology of material culture in which

David's argued that medicinal herbs and plants grown in home gardens "have materiality because they are part of substantial ties, emerging from relations and establishing or rebuilding relations" (Hsu, 2010: 21). However there is limited literature in anthropology which focuses on the agencies of plants, a kind of botanical agency. Research which focuses on plant agencies are increasingly investigated in disciplines such as Botany (Hall, 2011; Trewavas 2003, 2014), Geography (Hitchings, 2003; Pitt, 2015), and Environmental literature (Ryan 2011, 2012). These aforementioned disciplines thus offer different techniques in which to study other-than-human participants. Therefore following contemporary methods to the study of multi-species ethnographies (cf Latour, 2013 and Pitt, 2015), this thesis aims to theorize novel ways to understand the relationship between gardeners and the plants in their gardens. Subsequently I posit that ornamental garden plants as well as medicinal plants are subjects in this study who transforms humans in unique ways.

1.1.2 Medicinal plants.

In addition to investigating the agencies of ornamental garden plants, included in this thesis is an exploration of non-human agency of medicinal plants as well. As emphasised by Cohen (2008) and Dalhberg & Trygger (2009), studies on medicinal plants in anthropology are more quantitative and focus predominately on the prevalence of the use of medicinal plants and on the pharmacopeia through ethno-botanical collaborative endeavours between anthropology and medicine. There exists extensive literature on the "pharmacological properties" such as the biochemical activities and the subsequent effects in the body (Green *et al.*, 2015: 78). This is attributed to various studies which argue that globally people utilise diverse flora as part of their primary health care practices (Hsu 2010; MiNzue 2009). Farquhar (2012); Gibson & Oosthuysen (2012); Kangas (2002); and McDonald (2012) among others, highlight the use of traditional medicines and healing practices in various settings. A lack of adequate health care services result in a combination of methods being used by local people to diagnose and treat ill-health or other ailments (which include a mixture of bio-medical sources and local traditional remedies) to get the best health outcomes.

Recent literature in Africa and particularly in South Africa emphasize that, even when adequate health care services are available, many people frequently combine bio-medical knowledge and traditional medicinal remedies for the treatment and management of ill-health

(Dahlberg & Trygger 2009). For example, Davids *et al* (2014) conducted a study among traditional health-care practitioners (THPs) in the Western Cape and Eastern Cape. The study focused on HIV and its commonly associated opportunistic infections (OI) concluded that medicinal plants are prescribed by traditional healers to treat and manage symptoms of HIV and OI after a diagnosis by a bio-medical health-care practitioner had been made.

Research conducted by the World Health Organisation (2008), Hughes *et al* (2013) and Hughes *et al* (2014) emphasises that a big majority of South African citizens incorporate herbal and medicinal plants into their primary health care solutions. Scholars interested in the use of indigenous medicines assess that the majority of South Africans use traditional remedies (Cocks & Dold, 2002; Cocks & Moller, 2002; Peltzer, 2009). A study conducted by Peltzer (2009) documented the prevalence of traditional medicine and complementary and alternative medicines (TMCAM) in South Africa; he found that 80% of the population of South Africa use traditional medicines, and that the use of a combination of complementary and alternative medicines is increasing (*ibid*). He also reported that the use of TMCAM was more prominent in rural communities. Cocks and Moller (2002) in an eight month case study in the rural Eastern Cape documented 90 herbal medicines used to enhance general well-being. This includes the use of medicines to counter sorcery, for good luck and for general physical conditions. Other studies on medicinal plants in South Africa focus on documenting local ecological knowledge (LEK) in order to preserve it and to contribute to efforts of bio-cultural conservation, like the work of Alexander (2010); MiNzue (2009); and Nortje (2011; 2014). As a result, there is a gap in the literature which focuses more qualitatively and philosophically on the role of medicinal plants as agents in their relations with humans. It is for this reason that I explore, ethnographically, the relationship between people and medicinal plants to propose the ways in which plants with medicinal properties possess agentivity and thus transform humans.

In an attempt to address the gap on qualitative-less and philosophical-less research on medicinal plants, recent studies such as the work by Cohen (2008) argued for the use of the theoretical stance of phenomenology and emphasised a need to investigate how people “engage with plants through their embodied presence in the world.” Cohen (2008) uses the theory of phenomenology, while I use the Actor-network theory (ANT) and a material semiotic approach, and hope thereby to contribute to the growing body of literature which explores the theoretical turn from theories of multiple ontologies, to ontological

multiplicities. However, I do not only use the ANT approach to only theorize agencies of medicinal plants but also emphasise on the topic of gardened plants as agents.

1.1.3 Actor-network theory (ANT) and material semiotics.

Dauids (2010) highlighted the significance of gardening medical plants and herbs for personal well-being. In a study in Cape Town among residents of Bonteheuwel, he concluded that medicinal plants were used as self-medicating treatments and therapies for general physical conditions, as well as for cultural purposes. The care of a garden that includes plants and herbs with therapeutic properties had symbolic meaning and reflected the life and character of the individual who nurtured that garden. Davids draws on the insights of an ‘anthropology of material culture’ to illustrate how the elderly people of Bonteheuwel perceive medicinal plants and the practical way people live with medicinal plants and herbs through their gardens. Hsu (2010: 21) stresses that “plants have materiality because they are part of substantial ties, emerging from relations and establishing or rebuilding relations.”

Farquhar and Lock (2007) argued for the incorporation of Bruno Latour’s Science and Technological Studies (STS) with the field of medical anthropology. Such integration has the potential to lead to novel forms of materialism. Hence, the work of Michel Callon (1986), Bruno Latour (1996; 2013) and John Law (1992; 2009) is important for my own study because it enables me to use innovative ways to explore the relations between humans and non-humans, for example through ANT and material semiotics.

Hitchings (2003) used an actor-network approach to explain how people and plants (in gardens) co-exist in practice. His study in the UK, conducted among residents caring for a private garden, was aimed at providing insight into ways to “conceptualize the world as sets of actors within networks” (Hitchings, 2003: 110). He thus argued that plants in gardens were ‘actants’, emphasising that plants become actors within a network of associations because they had the ability to persuade humans to grow them, whilst demanding a favourable environment if they were to flourish. These include light, water, nutrients and a lack of pest attacks. Thus, through these demands Hitchings stated that “plants performed themselves into existence as discrete entities” (Hitchings, 2003:107).

The continued growth and existence of a particular plant implies an active enrolment by the plant to its continuum within an actor-network between plants and people. Similarly, Hall

(2011) posited that plants and people co-existed, in which each agent has its own ontological story. He thus argued that plants were autonomous because of their ‘laws of continuity’, relating to the ideas of favourable environmental demands mentioned by Hitchings. Ultimately Hall and Hitchings suggest a theory of material semiotics, in order to explore human-plant relations.

Ernstson (2013) used the actor-network approach to show how ANT can be used in studies within Africa “...as an attentive way to rethink agency, empowerment and collective action.” His study focused on a grassroots ecological rehabilitation project in Cape Town and aimed to trace the networks of associations between residents, authorities, plants and green areas. By focusing on plants as actors within a network of relations he concluded that “...plants participated in giving voice to memories of oppression while undermining expert-based practices that separate Nature and Culture.” (Ernstson, 2013). Ernstson (2013) incorporated the ANT approach to understand the relationship between people and plants. In so doing, he contributed to novel forms of hypothesizing as called for by Latour (2013).

These contemporary scholars aim to de-construct dichotomies between nature and society and thus between people and objects. Their intention is to replace the philosophical assumptions that people are the producers of objects: they assert that objects [material things like plants] also produce change in people. In others words, ‘actors’ and ‘actants’ (Latour 2013) transform one another in unique ways.

Therefore as mentioned above there are two theoretical positions that can be used in an ethno-botanical study. One is Phenomenology and the other is the Actor-Network theory. For my own analysis I use the Actor-Network approach as a strategy to explore the magnitude of the relationship between people and plants, or actors and actants (Latour 1996; Law 2009).

In the field of anthropological scholarship the development of theory depends on research, and vice versa. Thus the interaction between theoretical frameworks and research is that theory guides the researcher to the type of data that ought to be collected, after which the data is used to affirm or challenge theory (Creswell 2003; Fawcett & Downs 1986). Accordingly the Actor-Network Theory (or Material Semiotics) has been used as a theoretical framework, which has provided me with explanatory methods to scrutinise the relationship between people and plants and thus the assemblages in which humans and non-humans are connected.

Therefore my objective in using the Actor-network Theory is to propose a new way of thinking about how people construct, perceive or experience ways of knowing and being in their relations with non-human agents, through ecological associations or assemblages such as the garden and the mountain.

1.2. Conceptualizing plant agencies.

1.2.1. Actor-network theory.

I had developed an interest in investigating and documenting the use of medicinal herbs and plants by residents of Klawer while working as a research assistant as part of an ethno-botanical project in several small towns in the Matzikama Municipal area to conduct surveys¹ over two weeks. The surveys were done in four selected towns and the researchers went door-to-door to interview residents. I thus became familiar with the life and homes of the local residents. During the data collecting process I observed that every household maintained a garden in which they cultivated plants: medicinal herbs, ornamentals, apotropaic plants and such. I was struck by the large number of medicinal species grown in home gardens. Consequently I began my study by following the trail of medicinal plants through home gardens². This method of following plants was inspired by the Actor-network theory through my reading of Bruno Latour's 2013 publication titled: *An Inquiry into Modes of Existence: an anthropology of the moderns*. In the latter book, Latour suggested that anthropologists use the actor-network approach as a methodological tool to explore the agencies of non-human things. As a result I began this study by following medicinal plants through home gardens since I noticed (through conducting surveys in the Matzikama) that a large number of household purported to grow medicinal plants in their home gardens.

Subsequently, by way of an ethnographic survey in Volstruissingel and Buitekantstraat in Klawer, I began to investigate and follow the trail of medicinal plants in gardens. In this sort of rapid surveying approach, I walked door-to-door to talk to residents about their gardens

¹ The ethno-botanical project in which I participated is titled "Knowledge Interfaces". One of its aims was to document the various medicinal herbs and plants used for the treatment and management of high-blood pressure, type-two diabetes, cancer and the common cold. The use of allopathic medication was also documented

² I provide a more extensive discussion on the methodological techniques used in this study in chapter 2.

but particularly to investigate whether the households cultivated medicinal plants in their gardens. In so doing the aim of this approach was to address the following objectives:

- To investigate what kinds of medicinal plants, if any, are grown in home gardens and for what health care solutions these plants are used, if people did use them.
- To demonstrate how the actor-network approach can be used and applied in a multi-species ethnography in Anthropology.
- To explore the human-plant ontological relations between gardeners and the plants in their garden.
- To explore the ways in which plants in the garden - medicinal or ornamental – possess non-human agency and the ways in which plants transform people.

In lieu of the above objectives, the application of following the trail of medicinal plants led me to explore human-plant relations in the mountain in addition to the garden. Consequently I present the garden and the mountain as a social phenomenon, following the ‘assemblage theory’ (Delanda, 2006) through the work of Latour (1996; 2005; 2013). Latour who works in science and technological studies, proposed the Actor-network theory (ANT) as a methodological tool to investigate the agencies of ‘quasi-objects’ [non-human things] (Latour, 2013). He further proposed the notion of assemblages as an alternative social theory which traces “a movement during a process of assembling” (ibid, 2005:63). Moreover, Latour claimed that the notion of assemblages denotes a movement and a transformation; an ‘enrolment’ in which actants (quasi-objects) transforms actors (humans), and vice versa. Ultimately Latour suggested that the actor-network approach to be appropriated in the field of anthropology as a method of inquiry to explore the relationship between humans and non-humans, but also to investigate the agencies of non-human things. Consequently I posit the garden and the mountain, respectively, as an assemblage. In so doing I explore the human-plant relations through these assemblages and postulate that ornamental garden plants as well as medicinal plants from the mountains as possessing an agency of relation but also of intent.

Therefore I posit two processes, one in each assemblage, to explore plant agencies. In so doing I draw on Haraway's (2008) notion of "becoming" to argue that the assemblage of the garden is characterized by a process of the "making of a garden and gardener" which demonstrates the 'agentivity' of gardened plants. Secondly, I argue that in the process of "becoming one with nature", medicinal plants are agents in the production of knowledge with local Rastafarians in which Rastafarian *bossiedokters* (bush doctors) and *kruiemanne* (herbalists/herbsman) come to experience a particular notion of knowing and being a Rastafarian *bossiedokter* or *kruiemann* within their relations to non-human things like medicinal plants from the mountains.

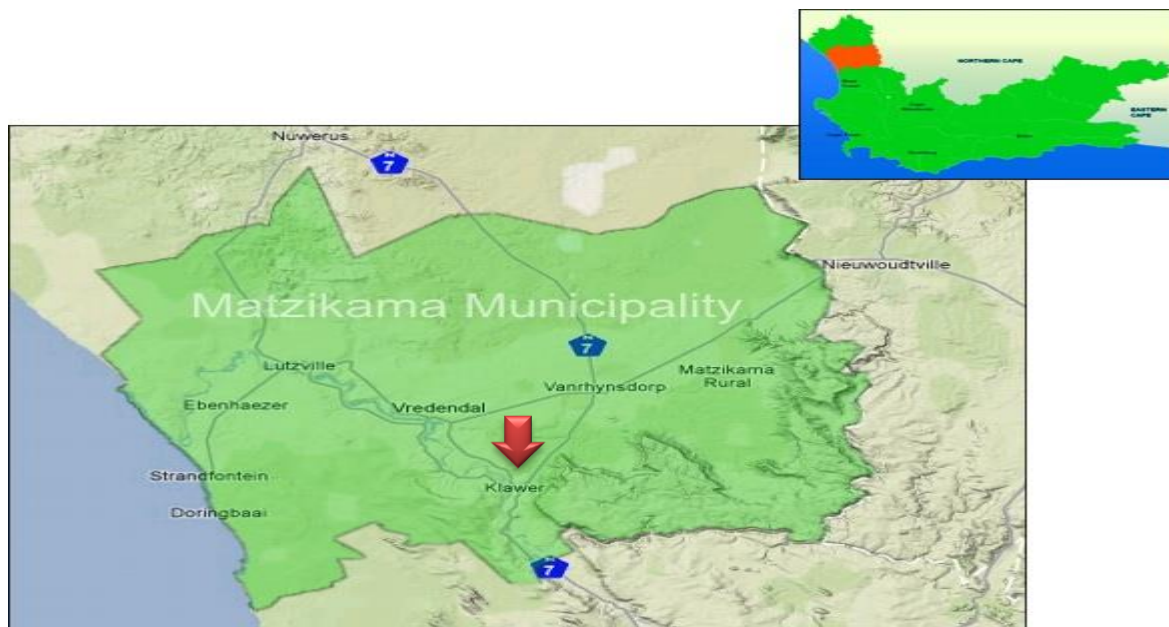
1.2.2. Rastafarianism.

The current literature on local Rastafarians lacks a post-humanist approach to understand the unique relationship between Rasta's and medicinal plants from the Cape floristic region. Existing scholarship in Africa and particularly in South Africa often looks at progressive phases of the Rastafarian movement, while other literature focuses on local flora with an interest in its medicinal properties. Further research about Rastafarians and medicinal plants highlight issues of bio-diversity and the need for cultural preservation and diversity. I argue that such research is human-centred. It does include research about plants but from a hierarchical position, from the perspective of human beings. It is for this reason that I introduce, from an Afro-centric perspective, how we ought to theorize and come to understand the unique relations between people and plants, particularly between local Rastafarians and medicinal plants.

The human centred research on local Rastafarians and medical plants focuses on the role and progressive state of Rastafarianism as a political, religious and cultural movement (see for example, Midas, 2012 & Savishinsky, 1994). It also emphasises methods and practices of the use of medicinal plants for health and healing; the increase in the trade of medicinal plants by Rastas; or the active medicinal properties of herbal medicines (Cocks & Dold, 2002; Philander, 2011, 2012). But there is a gap in this literature, namely which is a post-humanist approach to be able to comprehend the unique relationship between Rastafarians and medicinal plants in which reveals plant agencies.

Owing to the lack of supporting literature I propose to do this through an interdisciplinary approach. In other words, I borrow from the fields of botany and geography to illustrate how local Rastafarians from Klaver have come to understand their relations with nature. In so doing I support a call for a “plantthropology” (Myers, 2016), in which euro-centric binaries about the nature/culture and nature/society dualism are destabilised. The aim of this thesis is then to contribute to this nascent body of literature in which I argue for the agentic role of medicinal plants in their relationship with Rastafarians.

1.3. Background to Klaver.



My study is located in the Matzikama municipal area. I focus on the wider area because some of my study participants, i.e. the Rastafarians, move out of the town into the surrounding mountains, and other towns, to collect medicinal plants and sell them. Most of the population of the Matzikama area is rural with an unequal distribution of resources in the area. Wage employment, agricultural activities and social grants are among the diverse livelihood sources of households (Jacobs & Makaudze 2012). The community profile database from the 2011 Census calculated the Matzikama Municipal area as 12 981.46 km² with a population figure of 67 147 residents, with 18 835 households in total (Statistics South Africa). Ethnic demographics identify the majority of the residents as of ‘Coloured’ descent (74.74% of the

total population). The predominant language used and preferred by 91.82% of the total population is Afrikaans.

The Matzikama municipal region is made up of 13 rural towns which include Bitterfontein, Doringbaai, Ebenhauser, Kliprand, Koekenaap, Lutzville, Matzikama NU, Nuwerus, Rietpoort, Standfontein, Vanrhynsdorp, Vredendal and Klawer.

The latter settlement has about 6 234 residents (<http://census2011.adrianfrith.com/place/160>), and is situated in the larger Cape Floristic Region, which is rich in its diverse fauna and flora (Goldblatt, 1997). Considering the abundance of diverse flora, it is for this reason that the ‘Knowledge Interfaces’ project in which I worked conducted surveys on the use of medicinal plants by residents in Nuwerus, Bitterfontein, Vanrhynsdorp and Lutzville. Subsequently, the prevalence of the purported use of medicinal plants in these settlements in the Matzikama (cf Davids *et al.*, 2016 and Philander, 2010), and the abundance of diverse flora had influenced my decision to locate this study in the settlement of Klawer.

1.4. Glossary of fundamental concepts.

The purpose of this section is to provide clarity and explain the key concepts that are used throughout this dissertation. It includes particular theoretical ideas as well as local concepts used and known to residents of Klawer. This section should serve as a reference guide to the concepts used in each chapter.

Assemblage: this concept is proposed by Bruno Latour as an alternative theoretical notion to that of human-centred philosophies (2013). As such it is advanced in this thesis as a theoretical concept which refers to the space of the garden and the mountain (I provide a detailed content analysis of these assemblages in chapters three and four respectively). Therefore the ‘garden as an assemblage’ and the ‘mountain as an assemblage’ denote a phenomenon characterized by unique relationships between people and plants. Consequently the notion of assemblage represents a more-than-human philosophy.

Actors: this is also a concept coined by relational philosopher Bruno Latour (2013). As suggested, in this thesis it is used to refer to humans who possess an agency of association which is an agency as an effect of their relationship with other agents.

Actants: this concept was posited by Latour (2013) to refer to all non-human things like plants. It is also used to denote a relational agency of other-than-human things. In this thesis it is also used to denote an agency of relation/association.

Agentive-actants: I propose this concept in an attempt to test the boundaries of relational agency. In other words, the notion of *agentive-actants* is used in this thesis to refer to non-human things - plants- as possessing an agency of intentionality and not simply an agency as an effect of their relationship with other agents. The term actants is a concept proposed by Latour (2013) which denotes as agency of relation. However, I inserted the concept of agentive which imply an agency of intent in addition to relational agency.

Agency: this concept is used interchangeably with the terms agentive, agential beings, agents, active agents and agentivity. These concepts as used in this thesis refer to humans and plants, denoting the capacity of actors and actants/agentive-actants to contribute to an assemblage. It represents the transformative abilities of actors and actants/agentive-actants (Latour, 2013; Ryan, 2004; Sanders-Regiers, 2009).

Bossiedokters (lit. bush doctors): this term is used in this thesis in the same way in which it is used and understood by local Rastafarians in Klawer, to refer to local traditional healers who collect, prepare, sell and administer and monitor herbal treatments to ill people in their communities. These local *bossiedokters* are usually males from the ages of fifty years onwards.

Kruieman/Kruiemanne (herbalists/herbsman): this concept is also used in this thesis in the same way in which it is used and understood by local Rastafarians in Klawer. It is locally used to refer to Rastafarian males who collect and sell medicinal plants, and who prepare and trade these herbal treatments to people in their communities. *Kruiemanne* differ to *bossiedokters* in that the former do not administer and monitor herbal treatments of ill people.

1.5. Chapter outline (chapters 2-6).

Chapter 2, *Actor-network theory (ANT) in practice: 'following plants'*. This begins the ethnographic journey with a reflection on the application of the Latourian approach as a methodological technique. I outline how the concept of “following plants” through home gardens resulted in the employment of an ethnographic survey. I explore how this rapid ethnographic survey produced knowledge of the kinds of medicinal plants that are cultivated in home gardens of 220 households comprising two streets in Klawer. Also, I explain as a methodological advantage, how ‘following plants’ through the survey allowed me to establish and build relationships with residents of Klawer. Employing this method of surveying also resulted in me working with knowledgeable Rastafarians. In addition, I discuss ethical concerns and reflect on the research process.

Chapter 3, *Gardens, plants and gardeners*. The aim of this chapter is to show how the actor-network theory can be used to explore the relationship between people and plants. Through Latour’s application of “assemblages” and “networks of associations” I explore the agentivity of plants as ‘actants’ in the process of the “making a garden and gardener”. In so doing I sought to explore the relational ontologies between people and plants/humans and non-humans/ actors and actants. By drawing on my ethnographic fieldwork conducted in Klawer I use the example of *Tannie Anna* and the pot plants growing on her front garden porch. I use the notion of “laws of continuity” to illustrate the agentivity of *Tannie Anna*’s pot plants and discuss the methodological benefits of ANT.

By following medicinal herbs and plants through outdoor gardens I was able explore three dynamics of gardening; (1) that there are two types of gardeners, the non-Rastafarian gardener and the Rastafarian gardener; (2) there are seven common kinds of medicinal herbs and plants that are cultivated in the home gardens of non-Rastafarian gardeners; (3) only the Rastafarian gardener cultivates a variety of medicinal herbs and plants other than the seven common kinds grown by non-Rastafarians. In essence I seek to emphasize how the use of the actor-network theory approach provided me with novel ways of understanding the world through unique social-ecological relations.

Chapter 4, *Mountain stories: following medicinal plants from the garden into the mountains*. This chapter explores the significance of the mountain and medicinal plants. The aim of this chapter is to further comment on the relations between people and plants in an attempt to write against the widely accepted dichotomy between Nature and Culture. In investigating the associations between people and medicinal plants this section begins with an explanation about the culture of Rastafarianism and its impact in this study. Emphasis is on the mountain, postulating it as an assemblage. Identifying an assemblage is imperative in order to investigate the ways in which plants transform people inasmuch as people transform plants. The ethnographic narrative provides insights into the ways in which Rastafarians speak about plants, particularly medicinal plants in the mountain. The mountain ethnography emphasises the agentivity of plants through the way medicinal plants contribute to the on-going entanglements in the production of knowledge about health and healing.

Chapter 5, *Conclusions: Moving towards a 'plantthropology'*. This chapter provides a concluding discussion about the main arguments made in the thesis. I emphasise the invaluable contribution that interdisciplinary approaches in multi-species ethnographies provide in the production of contemporary, Afro-centric, transdisciplinary knowledge. Also, I make comment on the careful use of language in writing and thus in theorizing about human to non-human relations. Moreover, this chapter also highlights the research objectives that have been achieved through the use of interdisciplinary approaches.

In Chapter 6 I provide plant monographs which include the medicinal plants that the local Rastafarians collect, use and trade. This chapter is separated into two sub-sections in which the first monographs relate to medical plants that are commonly cultivated in home gardens. The second section includes all other medicinal plants that are collected from the surrounding mountains in Klawer.

CHAPTER 2

Actor-network theory (ANT) in practice: methods to ‘following plants’.

There is increasing attention in anthropology to what is referred to as multi-species ethnography (Kirksey & Helmreich, 2010; Rose *et al*, 2012; Smart, 2014) which is usually focused on animals and not on plants. Pitt argues “it is more difficult to imagine animals as independent agents” (2015, 48). My research focus is on medicinal plants and the people who use, cultivate and sometimes sell them, but more accurately on the plants themselves and what they ‘do’. I aim to explore the ways in which plants transform people and exert their own agency

In this chapter I outline the methods employed to do a “more-than-human” ethnography of ornamental garden plants and other botanical curiosities, including medicinal plants from the garden and mountain (Pitt, 2015: 48), guided by Latour’s Actor-network theory (ANT). Latour emphasised the ANT approach as a method to explore “a movement during a process of assembling” in which “actors”³ and “actants”⁴ transform one another to maintain an assemblage (2005:65; 2013). He posited the need for contemporary anthropological enquiries to trace the longstanding and multiple associations between humans and non-human things. As a result I follow the trail of medicinal plants through home gardens, onto porches, under beds where dried medicinal plants are stored in brown paper bags or onions bags, into kitchens where cooking pots are filled with boiling water infused with medicinal plants, into refrigerators where bottles and jugs of infused herbal remedies are stored, to taxi ranks and local nurseries, and into the mountains. I illustrate how I used the ANT method of following the other-than-human actant to formulate my proposed research questions, discussed in more depth below. ‘Following plants’ resulted in a study focused on gardens and garden plants but which also extended the research site into the surrounding mountains of Klawer, where Rastafarian *bossiedokters*⁵ and *kruiemanne*⁶ that I chose to involve in my study collect medicinal plants. In Klawer, local Rastafarians play an important role in the provision of

³ “Actors” is a concept used by Latour to refer to humans as active agents.

⁴ “Actants” is a concept used by Latour which denotes the agency of all non-human or in-human things.

⁵ *Bossiedokters* refer to Rastafari traditional healers who administer herbal remedies to ill people and monitor their health outcome. See chapter 1.

⁶ *Kruiemanne* is the local term that younger Rastafari men use to refer to Rastafari herbalists/herbman who only trade herbal treatments and not administer treatment to ill people. See chapter 1.

plant medicines and I consequently investigated their knowledge of and relationships with medicinal plants.

Therefore to explore non-human agentivities, Latour (2013) suggested following actants through the networks in which they are associated. Similarly, Pitt (2015:49) highlighted that it is the “researcher’s outlook” which allows him/her to recognise the active presence of other-than-human agents. Consequently, using the Actor-network theory as a methodological approach I began my ethnography by viewing gardened plants and other botanical curiosities-like medicinal plants- as subjects of research. In so doing, I followed the trail of plants and allowed them to guide the research endeavour.

2.1. An ethnographic survey, gardens and gardened plants.

Following plants through “assemblages” is an idea I adopted from the work of Latour (2013). He suggested Actor-network theory (ANT) as a methodological tool that all ‘quasi-objects’⁷ are ‘actants’. I followed plants (as subjects of research) through home gardens in order to explore the relationship between people and plants, in particular to understand the role of plants as actants in relation to human actors. When I arrived in Klawer I drove around to get an idea of the layout of the streets and to identify houses with gardens in which medicinal plants grew. On the second day I parked my car in one of the streets and started walking around in Buitekantstraat and Volstruissingel. I stopped at houses when there was someone working in the garden or when someone was simply sitting outside a house with a garden. In this way I met several Klawer residents, home owners who maintained their own gardens. I initially spoke informally to these gardeners about their plants and eventually included all of them in my study. My entry point in gaining rapport with people was their aesthetically appealing gardens and my interest in the plants in people’s gardens elicited curiosity among the gardeners about my project.

From the outset, plants were my starting point in the production of knowledge. Because people were supportive and interested, I decided to focus on households in Volstruissingel and Buitekantstraat. After speaking to several local gardeners I realized that they all cultivated many of the same medicinal plants (See detailed information in chapter 6). This led

⁷ Bruno Latour used the concept of quasi objects to refer to all non-human or in-human things. Such as material things like plants. See Latour 2013, *An inquiry into modes of existence: an anthropology of the moderns*.

to an ethno-botanical survey which proved beneficial in establishing relationships with local residents. I spent about three weeks walking around and talking to people, in this way, becoming well acquainted with the locals. I would park my car at the top of the street and then walk around the neighbourhood. Many residents admired my courage and willingness to walk around and talk to them instead of just driving by. Because I walked from house to house, residents appreciated my 'brave' attitude as a young female working on her own in an unfamiliar environment. Local residents respected the fact that I felt safe in their community in spite of having never lived or visited Klaver before. I was open and friendly; greeting and conversing with everyone even if it was just for a brief moment. This approach opened up spaces to build good relationships with the people of Klaver, who soon came to accept and welcome my questions as they developed an interest in my project.

Although I did not have a formal questionnaire for this part of the research, I had particular objectives which focused on several themes. Firstly, I was interested in calculating the number of households in the two streets that maintained a garden. Of the households maintaining a garden, I documented the total number of gardeners who cultivated medicinal plants. My aim was to investigate the types of medicinal plants that were grown in home gardens, whether these medicinal plants were used for ailments (or for health promotion) and to document under what conditions these plants were used and for what ailments. I discovered that the majority of residents depended on local Rastafarians who were knowledgeable about most plants with medicinal properties, even those not commonly cultivated in home gardens by local gardeners. I learnt that households in Volstruissingel and Buitekantstraat consulted local Rastafarians to purchase herbal remedies and medicinal plants. If people did not cultivate any medicinal plants in their gardens and did not consult the local Rastafarians, I enquired from them what methods of treatment they sought when they were unwell. Those residents who did not consult Rastafarian *bossiesdokters* or *kruiemanne* go to the pharmacy or the local clinic to consult a doctor. Since this study does not focus on bio-medical health practices I do not speak to the latter topic but rather focus on medicinal plants practices.

The above method of enquiry kickstarted my research. The house-to-house surveying served as an informal, semi-structured interview. DiCicco-Bloom and Crabtree (2006) highlighted that the open-ended nature of the latter method allowed for diverse information to emerge. Having conversations with local gardeners and other residents about their gardens and the

plants in their gardens allowed me to explore general gardening practices and local knowledge about the cultivation and use of medicinal plants and other herbal remedies. It also helped me to choose the main participants who were to contribute to my study. Subsequently I set up more formal in-depth interviews with follow-up questions. I immersed myself in their life stories and practices, spending time just observing the ways in which they worked in their gardens and with their plants. I also visited the local plant nursery with participants and observed the ways in which gardeners interacted with plants and how they aesthetically admired them. For example, *Tannie* Anna spoke to the plants telling the latter agents where she would place them in her garden and how the plants, particularly their colourful flowers, would complement the red and yellow roses she had uprooted to create a brighter and more vibrant ambiance. In addition I also walked in the mountains with local Rastafarian *bossiedokters* and *kruiemanne* and observed and participated in collecting⁸ and learning about plants, and their medicinal properties. In so doing, I continued to follow the trail of plants but also as Pitt (2015) highlights, I allowed local gardeners and Rastafarian bush doctors and herbalists to ‘show’ me how they engaged with plants. Pitt (2015) emphasised the idea of ‘showing and being shown’ as a method to explore the role of plants in multi-species ethnographies.

2.2. Introducing Rastafarians: following plants through conversations with a Rasta.

My initial intention for this project was to explore only medicinal plants grown in home gardens. However, I soon realized that I would have to work with local Rastafarians and expand my research beyond home gardens. I worked extensively with the Rastafarians, bush doctors and herbalists, all of whom cultivated medicinal plants in their gardens, but also collected them in surrounding mountains. Following the trail of plants led me to observe the way local Rastafarians interacted with one another and talked about medicinal plants and methods of treatment. It has been said that observing the patterns and behaviours in the lives of research participants produces rich data about people’s lives and their practices (Jones & Somekh, 2011). Through observing, I gained insight in the world view of my participants and thus come to understand their relationships to and practices with plants.

⁸ Through my involvement in a larger project call ‘Knowledge Interfaces’ I did have in my possession a plant collection permit registered to my name.

I spent time with Levi on the street corner where he sells his *kruie* (medicinal herbs and plants). His informal corner shop is located at a mini-bus terminus. Levi mostly stood there on Fridays and Saturdays, days that were usually very busy. Here I sat, listened and observed his trade in medicinal plants. I took note of the type of herbal treatments that people were interested in. I followed the conversations among local Rastafarians about health and healing as well as other religious and cultural beliefs related to Rastafarianism and medicinal plants⁹ but also I walked with *bossiedokters* and *kruiemanne* in the mountains. For instance, whilst collecting plants in the mountains I observed the way elderly Rastafarians passed their knowledge of medicinal plants and the mountains to younger Rastafarian apprentices. I watched, listened and participated in acquiring knowledge about the geographical location of plants (using a GPS device to capture location co-ordinates); about their medicinal uses; on how to identify plants with medicinal properties through multi-sensorial approaches like taste, smell and texture and noting other Rastafarian ways of relating to the mountains and plants. Much like the Rastafarian apprentice who learns and acquires this knowledge, through research and observing the exchange of knowledge between elders and apprentices, as a researcher I was also acquiring knowledge and thereby participating in the exchange and dispersal of information.

2.3. “Interviewing” plants.

In my endeavour to explore the unique relations between people and plants I adopted an outlook of learning ‘with’ plants and not simply ‘about’ them. This entailed not only observations as a method of seeing the world from the plants’ perspective (Jones & Somekh, 2011) but also participating in plant practices, which allowed me to learn with them, about them.

In a multispecies ethnography non-human actants like plants are as important as humans and therefore must be considered as subjects of research (at least this is the argument that I make in this thesis). Subsequently, in this other-than-human ethno-botanical study, plants too are “interviewed” using a material semiotic approach as per Latour’s Actor-network theory. The trend towards literature on multi-species ethnographies is increasing, although still limited in scope regarding the methods of such other-than-human studies within the field of

⁹ See chapter three for a detailed content analysis of conversations between Rasta’s about their relationships with plants as agential beings.

anthropology (see for example, Cohen, 2013; Philander, 2011 & Archambault, 2016). As such, the methodological tools I employ in this study are proposed as effective approaches to more-than-human ethnographies.

The first step in learning with plants is to become acquainted with them by what Pitt (2015) refers to as ‘being shown’. As previously indicated, through conversations with gardeners, Rastas and local residents about plants in spaces like gardens, porches, taxi-rank corners (where medicinal plants are traded), in nurseries and in the mountains, I began to identify plants, particularly medicinal plants, through taste, smell, texture, colour and by name: first local monikers and in time their botanical names. I began this project by following the trail of plants through gardens. In so doing I observed the way plants demand favourable conditions in which to flourish, for example through regular grooming, nutrition and water. I read extensively about plants, their habitat, how they grow and function, and how they affect the environment and in turn are affected by it. I observed and learnt what ailments plants are used for and then studied their pharmacological constituents. By participating in plant collecting practices I began to ‘know’ plants. I learnt where they grew, recording their GPS locational coordinates as well as their environmental and habitual preferences. For plant identification¹⁰ purposes I carefully dug them out of the ground to expose their root systems (but very ‘carefully’ in keeping in mind ethical issues relating to bio-diversity). I collected plants that bore flowers or fruit and learnt that plants like succulents released juices that were potentially poisonous (and required gloves). ‘Interviewing’ plants or ‘knowing’ them includes methods of observation and participant observation.

I learnt to recognise plants in the veld even when they were dry and appeared to be dead. On several occasions I was given plants from the gardens of local residents to take home and re-plant. From travelling back and forth between the field site and home, I learnt that plants survived the three hour drive when they were stored in brown paper bags and not suffocated in plastic bags that often became moist and humid. I also found that they did not wilt or wane when they were exposed to fresh air cross ventilating through the open windows (in a vehicle without air-conditioning) as opposed to being compressed in a tiny space between bags of clothes and boxes of research materials and fieldwork papers, etc. Moreover, I observed how to preserve pressed plants for longer periods by changing the press papers on a weekly basis,

¹⁰ I collected plants as a research assistant as part of a larger project called Knowledge interfaces.

and to use organic insecticide to prevent plants from pollination by insects that fed on or poisoned them. I also came to learn that non-succulent plants ought to be pressed soon after removal from the soil. With medicinal plants like the *kankerbossie* (cancer bush)-*Lessertia frutescens* or *Wilde Als*- *Artimesia afra*, the flat, fine and fragile leaves soon begin to fold in toward the centre as it starts to wrinkle and crease. These plants slowly wilt and wane and therefore require to be pressed immediately, while succulents can still remain vibrant for hours, sometimes days. Therefore plants with more petite and light leaves were pressed first, sometimes immediately in the veld. Observing plants and plant practices among gardeners and Rastas, as well as participating in plant practices, became a regular and essential method in scrutinizing non-human agency.

My initial interest in medicinal plants led me from the garden to the mountains. By learning ‘with’ plants I allowed the plants to guide the research endeavour, by taking them seriously as actants and exploring their roles in multi-species relationships. In so doing I took note of their unrecognised and under researched agency as active participants in entangled relations between the natural, cultural and social worlds. This meant making use of a material semiotic approach to undo subject/object dualisms (Bennett, 2010; Hsu, 2010; Mol, 2002). In the material semiotic approach I analysed materials used in plant collecting (e.g. plant pressers, gloves, shovels, garden scissors, brown paper bags and organic insecticide). I scrutinized texts for instance, and the documentations used to record plant details like the location, habitat, co-ordinates, height, colour and shape of plants, and so on. The use of these plant collecting apparatuses allowed me to recognize and thus theorize the ways in which plants perform themselves as agents in and of themselves, as well as an effect of their relations with other actors and actants.

A variety of mixed methods were employed in this study. In so doing I was able to explore a single phenomenon like multi-species relationships from a variety of analytical perspectives. As emphasised by Greene (2008), a mixed method design offers multiple approaches to dialogues and inquiry in understanding a social phenomenon. This mixed method approach allowed me to explore plant agency from a relational perspective. At the same, a mixed method design assisted in analysing and pushing the boundaries of relational agency by positing that plants have agency in and of themselves (as well as a kind of botanical agency).

2.4. Journaling: from raw data to themed chapters.

From informal conversations in the streets and in home gardens, to observing the trade in medicinal plants and participating in gardening and plant collecting practices I made audio recordings, took notes, constructed journals and took photographs. The fieldwork data was thus concurrently analysed with the research (DiCicco-Bloom and Crabtree, 2006). All interviews and other audio recordings were transcribed immediately or within three days after capture. I transcribed all audio recordings as soon as possible because this allowed me to follow the trail of plants through conversations. I always carried with me a small note book and a camera. The note books were important to capture and track relevant data emerging through informal conversations. For example, while walking house-to-house doing the survey, an analysis of notes from conversations led me to track knowledgeable Rastafarians whose names were frequently mentioned and some of them later became key contributors.

As mentioned by Basit (2003) these methods of categorizing and coding helps organise raw data into meaningful labels, and subsequently, themed chapters. Daily journal entries became an imperative activity in capturing raw data. Bi-weekly journaling was my way of organising raw data into grouped themes and ideas (DiCicco-Bloom and Crabtree, 2006). These categorized themes are discussed in further detail in subsequent chapters. They include, for example, exploring various assemblages like the garden and the mountain, and separating and categorizing commonly gardened medicinal plants from those collected in the mountains. The data was also coded in various themes which spoke to the research questions and objectives. There were also sections of information which overlapped, thus revealing the complex nature of entangled relationships between people and plants.

2.5. Positionality and reflexivity.

I want to begin by reflecting on my gender and how it influenced issues concerning my safety. I often came across houses in which groups of people (mostly older unemployed men) gathered to socialize and pass time, often drinking and getting drunk. I struggled to negotiate my safety versus my enthusiasm to gain rapport and establish good relationships. I overcame this dilemma by avoiding invitations to speak with groups of people in their houses or in private gathering spaces and opted to talk with them from outside, clearly visible to the general public and other residents roaming the streets. Thus I would take position outside by

a gate or at the front door. On several occasions I gave incorrect information about my contact details. I had to decipher and decide which males were possible participants and genuinely interested in my research, and which ones were only interested in seducing me, as was often the case. I therefore had to constantly be aware of my surroundings and reflexes and carefully think about the spaces I entered and the people I met and conversed with.

As indicated my endeavour with medicinal plants led me to work extensively with Rastafari *bossiedokters* and *kruiemanne* who were all male. The first introduction to them and their willingness to work with me posed no initial problems. However, my sudden and frequent visits to their houses began to trouble their wives and girlfriends. One of my key participants once said to me that his girlfriend was somewhat troubled by the fact that I was to join him in collecting fresh water from the mountains. The idea did not sit well with his girlfriend because I was a stranger (a young female in particular) who received an invite to join him while his girlfriend was never offered that experience. It was from this moment that I began to reflect on my gender and how it affected the personal relationships between my Rastafarian male participants and their partners. Consequently I initiated frequent conversations with their girlfriends and spouses and prioritized making my research intentions explicit to them. For instance, the girlfriend whom I mentioned above worked at the local Engen garage. I frequently purchased goods at this garage and as a result found time to talk to her about my research and my association with her boyfriend. I involved them (the wives and girlfriends) in the research process by talking to them about their own plant knowledge. I also frequently explained how my constant association with their husbands and boyfriends produced relevant data which helped me to answer my research questions. Establishing rapport with the wives and girlfriends of my key participants was imperative in maintaining a comfortable, productive and good relationship between myself and the Rastafarian bush doctors and herbalists.

In doing a study about medicinal plants and herbal remedies, I often found myself negotiating my identity as a student, vis-a-vis a knowledgeable individual from University. Because I was from an institute of higher learning many locals perceived me as already knowledgeable on the topic of investigation. During my house-to-house survey I came across many people who often asked me about my knowledge of medicinal plants and the kinds or herbal remedies I recommend they should use. In these situations I made it clear that my knowledge of medicinal plants and herbal remedies were limited to books I had researched. Therefore I

emphasised that my stay in Klawer was to investigate medicinal plant knowledge as understood and practiced by locals. In these instances I was avoiding the idea of intersubjectivity of knowledge transference. I met with several locals who had limited knowledge of medicinal plants, plant practices and herbal remedies (but who assisted by referring me to local Rastafarians). I was very cautious in disclosing what I had read or come to learn whilst in the field in order to avoid a situation where locals (with limited knowledge) later passed off the information that I disclosed to them as their own. In pursuit of a true reflection of local knowledge practices I was constantly aware of how knowledge transference took place. I regularly positioned myself as an individual in pursuit of localized knowledge and not as a learned University student.

2.6. Ethical considerations.

As a point of departure I want to emphasise the ethical approaches that I have applied whilst working with plants. This is an imperative part of my study because I argue that plants are active subjects of research. Throughout the process of this study I was always mindful of the ethical aspects when working with plants. As a result ethical issues related to plants mostly emerged whilst collecting medicinal plant from the local mountains. The first technique that I applied was to attain a plant permit for the collection of medicinal plants. Then, I need to highlight the significant contribution that the participants had made in teaching me how to consider plants and their influence in my study. In particular it was through my many plant collection endeavours with the local Rasta's in the mountains, that I was taught and shown how to work with plants. The first thing that the *Bossiesdokters* (bush doctors) and *Kruiemanne* (/herbalists/herbsman) emphasised is the effect of a person's shadow towards the efficacy and toxicity of a medicinal plant. They believe that if a person's shadow covers the medicinal plant whilst cutting it or digging it out of the ground, the reflection of the shadow can potentially negatively affect the efficacy and toxicity of the plants medicinal value. Lastly, I was always reminded to work very gently and delicately with plants as if one would do when handling an infant. For example, when collecting the *Matunga* (*Haemanthus coccineus*) I was advised to dig it out of the ground with my hands and not a hand shovel. Also, the Rasta's always reminded me when collecting plants that I were to be mindful of preserving the plants/bushes and therefore I had to pay careful attention to the way in which I cut of the branches or dig out the roots from the ground. I acknowledge the influence of the Rastafarian *Bossiesdokters* and *Kruiemanne* when considering ethics related to plant subjects.

My interest in the topic of herbal remedies and medicinal plants led me to work extensively with local Rastafarians. As such there are several local issues between the government, law enforcement and the local Rastafarian community around land claim matters and on the use and collection of medicinal plants, particularly marijuana (*dagga*) [*Cannabis sativa*] and *buchu* [*Agathosma betulina*]. This thesis does not cover these matters but because they do exist I use pseudonyms to protect the identity of my research participants.

All the key participants who contributed extensively to my study gave their verbal and written informed consent for its publication and dissemination. Their verbal consent was captured on an audio recorder (all participants agreed to have our conversations recorded). Each one signed a consent form in which they gave me permission to make notes, use an audio recorder and to confirm that they participated in my study. The consent form also acted as an information sheet. Therefore each participant signed two consent forms, one copy for the researcher and the other for the participant to keep. I provided my contact details on the consent form/information sheet for my participants if they needed to contact me. In addition, I always asked permission from people whom I met and conversed with along the way for their verbal consent to use any information or ideas that emerged whilst we spoke in my thesis.

All my main participants were very forthcoming and friendly. They were open to allowing me to observe them, talk with them in their gardens, walk with them in the mountains and sit with them as they traded. They never asked me to compensate them in any way for their time and knowledge. When I left the field to return home I made up food parcels for each of my main participants. I did this as a farewell gesture of appreciation for freely sharing their time and knowledge with me. I found that sharing food instead of giving them money was perceived as a kind act of altruism, which fostered and maintained good relationships.

Conclusion

With an outlook of learning with plants, about them; the scope of the research field has led me into multiple plant spaces. I follow the trail of medicinal plants through home gardens in an attempt to explore complex ontological relations between people and plants. . In so doing I moved between the gardens of local Klawer residents and the surrounding mountains. Subsequently I present the non-human participants in this study – ornamental garden pot

plants and medicinal plants from the mountains - as active agents in their relations with gardeners and Rastafarian *bossiedokters* and *kruiemanne*, but also as subjects in this project. With the objective to make comment on the ways in which plants transform people, I explore the various methods of interviewing plants through diverse plant practices. In so doing I increasingly began to learn more about plants and was consequently able to explore their unique agentivities.



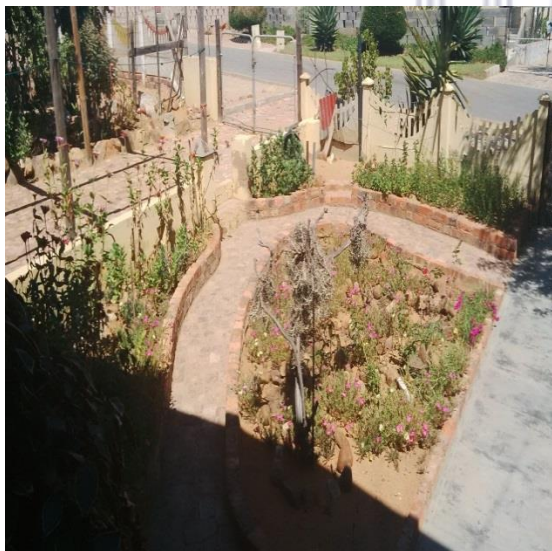
CHAPTER 3

Gardens, plants and gardeners.

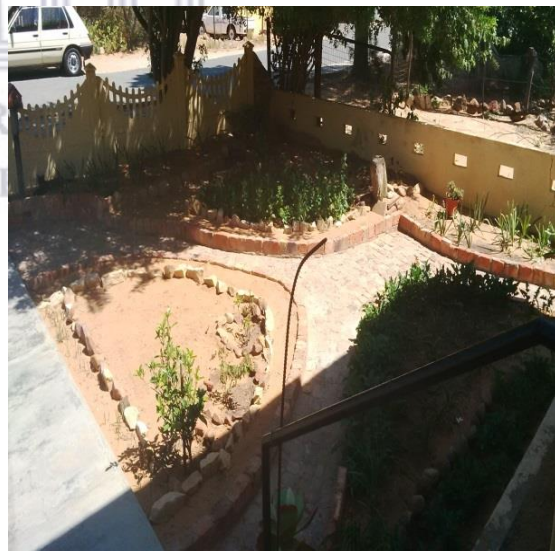
Tannie Anna's Garden (*Photographs taken by author.)



(FIGURE 1: The pot plants on Tannie Anna's porch.)



(FIGURE 2: Tannie Anna's garden –left side



(FIGURE 3: Tannie Anna's garden- right side)

In this chapter I begin to investigate the other-than-human terrain through ethnographic encounters in the garden. I use Actor-network theory (ANT) as a foundational concept and methodology to explore and contribute to the current scholarship on multi-species ethnographies. I do this in two ways. As a point of departure I use the ethnographic case

study of *Tannie-Anna*, her garden and the memory of her mother-in-law to illustrate how the Actor-network approach is applied anthropologically. In so doing I show and argue in favour of relational agency of non-human things, in particular of ornamental pot plants. I propose to make a theoretical contribution by pushing current boundaries of relational agency and positing that the potted plants can “act” with intentionality. The end-goal is to explore novel ways of understanding the human-plant interactions and in doing so to argue against dualistic philosophies of the world. This process serves to “decenter the human” in understanding social phenomena and to illustrate the imperative role and transformative abilities of other-than-human things, like plants (Ogden *et al.*, 2013). In other words, I aim to re-consider and re-conceptualize the dichotomies long held to exist between nature/culture and nature/society. I posit that the social world ought to be understood as mutually emergent through unique relations between multispecies.

I draw on the work of Bruno Latour (2013) to suggest that actants are anything (including plants) that “...modifies other actors through a series of actions” (Ibid: 75). This purports that actants like plants have agentivity (Rival, 2010). Scholars using the material semiotic approach emphasise heterogeneous realities as multiple and performative, and as webs of partial connections (Bennett, 2004 & 2010; Gibson, 2013; Mol, 2002; Strathern, 2004). My intention is thus to show how the ANT approach is applied to a multispecies ethnography encompassing gardeners, gardens and gardened plants. I also extend ANT by positing that, through analysing these ontological and epistemological realities and the enacted relations between actors and actants, it can be argued that plants act with intentionality. I thus propose the concept of *agentive-actants* and posit a kind of “botanical agency” in which gardeners experience the “presence, intent and capacity” of plants (Sanders-Regiers. 2009:63).

3.1. Gardens as an ‘assemblage’: introducing the actor-network approach.

In the current Actor-network scholarship, Latour posits the notion of “assemblages” as an alternative concept to that of society. He argues that the notion of society implies a human-centred philosophy that understands social phenomena through dichotomous relations between nature and society. This type of philosophical assumption is that people are producers of things or objects, which by implication means that humans are active agents while all non-human objects are passive things that become relative and performative as an effect of their connection to humans. Latour (2013:63) called for the use of the notion of

assemblages, an alternative social theory that “traces a movement during a process of assembling”. Similarly it has been said that “...an assemblage is an ad hoc grouping of an ontologically diverse range of actants, of vital materiality’s of various sorts” (Bennett, 2010:94). In other words, an assemblage consists of both human and non-human entities whose collective action creates, maintains or transforms an assemblage. Thus in this chapter I posit the garden as an assemblage. Similarly to Ogden *et al* (2013), I use the concept of assemblage to emphasise a collective human-plant relationship, placing importance on the process of “becoming together” rather than a linear understanding of human to non-human relations.

The second concept “actant” is used in ANT literature to refer to non-human objects and things that ‘act’ in a network (an assemblage) as an effect of their relations with other actors and actants. These relations need to be constantly enacted in order to create, maintain or transform an assemblage (Callon, 1986; Latour, 1999 & 2013; Law, 1992 & 2009). For example, in a garden (assemblage) both human and non-human entities, a gardener, plants, plant predators, microbes, soil, water, light or shade, pesticide, and other entities work together to contribute to the creation, maintenance or transformation of the garden. Therefore each entity is considered as acting in an assemblage, as an effect of their relational purpose to and with each other, which constitutes the existence of the garden. In developing my theoretical position I draw on this ANT approach to illuminate the concepts of assemblage and “actants”. However, I aim to push the boundaries of Actor-network theory by positing that plants in a garden are not so much actants, as ‘agentive-actants’: meaning that plants act with intentionality. In relational philosophy (Deleuze & Guattari, 2004; Haraway, 2008; Latour, 2013), the concept of an actant denotes a non-human agency as an effect of complex, multiple, entangled, meshed-up and partially connected relations (Bennett, 2010; Gibson, 2013; Mol, 2002; Mol and Law, 2002; Strathern, 2004). In this essay I acknowledge and support the notion of relational agency but extend the Actor-network theory by alluding to plants as ‘agentive-actants’ to describe their agency of intent. Ogden *et al* emphasised that “multi-species ethnographies engage in several related endeavours” (2015:6). Gibson (2013) following Strathern (2004) also argued that “partial connections” are often “messy” and “entangled” in webs of relations. This chapter attempts to demonstrate the ways in which botany, geography and anthropology are interfaced by positing that ornamental garden plants act with intent. I push the limits on thinking about non-human agency. Like Hall (2011), I want to show how plants have the ability to act and communicate on their own. In

so doing, I demonstrate that this is the very nature of Actor-network theorists; to explore entangled connections, to cross disciplinary boundaries and to break theoretical binaries which understand the world through dichotomous relations between society, cultural and nature. This is what makes ANT different from ecology. Usually ecology sits in nature but in the ANT approach the connections which are referred to enter society and culture in which the social world is as much entangled with the natural one.

Although I argue for the use of ANT as a theoretical foundation, Latour (2013) suggested the ANT approach as a methodological tool. He posited that in viewing Actants as ‘acting’ material things like plants are capable of affecting the human - non-human relationship. Thus I postulate that to investigate this moment of affectivity one ought to follow or ‘trace’ relational associations through and within the processes of creating, maintaining or transforming an assemblage, thus uncovering ways in which plants act with intentionality. Consequently, in the ethnographical research exploring the everyday human to plants encounters presented below, I foreground the process of creation/maintenance/transformation through the notion of the “making” of a garden and gardener. I further suggest the latter process as a social phenomenon in which the garden is an assemblage. Subsequently in the “making” of a garden the gardener is transformed by the plants, whilst in the “becoming” of a gardener the garden and plants are transformed by the human being (the gardener). Thus in this assemblage - the garden - a process of “becoming-together” is constantly taking place. In which all agents like plants, gardeners, soil, plant predators, microbes, water, the sun or shade, pesticide, affect and even change one another in these constantly ‘performed’ relations to create, maintain or transform the assemblage. In the subsequent section, I therefore explore and explain the process of “becoming-together”. In this I emphasise the role of both the actor (gardener) and agentic-actants (plants) whilst arguing how to re-think gardened plants as acting with intent.

3.2. Gardened plants as agentic-actants through their “laws” of continuity.

When I began my research by following plants through home gardens, I was introduced to *Tannie-Anna*. We first spoke informally about the plants in her garden- I asked *Tannie-Anna* what kind of plants she cultivated and if she had a favourite plant. She spoke proudly of how well she maintained her garden and how much work it took. In several formal and informal encounters, *Tannie-Anna* spoke very fondly of the garden. From this emerged two particular

garden stories which revealed the agentivity of plants. This is the narrative of the waning roses and the pot plants on the porch. I use the latter story more extensively than the former to illustrate my argument. As highlighted by Pitt (2015) in allowing the gardener to “show” me the garden by walking through it speaking about gardening experiences, those garden encounters allowed me to think about ways I ought to understand the social world through assemblages and ontological relations. The story of *Tannie-Anna*, her mother-in-law and the pot plants on the front yard porch was a perfect fit to explore the unique relationship between gardeners and plants and also the agentivity of plants.

3.2.1 *Gardened plants as actants*¹¹.

Tannie-Anna has several potted plants on her porch: (see figure 29) aesthetically appealing, the leaves were green and the plants were flourishing. I asked *Tannie-Anna* “when you work in your garden do you handle your plants in a particular way? Do you ever talk to the plants?” In response *Tannie-Anna* began to reminisce on the memory of her deceased mother-in-law. She narrated to me an interesting story of the potted plants on the front yard porch, unveiling the transformative abilities of the gardener and gardened plants. The current garden that *Tannie-Anna* owns and maintains belonged to her late mother-in-law. Due to physical ailments the mother-in-law struggled to walk and stand for long periods of time. For several months before her death she spent most of her time indoors but still managed to maintain the pot plants on the porch.

Tannie Anna:.... “it’s so funny when she died the plants did not want to grow. I once told the lady next door I wonder when the plants are going to come right. I took all the work out of her hands but she could still walk till the porch. And she loved plants....she also sang to the plants and it looked like when she died they started to fade”

Researcher: “So what did you do to the plants when they started to fade”

Tannie-Anna: “My mother(in-law) had a ritual. Every morning she cut open the teabag bags and she throws the leaves out to dry a little. Once they have dried out she goes to the plants and she tell the plants *Ouma* (grandma) drinks many cups of tea a

¹¹ See chapter 1, section 1.4 for concept definition.

day come I give you also some tea. She then feeds the leaves of the teabag to the plants. She makes small holes in the soil and throws the leaves in. I then started to do this. She also told me to keep all the banana peels. She used to sit for hours and cut them up finely till she has a bowl full and will also feed all the plants”

(Transcribed field data, March 2015)

In the above case study there are several important relationships with which I want to illustrate the agentivity of plants, beginning with the death of *Ouma*, the mother-in-law. I posit that the above narrative reflects an agency of relation. As emphasised by *Tannie-Anna*, the pot plants began to wither and wane after the death of *Ouma*. It became apparent to *Tannie-Anna* that these plants were wilting and dying because they were not being fed the kinds of nutrition which *Ouma* used to give them. *Ouma* thus started an unconventional nutritional diet for the plants. As such, the plants began to adapt to this nutritional regime to a point where they started to wither and die when they were not fed dried tea bag leaves and banana peels, and when they were not spoken and sang to regularly. *Tannie-Anna* emphasised that she groomed the plants by watering them, wiping the leaves to clean off dust particles blown around by strong winds, and cutting off dead leaves. She took care of the pot plants on the porch in the same way as she did the rest of the garden. However, something was wrong. The potted plants on the porch were withering. *Tannie-Anna* was taken aback and for a moment could not understand what the problem was or what it was that the plants needed in order to flourish. This got her thinking about how her mother-in-law used to take care of the plants: singing and speaking to them, and feeding them dried teabag leaves and finely sliced banana peels. Once *Tannie-Anna* started to take care of the plants in the same way that her mother-in-law had done, the plants responded by flourishing.

Tannie-Anna: “I tell them (the pot plants) that *Ouma* is no longer here but you cannot desert me because then the people will see that *Ouma* gave life to the plants. I am trying my best to keep you alive” (Transcribed field data, March 2015)

Through this story I am trying to illustrate the ways in which we can think and re-think agentivity of plants. Political ecologist Jane Bennett outlined the issue of agentivity of non-human materialities, a “thing power” she called it (2004, 2010). In the perspective of “thing-power materialism”, Bennett (2004) argued for re-thinking all non-human or in-human things

as possessing a materiality, a vital liveliness, in which the power of things plays a significant role in the world, in an assemblage.

Similarly working in the field of geography, Ginn investigated what he called “mundane practicalities” or everyday gardening practices (2014: 230). He found and argued that a taken for granted aspect of gardening practices is the acknowledgement of the appropriation of gardening techniques, unique to deceased gardeners, by living relatives or friends who nurture the gardens that once belonged to departed gardeners: “absent people continue to produce landscape even after their death though not in a straight forward way” (ibid, 233). When plants in a garden act in memory of the past and deceased gardeners I suggest that it carries through to current gardening practices, but sometimes in peculiar ways. Following Ginn (2014) I postulate that the pot plants on the porch possess a kind of “thing power” (Bennett, 2004). The pot plants influenced *Tannie-Anna*’s current gardening practices based on their relations to past gardening practices of the deceased *Ouma*. In agreement with Ginn, I argue that the pot plants on *Tannie-Anna*’s porch acted in memory of her deceased mother-in-law.

The pot plants are actants because they only began to flourish when *Tannie-Anna* fed them dried tea bag leaves and banana peels, and when she sang and spoke to them regularly. Thus it can be said that the plants have transformative abilities in that they influenced and affected *Tanna Anna*’s gardening practices. The plants have a kind of “thing power” in that they affect the garden (as an assemblage) by transforming the gardening practices of *Tannie-Anna*, ultimately maintaining the assemblage in subtle but also dramatic ways (Bennett, 2004; 2010). In line with Actor-network theory and the material semiotic approach, the plants are said to have affected *Tanna-Anna* but only as an effect of their relations to *Ouma* and other materialities like the dry tea leaves and banana peels. Therefore *Ouma* and the nutritional diet she provided to the plants affected the plants in that *Ouma* created an unconventional nutritional regime to which the plants had become accustomed, and after her death the plants continued to “demand” a particular kind of nutrition, care and attention, consequently influencing *Tanna-Anna*. Therefore past gardening practices have influenced current practices, revealing the various actors and actants working together to maintain the assemblage-garden.

As emphasised by Law (2009) the actor-network approach is a disparate family of material-semiotic tools, sensibilities and methods of analysis that treats everything in the social and natural worlds as a continuously generated effect of webs of relations within which they are located. It assumes that nothing has reality or form outside the enactment of those relations. The gardener and pot-plants are part of a network which is potentially transient (*Ouma* died and the plants do not get all the nutrients and care they were used to). For *Tannie-Anna* to remain a successful caretaker of *Ouma*'s pot-plants she has to re-make the relations in the assemblage. She has to continue to 'perform' being a gardener of pot-plants as *Ouma* did or the network dissolves. If the plants do not get the fine-tuned care or nutrients they wither and die, and as a result the gardener will appear to be careless about them. As such, I advance that, the pot plants are actants, they are the source of action: gardening and care by *Tannie Anna*.

3.2.2. "Laws" of continuity.

The pot plants above are actants because they demand and need certain nutrition, care and attention in order to flourish. In a study conducted among gardeners in the UK, Hitchings (2003) emphasised that plants become actants because they have the ability to persuade humans to grow them, whilst they demand a favourable environment in which to flourish. Through these demands the "plants perform themselves into existence as discrete entities" (Hitchings, 2003:107). Similarly, Hall (2011) argues that plants are autonomous because of their "laws" of continuity. Mathew Hall (2011) stated that "it is clear that plants have their own Law; the "Plants started growing according to their own 'laws'—their own shape, size, habitat requirements, and "behaviour" (ibid: 102). Like Hitchings, Hall implies that plants demand a particular environment in which to flourish. These include conditions such as light, shade, water, nutrients and lack of pest attacks, etc. In the case of *Tannie-Anna*, the pot plants on the porch "demanded" a particular kind of nutrition. In addition to being watered regularly, the potted plants "wanted" to be fertilized with banana peels and dried teabag leaves, and they also needed to be spoken and sang to. Plants exert their needs in order maintain their livelihood or vibrancy. Therefore, if the plant's requirements for continuity are not met they will wither and die. For instance, if a plant lacks water or if it is given too much water, or if a plant is exposed to too much or too little light, it will not grow and flourish. This was particularly evident among the pot plants on *Tannie-Anna*'s porch. They began to

fade. They did not want to grow because their demand for a particular kind of nutrition and certain method of fertilization was not met.

Trewavas (2003, 2014), in turn, opined that plants are arguably intelligent. They examine their environment and change or adapt their structure or physiology accordingly. In a presentation titled “How Trees Talk” Simard (2016) illustrated that trees in forests communicate and share information with each other in a vast underground web of relations with one another. Trees exchange carbon for nutrients when presented with a fungal threat that forms a mycelium (ibid). Hitchings and Trewavas both make a case for a kind of botanical agency¹² of plants. Following the arguments by Trewavas (2003, 2014); Hitchings (2003) & Simard (2016), I posit that plants have agency because they act in unique ways engaging in lively exchanges with each other, both underground and through their encounters with humans as in a cultivated garden. Subsequently, I use Hall’s notion of “plant laws” and suggest that plants necessitate particular “laws of continuity”. Consequently I use the latter idea as an analytical tool to advance my argument that plants have transformative abilities and thus agentivity. When plants demand particular kinds of care, attention and nutrition (like *Tannie Anna’s* pot plants); when plants adapt or change their structure or physiology to suit their environmental conditions; or when they exchange chemical gases for survival, I argue that plants perform themselves as actants in a variety of garden contexts. It is through an analysis of their relational agencies that one can scrutinize and identify the unique ways in which plants possess an agentivity of intent. Therefore my suggestion that plants be called *agentive-actants*.

3.2.3. *Gardened plants as agentive-actants*¹³.

In an attempt to move beyond the actor-network approach to argue for an agency of intentionality, I continue to apply an ANT perspective as a foundation to explore an agency of relation. In so doing, as indicated previously, the objective is to argue and thus illustrate how analytical methods advanced in the ANT approach and other relational philosophies are useful tools which, when applied, can reveal the ways in which plants act intentionally. Thus I attempt to illustrate how Actor-network theory can be applied in Anthropological encounters with multispecies, but push the boundaries of actor-network theory and material

¹² Refer to chapter 1, section 1.4 for concept clarification.

¹³ Refer to chapter 1, section 1.4 for concept clarification. .

semiotics. The ANT approach is extended theoretically by positing, as in this ethnography, that it can also be used to explore non-human agencies as intentional.

3.2.3.1. The idea of enrolment in an assemblage.

I draw on the Latourian (2013) notion of “enrolment” to further illustrate my point, to move between the notions of actants and agentive-actants. In which actants imply a plant agentivity of relation while agentive-actants refer to a plant agentivity of intentionality. An assemblage by nature is characterized by multiple ontologies. The notions of multiple ontologies mean that there are varieties of perspectives from which to understand and investigate the nature of existence of a particular phenomenon like a garden. Ontological multiplicities also imply that the existence of each entity contributing to the garden: plants, the gardener, garden tools, fertilizers, water, pesticides and so forth are constituents of each other’s ontologies, working in a variety of relationships that extend beyond the space of the garden. These relations are complex, they are constantly emerging and transforming through associations in, and beyond, the garden. In an assemblage like the garden there are multiple ontologies that constitute more than their individual existence. Rather, each entity’s nature of existence is mutually and relationally dependent on the existence of other entities contributing to the assemblage. Thus the concept of assemblage by definition is a complex term characterized by a web of multiple ontologies in which there exist ontological multiplicities: hence the notion of enrolment encapsulates complex webs of relational ontologies. Whilst an active agent enrolls itself in an assemblage, the agent simultaneously enrolls other agents in their performance. Therefore, when agent A contributes to the performance of agent B, agent A enrolls itself in the relations of agent B. As a result agent B is then enrolled into the relations of agent A, and vice versa. These processes of enrolment are constant, multiple, material and semiotic.

Consequently, all agents within an assemblage, both human and non-human, enrol themselves in an assemblage but are simultaneously enrolled into the performances of other agents but also into other assemblages. This constant movement of reciprocal entangled relations is expressed as enrolment, which refers to ontological associations between plants and people. These associations are characterized as multiple and relational (Latour, 2013), and they highlight the transformative abilities of the constituents; a kind of “thing power” (Bennett, 2010); or, agentive-actants, like the plants of the garden maintained by *Tannie-Anna*.

3.2.3.2. Pushing boundaries: moving between actants and agentive-actants.

Using the notion of enrolment I postulate that the pot plants on *Tannie-Anna*'s porch enrol(ed) themselves as agents because they affected the existence of the assemblage -the garden- and the ontology of *Tannie-Anna* as a capable gardener. They acted as an effect of their relations in the assemblage as actants. Arising from this analysis I would argue that the pot plants acted with intentionality. The pot plants are agentive-actants because of their willingness to flourish only once their "demand" for a certain kind of "law" of continuity is met (Hall, 2011). They must be spoken and sung to regularly and they must be fed dry teabag leaves and diced banana peels to fertilize them before they will grow. Therefore I argue that they should be considered as agentive-actants with a kind of botanical agency.

As we sit on the porch and talk about the pot plants, *Tannie-Anna* looks at them, slowly rubbing the leaves of the plant closest to her and says:

...*Hulle het geweier om te groei...*

(they refused to grow) [Transcribed field data, March 2015]

By refusing to flourish, the pot plants demanded a particular kind of "plant law". Thus I argue that they possess the ability to "persuade" *Tannie-Anna* to care for them in the same way in which *Ouma* did. Crawford (2004) wrote the following about the Actor-network approach: "The "volitional actor" for ANT, termed *actant*, is any agent, collective or individual, that can associate or disassociate with other agents." (ibid:1). In an online search on of the Cambridge English dictionary the term "volition" is defined as the "power" or "will" to make individual decisions (<http://dictionary.cambridge.org/dictionary/english/>). As such, if an agent, human or non-human is defined, according to Crawford (2004), as possessing an individual volition with the will to associate or disassociate it implies that each agent in its individual capacity has the will to act with intention. As such, if each agent acts with volition, then it can also be said that each agent has the ability to produce persuasive action which thus transforms other agents, and the assemblage, in all sorts of ways. Consequently I posit that the pot plants persuaded *Tannie-Anna* to feed and care for them in a particular kind of way, as agentive-actants.

I inserted the term agentive in front of notion of actant to extend the Actor-network philosophy by implying that agents also act with a degree of intentionality. For example, the pot plants acted with intent because they would wither and wane when not fed in a particular way. When *Ouma* initiated the nutritional and grooming regimen the pot plants had the will to refute them just like they refused to grow when *Tannie-Anna* only watered them. Hall (2011:169) and Trawavas suggests that plants are ‘intelligent’ (ibid, 2003,2014). They act intentionally because they possess the volition to either demand a particular “law” of continuity (Hall, 2011) or adapt to environmental conditions (Hitchings, 2003; Simard, 2016; Trawavas, 2004, 2014). When *Ouma* initiated the feeding regime the plants adapted, and they then demanded from *Tannie-Anna* certain terms and conditions if they were to stay alive. They acted with intent and relation, hence the concept of actant. This does not refute the idea that agents also act, as an effect of their relations in an assemblage. I call the pot plants agentive-actants because I suggest that their will to persuade is not separate from their ontological relations (such as *Tannie-Anna*’s desire to be seen by others as a capable gardener, in memory of *Ouma*). The existence of *Tannie-Anna* as a capable gardener is dependent on a variety of things to illustrate that she is able to take care of the pot plants in the same ways as her deceased mother-in-law. As such, the ontologies of the pot plants are connected to a multiplicity of past and present ontologies (Ginn, 2014).

As we walk through various sections of *Tannie-Anna*’s garden talking about her favourite plants, her mother-in-law; and general gardening practices we stop at a particular point, near the front left hand side of the garden, *Tannie-Anna* looked at a dry stem. Sticking out of soil was a rose plant which had died, about a metre and a half from the concrete wall separating the pavement from the garden. When *Tannie* looked at the dry stems of the dead rose plants she remarked that her favourite plants were roses because they grow easily and do not need much grooming, care or attention. However, in this particular area the rosebush refused to take root. She had changed the soil from regular to organic, but still it did not want to flourish. Then she realized, through conversations with her neighbour that the roots of a large tree growing on the pavement were sprawling wildly underground, affecting the growth of her roses. She was in the process of re-organising the location of her little rose garden section.

There are two points that I want to make by mentioning the story of the roses and the tree with its disruptive roots. The first is to illustrate that there are numerous ways in which plants in a garden exert their agencies. Likewise, there are several gardening experiences in which gardeners, through their garden stories, are able to reveal ways in which plants act with volition. For example, in a transcript provided earlier in this text *Tannie-Anna* is quoted saying "...but you cannot desert me..". Referring to the plants as 'you', she speaks to the plants but also of them in a way which implies that they have a will of their own: as a volitional agent who, of its own will, decides whether it wants to flourish or die. In speaking to the plants the gardener believes the plants can understand, or intuit, her. This kind of gardening experience, like those of *Tannie-Anna*, suggests that the gardeners believe that the plants act intentionally. Secondly, the story of *Tannie-Anna*'s roses illustrate why I posit that plants act intentionally. Clearly the dead roses indicated intelligence and volition by not adapting to the disruptive presence of the tree's roots. They wanted to be planted in a more suitable and favourable environment in which to grow and flourish, they "behaved" according to their own "plant laws" (Hall, 2011:102). Thus the roses also demanded a particular law of continuity, they too were agentive-actants. Moreover, *Tannie-Anna*'s status as a gardener is also dependent on her landscaping abilities, organising and relocating her roses so that they should flourish. The roses then also form part of other unique ontologies in that shifted in order not to interfere with the large tree outside the garden. The garden as an assemblage can be explored through multiple ontological perspectives. Each of which, through the use of the Actor-network approach, illustrate plant agencies as relational but also as agentive-actants.

At this point I want to return to the topic of the pot plants. *Tannie-Anna*'s desired for the potted plants to flourish because their existence in her garden depicted her status as a capable gardener, to herself (in memory and in comparison to *Ouma*) and others -her neighbours. *Tannie-Anna*'s status as a gardener thus also depended on whether she maintained the garden like her mother in-law had done before. Above, I included a transcript from a conversation I had with *Tannie Anna*. She made reference to her mother in-law as "giving life" to the plants. *Tannie-Anna* thus aspired to be the type of gardener her mother in-law had been, she "tried to keep the plants alive". Her status as a capable gardener depended on whether she maintained the garden and particularly the pot plants on the porch - like her deceased mother in-law had done. Thus for *Tannie* becoming a gardener implied that she had to gain the same kind of gardener status as her mother in-law had enjoyed. At the same time, her process of becoming

a gardener was also influenced by the need to keep the memory of her mother-in-law alive. Similarly, Ginn (2014) argued that the practice of gardening is an:

... “attempt to breed something more malleable and familiar out of absence, and in so doing to seek a more comfortable landscape by bringing together different fragments of past and present” (2014, 230).

For *Tannie-Anna* then, the present represented her status as gardener while the past signified a gardener status ascribed to the kind of gardener like that of her mother-in-law. The garden in itself, and particularly the pot plants on the porch, served as a memory of the absent gardener, her mother-in-law. Additionally, the absence of her mother-in-law meant that *Tannie-Anna* gave a different kind of value to the gardening of the potted plants on the porch. Because the plants represented a memory of a deceased loved one, grooming the plants on the porch added new value to her life as a gardener. It was no longer simply the maintenance of the plants as a practice in and of itself and with the aim to create an aesthetically appealing garden. Gardening and taking care of the plants according to their particular plant laws also became an expression of care and love for her deceased mother-in-law in memory of the passionate gardener she had been.

In further suggesting the various ways in which plants exert their agencies, I draw on the work of Haraway (2008) on the notion of processes of “becoming”. As a key relational philosopher, Haraway emphasised that processes of “becoming” are intrinsically relational. As indicated previously, I use the analytical tools of relational agencies to advance the Actor-network approach. In the subsequent discussion I use the notion of becoming to illustrate agencies of relation. In so doing, I also want to advance relational philosophies by positing that it is through these notions of agencies of relation in which we can come to reconsider plants as having individual abilities to communicate in their own ways, “possessing autonomous qualities” (Hall, 2011: 169).

In an earlier discussion I proposed to call the garden an assemblage¹⁴. Bennett (2010) suggested that an assemblage is characterized by three things: a place (the garden), people (the gardener), and things (plants). It is said that an assemblage is formed and operates only

¹⁴ Refer to section 3.1 of this chapter titled, “Gardens as an ‘assemblage’: introducing the actor-network approach”.

through the collective action between people and things (ibid). Thus in a Latourian sense the garden as an assemblage is characterized by a kind of movement, a process of building or rebuilding or a transformation. Thus following Haraway's notion of becoming I posit that in the garden of *Tannie-Anna* a transformation is taking place. This movement I refer to as the "making" of a garden and gardener. Through this notion of the "making" I further emphasise the transformative abilities of each agent thus supporting my proposal to consider plants as agentic-actants.

I posit that in the assemblage of the garden there are two processes of "making" which is the making of a gardener and of a garden. Even though the latter assemblage already exists - literally it has already been made- in a Latourian perspective an assemblage is characterized by a constant movement, a continuous process of re-building or transformation which serves to maintain the assemblage. In this process of the "making" of the garden, *Tannie-Anna* is considered as an active agent who also possesses transformative abilities. She contributes to the assemblage because she performs her agency by enrolling the plants to participate in the process of the "making" of the garden and in the "making" of *Tannie-Anna* as a gardener. The "thing power" (Bennett, 2010), or as I call it, persuasive abilities of the plants can be identified through the unique ways in which they affect other agents in the assemblage. Through the collective actions between *Tannie-Anna* and the plants, the latter agents contribute to the transformation of *Tannie-Anna* as a capable gardener. If the plants had wilted further or died, it would have been construed (by herself and others) as evidence that she was not as capable of giving life to the plants like her mother-in-law had done. Thus in this movement of transformation the persuasive abilities of the plants lie within their volition to demand specific kinds of laws of continuity thus I posit that they are agentic-actants.

At this point I want to return to an earlier discussion on the notion of enrolment. In so doing I make a connection between the idea of "enrolment" and the notion of "becoming". As such I continue to propose that plants are agentic-actants who possess volitional transformative abilities. I continue to attempt to decentre the human to the concept of agency. My intention is to de-construct Euro-centric dualisms between the natural and social world. In which non-human constituents of the natural world like plants are construed to be passive objects that are manipulated by people and transformed by human actors as they become part of a human-centric world. Rather, I argue that plants themselves possess a kind of botanical agency in which they actively participate in their relations with humans. As such, plants act with

volition and thus also possess agentivities which transforms human agents. Consequently, I posit that the natural and social worlds are entangled through multiple assemblages in which human and non-human constituents equally possess the abilities to transform one another in unique ways. I indicated previously that all agents in an assemblage have complex ontological relations through the concept of “enrolment”. This multifaceted relation between humans and plants is evident in the fact that all agents necessitate that their individual ontological “laws” are met in order to maintain their relations and positions within an assemblage. For instance, as an active agent *Tannie-Anna* enrolls the plants to participate in the “making” of her as a capable gardener through the process of the “making” of the garden. Consequently the transformative abilities of *Tannie-Anna* ‘coerce’ the plants as relational agents who participate in the making of her as a gardener. Simultaneously through their specific laws of continuity the plants also exert their own volitional agentivities in that they ‘persuade’ *Tannie-Anna* to feed and care for them in a specific way: she speaks to them, sings to them and fertilizes them with tea leaves and banana peels. Thus it can be said that all agents in the assemblage possess agencies in passive but also active ways. In other words, agents display passive agencies as an effect of their relations. Agents possess a degree of passivity because they allow themselves to be enrolled into the performances of other agents. All agents are also active because they act with intent.

Crawford (2004) emphasised that agents have individual volition to associate or disassociate themselves with other agents and into an assemblage. Therefore I argue that each agent, at its own volition, enrolls themselves into an assemblage with the intention to sustain their own existence. For example, *Tannie-Anna* possessed passive agency because she submitted to the demands of the plants laws of continuity. However she also possesses a degree of active agency because she allowed herself to be coerced into the performances of the plants because it subsequently contributed to her own desire to be a capable gardener just like *Ouma* had been. The processes of “making” are marked by practices of enrolment which are reciprocal. Therefore in scrutinizing the multiple ways in which people and plants enrol themselves into an assemblage and simultaneously exploring the manner in which they are enrolled; is a useful method of analysis which reveals several things. I posit that an analysis of enrolment practices indicates that both human and non-human agents act with volition in which their intentions are to sustain their existence within an assemblage. As a result both human and non-human constituents of the natural and social world are co-dependant. Which suggests that neither nature nor society are dominated and manipulated by humans but rather

that the natural and social worlds are entangled in multiple ontological relations which are mutually constitutive.

Hall (2011) argues that plants and people co-exist and that each agent has its own ontological requirements which are relational. Latour (2013) emphasises that actors and actants do not act in a vacuum but work together to maintain an assemblage. Subsequently, in the above discussion I have applied the Actor-network approach to illustrate the ways in plants possess agencies of relation. At the same time, I propose to extend the Actor-network theory. I suggest calling non-human things -like plants in a garden - agentive-actants. Through exploring the garden as an assemblage, I used a Latourian notion of enrolment and Haraway's concept of becoming to illustrate -I hope successfully- the ways in which plants act intentionally.

3.3. Medicinal plants in home gardens.

Through the application of the actor-network approach as a methodology I thus began my 'gardens as an assemblage' project as an ethno-botanical study by following the trail of medicinal plants through home gardens. In the initial planning of my study I was interested in the phenomenon of medicinal plants cultivated in home gardens. Thus following the trail of medicinal plants through home gardens proved to be an invaluable methodological strategy. It led me to meet with *Tannie-Anna* and thus allowed me a platform to explore the ways in which to re-consider the relationship between people and plants (as illustrated above); and thus to posit a manner in which to re-consider non-human agencies. The extensive ethnography of *Tannie-Anna*, Ouma, and the pot plants in the garden exclude a discussion on medicinal plants. However, through my encounters with *Tannie-Anna* I was able to discern something interesting about the gardening of medicinal herbs and plants.

It quickly became apparent that many households and gardeners of Klawer grow medicinal herbs and plants in their gardens. I also discovered that there was a difference between the local, everyday gardeners and the Rastafarian gardener, and their relations to cultivated herbal medicines. When I write of the local gardener I refer to residents of Klawer, persons who maintain a home garden but who are not Rastafarian (for example *Tannie-Anna* is a local gardener). Whilst planning this study I wanted to ascertain whether gardeners in Klawer

cultivated medicinal plants and, if so, I planned to document local gardeners' herbal medicine and plant knowledge.

When I arrived in Klawer I went door-to-door and spoke to gardeners about their gardens and the plants in it. I wanted to meet gardeners who were knowledgeable about medicinal herbs and plants. I assumed (as I had seen in many other towns in the Matzikama area) that people grew a variety of medicinal plants for their own use. I also expected to find people who knew a lot about medicinal plants in general. Most gardeners who grew medicinal herbs and plants knew the local names for the plants and their medicinal uses, but referred me to the local Rastafarians when I wanted to know more. Consequently, I also did some extensive ethnographic research with Rastafarian gardeners which I unpack in the next chapter. Additionally, I ascertained that local everyday gardeners grew only eight kinds of medicinal plants in their gardens. Some are cultivated for aesthetic purposes only, but others are also used for their medicinal properties. In chapter six, I provide plant monographs with detailed information about these commonly gardened plants and their local uses.

Conclusion

As a point of departure, I began this chapter by positing the garden as an assemblage. To do so I draw on work of Latour to argue that there is a process of transformation which includes a number of imperative elements; a place (the garden), a human agent (*Tannie-Anna*), non-human agents (the plants) and ideas/concepts (what a good gardener is, the memory of Ouma etc). This process of assembling is illustrated through the 'making' of a garden and a gardener. *Tannie-Anna* transforms the plants from aesthetic materialities to vibrant memories of the absence of a loved one but also as agents who contribute to the making of a garden and in the making of *Tannie-Anna* as a capable and nurturing gardener. I used the notion of 'enrolment' to illustrate this multifaceted relationship between *Tannie-Anna* and the pot plants on the front yard porch. I highlight that although each actor in an assemblage exerts their autonomous demands in the making of the garden, I emphasise that it is only through the collective actions between agents in which the garden is maintained, in which the plants flourish and in which *Tannie-Anna* established her gardener status. In other words, in the making of the garden and the making of *Tannie-Anna* as a gardener there is a process of assembling, a movement in which the pot plants and *Tannie-Anna* transform one another through their performative activities of enrolment. As a result, I argue that the human to non-

human relationship ought to be explored by investigating the ways in which agential beings transform one another.

Additionally, I also have tried to illustrate the ways in which the Actor-network approach can be applied to a multispecies ethnography through the space of the home garden. As such, I illustrate various agencies of relation. Through this, I further posit that non-human things like plants not only act as an effect of their relations, but also act with intent, pushing the theoretical boundaries of ANT by calling garden plants *agentive-actants*.



CHAPTER 4

Mountain stories: following medicinal plants from the garden into the mountains.

Exploring the cultivation and use of medicinal plants in home gardens¹⁵ led me to follow the trail of medicinal plants¹⁶ into new plant spaces, from the gardens of local Rastafarians to taxi rank corners where medicinal plants were traded. I accompanied the Rastafarians into the mountains, where medicinal plants grow in the wild and are collected by them for personal use and sometimes for trade. Ultimately I spent more time in the surrounding mountains with the Rastafarians than in their home gardens.

This chapter positions the mountain as an assemblage (Latour, 2005; 2013), focusing on the unique relationship between Rastafarians and medicinal plants. It offers stories from the mountains taken out of my extensive field notes to develop an argument against the widely accepted dichotomy between Nature and Culture. The latter dualism is characterized by hierarchical, human-centred, ontological relations. This Euro-modern understanding of the world situates humans as agentic subjects of Culture while non-human things, like plants, are non-agentic objects that make up the Natural world (Blaser, 2009). As such, through three discursive illustrations from the mountains in Klawer, I position my argument against the nature/culture binary in which I posit that both people and plants are agentic subjects.

Each mountain story is unique and written as an individual segment but remains part of the whole, that should be read together. I conclude by bringing the three anecdotes together to illustrate two things; firstly, to demonstrate how Actor-network theory (Latour, 2005; 2013) has been applied in my study to explore ontological relations; and secondly, to emphasise non-human agency and posit that medicinal plants are *agentic-actants* that act *with intent* (Hall, 2011; Hitchings, 2003; Ryan, 2012; Sander-Regier).

¹⁵ Refer to chapter 3, section 3.3.

¹⁶ Refer to chapter 2.

4.1. Moving between spaces: choosing the mountain.

The initial objective for this project was to focus on the space of the garden. As I began the door-to-door survey¹⁷ I was repeatedly referred to the houses of local Rastafarians if I wanted to meet people with extensive knowledge of medicinal plants. My entry point to the Rastafarians was conversations about the plants in their gardens, particularly about medicinal plants. I discovered that the Rastafarians, who were to participate in my study, all cultivated medicinal plants in their gardens, as well as ornamental plants and sometimes fruit and vegetables too.



(FIGURE 4 & 5: A Rastafarian *bossiesdokter* (bush doctor) and *Kruieman* (herbsman) in their gardens. *Photographs taken by author.)

I spent many hours with local Rastafarians in their gardens but we spent more time in the mountains, constantly moving between garden and mountain. We would meet at their home and sit in the garden among the plants, to discuss my project (I provided information sheets, had participants sign consent forms, Memorandums of Understanding, etc.) while we planned our journeys into the mountains. Thus our expeditions into the mountains began, and ended, in their gardens. When we returned from the mountain we sat in the garden to talk. I used these opportunities as debriefing sessions and to discuss and plan our next meeting. I often spoke to their families about our day's activities. When I wanted to conduct more formal interviews these interviews were done in their gardens. Thus we constantly moved between their gardens and the mountains. However, it was in the informal conversations whilst we walked through the mountains that interesting data about the unique relations between

¹⁷ Refer to chapter 2, section 2.1.

Rastafarians and medicinal plants emerged, and hence this chapter focuses on stories from the mountain.

Moreover, whilst we sat in their gardens to talk the Rastafarians commonly advised me that the proper practice of learning about medicinal plants was in the mountains where the plants grew wildly and naturally. They emphasised several reasons for this. One is that they believe that the plants grow more efficiently and abundantly when in their natural habitat which is undisturbed by human activity. Their belief in the healing abilities of medicinal plants is characterized by a holistic approach to the plant's medicinal properties to treat the physiological body, but also in the supernatural ability of the plants to heal the person and body from unhealthy or evil acts of sorcery or for general protection against misfortune. Therefore in order for the medicinal plants to work effectively they ought to be growing undisturbed by human activity. The latter is said to possess negative/bad/un-pure/evil *gees* (spirits). Consequently the garden as a space located among and between human actions is considered as an unsuitable environment for growing medicinal plants because the effect of human activity can compromise the ability of the plants to counter acts of sorcery and to protect against evil *geeste* (spirits). I learnt that the correct way to learn about medicinal plants was to develop the ability to identify them by smell, taste, colour and texture. The Rasta's believed that these characteristics of plants could be compromised when disturbed by human activity thus when being cultivated in home gardens. For these reasons we spent many hours in the surrounding mountains.

4.2. Rastafarianism: Bossiedokters and Kruiemanne

According to Ferreira *et al* (1997) indigenous medicinal plant knowledge of sub-Saharan Africa was reportedly appropriated and also adopted by European colonisers in that part of Africa. From there it travelled to other parts of the world. In the Western Cape, Dutch colonisers learned about medicinal plant knowledge and uses from local San and Khoikhoi populations and adopted some of the herbal medicines into their own pharmacopoeia (Davids *et al.*, 2016; Ruiters *et al.*, 2016).

More recently the diverse Cape floristic region (Goldblatt, 1997) has drawn increased interest because of the heritage of Khoisan, the original inhabitants of the Western Cape. They depended on their local medicinal plant knowledge to manage health and illness (see for

example Van Wyk *et al.*, 1997; Van Wyk *et al.*, 2000; Watt *et al.*, 1962). According to Philander (2010), Coloured¹⁸ Rastafarian bush doctors (*bossiedokters*) from the Western Cape have their roots in Khoisan ancestry. A vision of the Rastafarian movement in the Western Cape is to revive and preserve the fragmented knowledge and lifestyle of “pre-colonized” Africa. They describe the latter as comprising a harmonious relationship between the Rastafarian and nature (ibid). The existing body of literature in South Africa on Rastafarianism mainly focuses on the progression of Rastafarianism as a religious, cultural or political movement (Chanwane, 2012, Chevannes, 1977; Niaah, 2010; Savinshinsky, 1994). These articles emphasise the introduction of Rastafarianism into South Africa from the late 1970s, gaining popularity as a social-cultural movement rather than a political one. Fuelled by reggae music, it influenced South Africans to adopt its socio-culture characteristics, like growing dreadlocks, smoking cannabis etc (Chanwane, 2012). This attracted the interest among the oppressed because of its political messages against the acceptance of the biblical Babylon, interpreted here as a westernized social movement characterized by colonial dominance. The harsh apartheid regime did not take kindly to the mobilisation and formation of Rastafarian organisations as either a political or religious movement, but since the advent of democracy in 1994 Rastafarian organisations have freely and increasingly mobilised (Chanwane, 2012, Chevannes, 1977; Niaah 2010; Savinshinsky, 1994).

There is limited literature on contemporary Rastafarian bush doctors or *kruiemanne* and their knowledge and use of medicinal plants in the Western Cape. A recent study by Philander (2010, 2011) was one of the first to address this gap. In an attempt to contribute to this scarce, yet growing body of literature, this chapter focuses on local Rastafarian *bossiesdokters* and *kruiemanne* in Klawer. They helped me to access knowledge of medicinal plants and how their healing properties are propagated and transferred.

The term *bossiedokters* is an Afrikaans word meaning bush doctors. *Bossiedokters* are mostly elderly Rastafarian males who collect, grow and trade in medicinal plants, but who also care for and treat ill people. The term *kruiemanne* is also an Afrikaans term meaning medicinal plant men or herbal men. These *kruiemanne* are younger males, sometimes apprentices, who collect, cultivate and sell medicinal plants. The difference is that *Kruiemanne* do not

¹⁸ A South African racial category

administer and monitor treatment to ill people like *bossiedokters* do. These two terms are represented as used and understood by the Rastafarian men who participated in this study.

4.3. The mountain as an assemblage.



(Figure 6: A view from the top of Gifberg at midday. *Photograph taken by author.)

Bennett (2010) argued that an assemblage consists of three elements: a place, people and things. Latour (2013) postulated that in an assemblage a process of assembling takes place. This process of assembling denotes a movement, a transformation, a process of building or rebuilding in which actors and actants, humans and non-human things affect one another and thus contributes to a “movement during a process of assembling” (2005:63). Therefore I argue for calling the mountains an “assemblage”, within which there is evidence of the three elements which Bennett speaks of. The first element, a place, is the mountain itself. The second element includes the Rastafarian *bossiedokters* and *kruiemanne*, as well as myself and other researchers interested in the array of flora and fauna evident in the mountains. The mountain as assemblage also has other human actors including private and public land owners, local farmers or government officials, those working in conservation on projects within the surrounding area and even the tourists who seasonally admire the scenic beauty of the Cape floristic region with its diverse flora. In addition there are several non-human things which contribute to the process of assembling in the mountains. These include the fresh mountain water, the burning fire, the dry plants, leaves, twigs and branches that are used to make the fire, as well as the local fauna and flora. Moreover, there are various diverse fieldwork equipment that accompanies researchers like myself, which act as vital materialities contributing to the process of assembling. These items include tape recorders, cameras, GPS devices, notebooks, pens, scissors, garden spades, gloves, etc.

Therefore I use the notion of assemblage in similar ways to which it is used by Anderson *et al* (2012), following assemblage theorist Manuel Delanda (2006), as a theoretical approach to analyse the formation and organisation of various actors and actants who contribute to a process of assembling, a social formation. I call the mountain an assemblage because it is made up of a variety of disparate people and things, through which, their relations take on a specific meaning and characterise a social phenomenon that is taking place. The mountain is considered here as an assemblage which constitutes multiple “actors” and “actants”, who come together in a variety of ways to create a particular social phenomenon (Latour, 2013).

For example, take the farmer who owns private land and cultivates rooibos for commercial use, with individual entities to make up this process of assembling, i.e. cultivation and harvesting of rooibos tea for commercial use, including the farmer and his employees who prepare the land and soil to plant and harvest the tea; rooibos seedlings; organic fertilizers and other nutrients; and equipment like sickles used to harvest the rooibos bushes; the large bags, grates or other materials used to store and transport the rooibos bushes, etc.

When the aforementioned actors and actants are assembled together, their formation takes on a particular social phenomenon and meaning when coupled together in the space of the mountain. Latour (2013) emphasises that an assemblage is characterized by a movement, a process of assembling. As such, the mountain is an assemblage because there are multiple processes of social formation. I call the mountain an assemblage because it consists of multiple materialities, human and non-human, who merge their individual capabilities in a particular way to contribute or transform an assemblage. In this chapter I posit the mountain as an assemblage characterized by ‘autonomous’ individual agents (Delanda, 2006; Anderson *et al.*, 2012). Consequently the social phenomenon that I am interested in here, the process of transformation or the movement which I emphasise is the unique relations between Rastafari *bossiesdokters* and *kruiemanne*, and their interactions with medicinal plants through the assemblage of the mountain. I use the notion of assemblage to explore how Rastafarians and medicinal plants are assembled together to contribute to a series of social phenomena. In so doing, I aim to extend the Actor-network approach to illustrate ways in which medicinal plants act with intent.

4.4. Ethnographies of the Mountains.

4.4.1. Fresh water from the Maskam Mountain.

On Sunday morning, March 2015, at 5:30 am I meet with Levi and two other Rastafarian apprentices. On this morning we venture into the Maskam Mountain along the N7 road, the Cape to Namibia route. We climb through two fences and walk for about one hour to reach the fresh water reservoir. Benjamin¹ and Benjamin² who I meet for the first time, immediately initiate conversation about my research. We talk about many other things until we finally reach the reservoir at about 6:30 am. We sit on the top of the mountain and watch the sun rise over Klawer. It is quiet, peaceful and aesthetically appealing. They begin to collect dry plant leaves and branches as they prepare a fire. I ask them about the significance of the fire. Levi, Benjamin and Benjamin take turns to explain to me the importance of the mountain and nature to their beliefs, their spirituality and thus the significance of the burning fire. Levi begins to talk about the mountain as a special spiritual place. He continues to clarify, passionately, that everything which makes the mountain; the trees, the plants, the rocks, the animals and the fresh water, is created and provided by *Jah* [God]. Because the mountain is made up of all things natural, it is space free from all the negative and bad actions, behaviours and spirits among humans. As the flames start to ignite I admire the vista; a natural, burning fire on a mountaintop, as the sun begins to rise. Below I can see Klawer. Levi asks us to close our eyes as he sits next to the fire and gives praise to his God [Jah]. After the prayer we continue to talk about the mountain and the purpose of the fire. Levi says that the fire was made from the natural, dry plants found in the mountain - these were created by *Jah*. All things created by *Jah* possess a good “*gees*” [spirit]. He explains that because we come from the world “out there” that is filled with negative and bad intentions, especially evil spirits; we need to rid ourselves of these as we walk through *Jah*'s creation. When they make a fire, the burning of the flames represents the burning away of all the bad energies and negative spirits that come from the man-made world. Benjamin¹ emphasizes that Rastafarianism is a way of life. As Rastafarians, they try to live good and honest lives. They want to live life maintaining a good spirit [*n goeie gees*], the kind of *gees* that connects one to the goodness of *Jah*. He further explains that when you are a Rastafarian who aims to maintain energies of good spirit, people try to decoy, distract

or mislead you by sending bad energies or spirits your way. He further emphasizes that when Rastafarians enter the creations of *Jah* - the mountain – they come with energies of evil or negative spirits from the man-made world. Therefore the *Jah* like *gees* that encompass the fire is merged with the *gees* of the Rastafarian (through prayer). In which the coming together of these *geeste* [spirits] creates a good God/*Jah* like spiritual energy which drives away all other evil or negative spirits.

In the same way as natural plants are used to burn away energies of negative spirits, so too does the fresh mountain water cleanse the body of bad energies and spirits. After we sit at the fire and talk about the significance of the fire and of *geeste*, one by one, Levi, Benjamin and Benjamin excuse themselves as they prepare to cleanse their bodies. “You see”, Levi says “the collection of fresh mountain water is not just in and of itself the need for water. Rather, the fresh water itself possesses a good spirit [*n goeie gees*] because it is the water provided by and created by *Jah*”. Before they begin to collect water in their five litre plastic containers, they wash and thus cleanse their bodies with the water. As I sit and embrace the calmness of nature, I listen to birds cheeping, and cars passing on the N7, but I also listen to the Rastafarians as they give praise to *Jah* for the fresh water. As they bathe to cleanse themselves, they scream and squeal as the coolness of the water runs down from their heads to their toes. They explain to me that the water is fresh, cold and pure. It is *Jah*'s creation and thus the water cleanses your body of all negative spirits. When we walk back to town, each of them carries four five-litre bottles filled with water. They tell me that the mountain is a good place for your spirit. If you feel you are in a bad space, if you feel you did something negative, you come to the mountain and the spirits of *Jah* will cleanse you through the plants, the animals, the water and all things natural (Field notes, 15 March 2015)

In the above description, the Rastafarians consistently speak of a “*gees*” [spirit], “*n goeie gees*” [a good spirit], when making reference to the mountains, the plants in the mountains, the animals, and all other natural non-human materialities which make up the mountain. I use the idea of the “*gees*” as a means to explore the ways in which to rethink the agential abilities of non-human things like medicinal plants. As indicated above, borrowing from the work of Bennett (2010), in this narrative the assemblage is the mountain (place) in which the Rastafarians (people) and medicinal plants (non-human things) engage with each other to

reach a higher state of spiritual being which I refer to as a state of “*InI* consciousness” (Congo-Nyah *et al.*, 2013). Ibid stated the following in relation to the idea of “*InI* consciousness”:

As Rastafari has various expressions at different levels of cultivation/development of *InI* consciousness, it seems to lack a fully codified doctrine. However there are several foundational characteristics that define Rastafari, such as taking words of Haile Selassie as I-vine (divine) truth, seeking African repatriation, drumming and burning Herbs. At some point all initiates make their own personal connections to (and embody) Haile Selassie I as the perfect exemplar of *InI* consciousness (God/Christ/Jah, etc).

I is an important word/sound of power in Rastafari. In Iyaric, the Rastafari language the pronoun *InI* (I and I) denotes the shared identity/source from which came all and is used to refer to ‘I,’ ‘me,’ ‘we’ and ‘us’ (‘you,’ is the I). The use of I in Iyaric emphasises the importance Rastafari places on identifying with and knowing the Self.

(Congo-Nyah *et al.*, 2013: 266-267)

Therefore in this chapter the idea of “*InI* consciousness” is characterized by a “*goeie* gees”. A God/Jah like spirit which denotes a state of harmony between Nature and Culture, in which humans (Rastafarians) and non-human things (medicinal plants) engage in unique relations as agentive subjects through the coming together of their “*geeste*” [spirits]. Subsequently, in the above anecdote ‘Fresh water from the Maskam Mountain’ the burning of a fire (made from dried medicinal plants in the mountains) and the cleansing of the body (with the natural mountain water provided by *Jah*) accompanied by prayers (from the Rastafarian), represents a process of “becoming” (Haraway, 2008), in which the Rastafarians reach a higher state of being which I call “*InI* consciousness”. Consequently, it is through this harmonious state of being in which I argue that medicinal plants are *agentive-actants*.

In the next segment I provide a second anecdote from the mountain region referred to as *Gifberg*. This descriptive encounter aims to further illustrate the ways in which Rastafarians experience this higher state of consciousness. In so doing, I aim to provide a deeper

understanding about “*n goeie gees*” or “*Inl*” consciousness and the ways in which medicinal plants perform themselves, in the assemblage, as active subjects.

4.4.2. *Finding Sutherlandia in Gifberg.*

On Saturday Morning, March 2015, the research team on an ethno-botanical project in which I am involved, join me in the field. The aim is to introduce new students to the field site and to teach them basic research methods, but also to collect some plant specimens. Levi will accompany us in the mountain. He suggested that we go up the mountain called *Gifberg*, where he regularly collects medicinal plants for personal use and to sell. We specifically want to collect *Sutherlandia*, the cancer bush locally referred to as ‘*Kankerbossie*’ or ‘*Jantjie-Berend*’. Levi went deep into the dense bush and fynbos to look for it. He soon left the rest of us behind and we wait for him at a gravel road. From time to time somebody calls his name and we hear the faint echo of his answering voice. We cannot see him through the high trees and bushy vegetation. Eventually he emerges from the bushes. He holds in his hand the *Sutherlandia* plant, as well as other plants used for medicinal purposes. We are pleased that he was finally able to collect a few specimens for us. As he approaches he tells us how he found the cancer bush. Levi said that he struggled to locate the *Jantjie-Berend*. When he saw another medicinal plant, the ‘*Agt Dae Genees Bos* [eight day healing bush], he cut at the stems of the bushy plant to collect fresh leaves. Afterwards he wanted to continue his search. As he tried to step forward, he was pulled back by the branches of a plant as it tangled around his arm. He pulled and pulled his arm forward but the plant would not release its hold on him. He then took one step back in an attempt to untangle his arm. As he loosened the hold of the branches he looked at the ground and suddenly noticed a *Sutherlandia* plant. He said:

“*Dit was die gees van die plante. die plante trek jou terug*”.

[It was the spirits of the plants, the plants pull you back]

(Field notes, 29 March 2015)



(Figure 7 & 8: A Rastafarian *kruieman-Levi*- collecting Kankerbossie [cancer bush] and agt-dae-genees bos [eight day healing bush] in Gigberg. *Photograph taken by author.)

The aforementioned encounter between Levi and the medicinal plants further illustrates a state of “*InI* consciousness”, as discussed above. It can be said that Levi and the medicinal plants were engaged in harmonious interactions with each other through the coming-together of their “*geeste*” [spirits]. As a result the medicinal plants performed themselves as *agentive-actants* by communicating with Levi through clinging onto his arm and “pulling him back”. Consequently I emphasize that in the assemblage of the mountain Rastafarians and medicinal plants are engaged in a “web of ecological and spiritual processes” (Congo-Nyah *et al.*, 2013:75). The latter network thus demonstrates the unique human to non-human ontological relations which de-constructs the nature/culture dualisms.

Before I elaborate my argument further I present the final anecdote from the Maskam Mountain.

4.4.3. Collecting plants on the Maskam Mountain.



(FIGURE 9,10&11: from left: two elders pointing to the location of the next medicinal plant we were to collect; Middle: An apprentice *kruiemán* digging out, with his hands, the Matunga [*Haemanthus coccineus*]; from right: A *kruiemán* after several hours in the mountains collecting fresh mountain water [plastic bottles on the left] and several medicinal plant specimens [in and on top of the white and brown bags on right]. *Photographs taken by author.)

In August 2015, we meet two Rastafarian elders, Judah and Boyce, and an apprentice, Benjamin. We arranged with Judah to meet him at his home to talk about the plants in his garden and to collect medicinal plant specimens for an ethno-botanical project. Judah introduces us to Boyce and Benjamin and emphasises how privileged we are to have two elders and an apprentice together at once. Judah has specially arranged it so that we can witness the way in which knowledge of medicinal plants is transferred. To Judah's surprise, I have already met Boyce and Benjamin but I am pleased to have them all together as this contributes to my own understanding. The mountain is the most important place in which knowledge transference takes place, and on the Maskam Mountain we explore a new area on a different section of the mountain I have not seen before. As we walk through the mountain and climb or jump on and off rocks, Judah and Boyce point to particular medicinal plants and name them. They then ask the apprentice, Benjamin, to explain to us the medicinal uses of that plant. Judah and Benjamin nod in agreement and add information about its medicinal uses. They tell me that this method maximizes the transference of knowledge between the elders and the apprentice (as well as between us and them). After walking and climbing for a while we have collected twelve specimens of medicinal plants. When we stop at one location to collect a particular plant Judah and Boyce discuss and confirm the direction of the next plant to be collected. I am fascinated to observe their knowledge of medicinal plants and of the mountain itself. They seem to have

developed a kind of embodied map of the plants and of the mountain. This is very different from the ethno-botanical project, when plants are collected we use a GPS device to capture the co-ordinates for future collection at that location. After observing the way Judah, Boyce and Benjamin navigate through the mountains I ask them how they manage to remember where all the plants are located and if they ever forget where certain plants grow. They respond:

Judah: *nee, ek vegeet nie. as die gees eers in jou is! Elke dag is jy in die natuur daai is amper soos julle een is.....*

[no, I do not forget. If the spirit is within you, every day you are in nature it is almost as if you are as one]

Boyce: *...ja, jy is een*

[yes, you are one]

Benjamin: *...as jy miskien in n plek loop wat jy nie gewoond in loop nie, daai plantjie roep jou, hy trek jou aandag.....*

[if you maybe walk in a place that you are not used to, the plants call you, they attract your attention]

Judah: *.....byvoorbeeld, as ek verby die rooistorm loop, hy hak vas aan jou broek (he demonstrates).....*

[for example, if you walk past the *Rooistorm*, he clings to/ hooks onto your pants]

Benjamin: *...hy roep jou...*

[he calls you]

Judah: *.....of hy sit vas, hier aan my top hy sit was. Nou loop ek dan kyk ek, rooistorm. Nou weet ek daai gebied waar ek in was het Rooistorm. Dan kyk ek*

so my spoer weer terug. Dan sien ek hier is die bos van die Rooistorm, dan het ek it! Maar jy moet een wees met die natuur.

[or he gets stuck, here on your sweater/top he is stuck. Now I walk on and look, rooistorm. Now I know that the area that I was just in has *Rooistorm*. Then I follow my trail/ spoor to the bush of the *Rooistorm* then I have it! But you must be at one with nature] (Fieldnotes, 28 August 2015)

As in the field notes above, the Rastafarians refer to a “*gees*”, and Judah emphasises that to allow the “*gees*” to guide one in the mountain you have to be at “one with nature”- a state of “*InI* consciousness” (Congo-Nyah *et al.*, 2013). In other words, to interact with and transform each other the Rastafarian must embody the materialities of the mountain. If they allow themselves to be enrolled¹⁹ by plants the Rasta’s allow the “*gees*” to work with them, through the human and through the plants, in order to generate, maintain and transfer knowledge about medicinal plants and their healing properties. The way in which these local Rastafarians speak about the plants, the “*gees*” and the mountains, the way they speak of their experiences and their interactions with medicinal plants, resonates with the ways in which Bennett and Latour wrote about the vital materialities of non-human things. Bennett (2010) argued that material objects (non-human things) have vitality, vibrancies, and lively powers. Therefore, to say that medicinal plants have vitality implies that these plants also “act as forces with trajectories, propensities or tendencies of their own” (Bennett 2010: viii). Therefore in the subsequent sub-section, through the notion of “*InI* consciousness” and the concept of “*gees*”, I explore the transformative abilities of medicinal plants as agentic subjects in the assemblage of the mountain.

4.5. ‘Die Gees’ [the spirit]: becoming one with nature.

In my field notes from the mountains (March and August 2015), the *bossiedokters* and *kruiemanne* speak about the concept of the “*gees*” [spirit]. In the first ethnographic encounter, Levi, Benjamin and Benjamin emphasised that all natural things in the mountain, all those objects created and provided by their god [Jah], possess a kind of spirit. It possesses a kind of *Jah* like “*gees*” because it is created in the image of *Jah*. In his research in Kannaland Cohen

¹⁹ Refer to chapter 3, section 3.2.3 on ‘The idea of enrolment in an assemblage’.

(2008) wrote about *bossiedokters*, local Christians and their relationship to God, especially about the belief that the landscape was created by God. Therefore the power of “*kruie*” [medicinal plants] to heal and protect is attributed to the positive spirits through God (Cohen 2008:66). For Rastafari *bossiedokters* and *kruiemanne* in Klawer, medicinal plants from the mountains possess a positive spiritual power, a similar spiritual force which a human, the Rastafarian can access through their relationship with their God, *Jah*. Thus the positive spiritual essence that humans possess is the same kind of “*gees*” that all natural things in the mountain possess. It is the same kind of “*gees*” because through this spirit, knowledge about health and healing is produced in which medicinal plants hold power, force, ability, and the vitality to heal. In analysing the concept of the “*gees*” [spirit] I make two claims. The first differentiates between three types of “*gees*” while the second speaks to my arguments about the agentivity of medicinal plants as *agentive-actants*.

The first point is that, according to the Rastafarian *bossiedokters* and *kruiemanne* in Klawer, there are three similar but different kinds of “*gees*” which ultimately work together to produce knowledge about health and healing. The first “*gees*” is attributed to the human, the Rastafarian. The second kind of “*gees*” relates to the spirit of all non-human natural things like medicinal plants. The third “*gees*” and perhaps the most imperative one, brings together the human “*gees*” and the non-human “*gees*”, the “*gees*” of the Rastafarian and the “*gees*” of the medicinal plants. This third “*gees*” I call the “*spirit of InI*” (Congo-Nyah *et al.*, 2013). The latter understanding of “*gees*” encompasses a unique relationship between Rastafarian *bossiesdokter* or *kruiemanne* and medicinal plants. In their engagements with one another the former and latter subjects combine their “*geeste*” [spirits] resulting in a higher state of consciousness characterized here as the “*spirit of InI*”. When medicinal plants and Rastafarians reach a state of “*InI* consciousness”, they possess a *Jah* like awareness of the world which is considered as a harmonious assembling of human and non-human ontologies. Ultimately, this understanding of the world, an “*InI*” ideology, de-constructs the Nature/Culture divide in which religious, cultural and ecological ontologies are entangled in a web of relations.

The “*spirit of InI*” is significant because through the entanglements of positive spirits, Rastafarians and medicinal plants transform one another in the process of knowledge production, encompassing the location of plants, how plants grow, what they are used for, which of them have medicinal properties, and how to identify plants through taste, smell,

colour and texture; as well as the best time of the year to collect the plants, how to collect so as to preserve them, etc. This also includes knowledge about “*geeste*”[spirits], how it works, its affective abilities, and knowledge about the transformative abilities of medicinal plants, that is, their ability to communicate with Rastas in the field and their capacity to heal. The vitality of medicinal plants, or as I prefer to say, the transformative abilities of medicinal plants, lies in their capabilities to heal but also interact with Rastafarians in the assemblage. Judah and Levi claimed that, through its healing properties, medicinal plants save lives. This means that plants act or perform themselves as “doctors” of life. One of these ways in which medicinal plants possess transformative abilities is their ability to heal the sick body through eliminating or curing it of ill health symptoms such as headaches, fever, physiological stress, aches and pains. Also, their ability to provide protection against evil acts of sorcery, to attract good fortune, and to eliminate evil spirits that attack the body and person. These medicinal plants “doctor” life and therefore it is through their power to provide healing in which they – the *kruiemanne*- transform people. At the same time the ability of medicinal plants to “doctor” life has relational ontologies to the Rastafarian *bossiedokters* and *kruiemanne*. According to the Rastafarians who worked with me, not everyone can administer treatment to the sick or ill, or prepare herbal mixtures. Rather, the ability to understand the ways in which plants heal, the ability to correctly mix particular plant remedies together is only possible when the Rastafari *bossiedokter* or *kruiemanne* have been gifted by *Jah* with the “*gees*” of understanding healing practices. Among the *bossiedokters* and *kruiemanne* in Klawer, Rastas and other local traditional healers, the ability to heal and doctor people is not simply in and of itself a choice that anyone can make, but a special spiritual calling that one gets from their God. If one has received the calling to become a *bossiesdokter* or *kruieman* they come to understand the presence and power of the spirits and how the “*gees*” of people and plants work together in order to restore or maintain health and, ultimately, to “doctor” life.

To the Rastafarian, as emphasised by Judah (in the third mountain ethnography), when the “*gees*” of the traditional healer and the “*gees*” of the plants come together this is when the Rastafarian becomes “one with nature.” In the third mountain ethnography with the elders and the apprentice, Judah says that he does not forget where plants are positioned, not only because for years he has spent time in the mountains, but also because he is guided by the “*gees*”. He posited that when the “*gees*” is in him, he “becomes one with nature”. This *gees* that Judah speaks of is the third “*gees*”, the “*spirit of InI*”. When the Rastafarian reaches a state of “*InI*” *consciousness* the “*gees*” guides him in the field. Similarly, in the “*Finding*

Sutherlandia in Gifberg” vignette, Levi said, “*die plante trek jou terug*” [the plants pull you back], to show him where other plants are located. Likewise, Benjamin explained “*die plante trek jou aandag...die plante roep jou*” [the plants call for your attention, the plants summon you]. Therefore I argue that, for the Rastafarians, medicinal plants of the mountains have abilities which transform the Rastafarians through a process of “becoming”. In “becoming” one with the environment, with nature, the Rastafarian allows himself to be enrolled by the “*gees*” of the plants. In so doing he reaches a state of “*InI*” awareness through which the plants are able to communicate with the Rasta, by calling for their attention or “pulling them back”. Here I return to Latour’s (2013) idea of enrolment and Haraway’s (2008) notion of becoming, which I introduced in chapter three. Subsequently I aim to further illustrate how the Actor-network theory is applied in this ethnography of the mountain. In so doing I will illustrate why I call the mountain an assemblage and elaborate on how medicinal plants are *agentive-actants*.

4.5.1. Assembling the assemblage.

An assemblage is said to consist of disparate entities (Anderson *et al.*, 2012; Delanda, 2006) or lively materialities (Bennett, 2004; 2010), each of which possesses individual volition (Crawford, 2004) or as I call it, transformative capabilities. An assemblage is characterized by a particular space/place in which a range of agents, human and non-human, are assembled together in heterogeneous ways to create, maintain or transform a social phenomenon. Subsequently I position the mountain as an assemblage, arguing that within its space, multiple social phenomena takes place. I indicated in section 4.3 of this chapter about the farmer who cultivates and harvests rooibos tea for commercial use. There are other processes which also take place in this assemblage, which includes me as a researcher who collects medicinal plants for the creation of a thesis. In this phenomenon of research there are multiple agents who participate. These include the researcher and his/her colleagues, and research participants such as *bossiesdokters* and *kruiemanne*. It also includes non-human agents such as the medicinal plants, the equipment used to dig up and collect the plants, the recorders and GPS devices, etc. However, the process of assembling which I want to emphasise is the phenomenon of “becoming one with nature” which stresses a particular understanding of knowing and being as practiced by local Rastafarian *bossiesdokters* and *kruiemanne* in Klawer. This notion of knowing and being is thus characterized by an “*InI*” level of awareness.

4.5.2. Medicinal plants as agentive-actants.

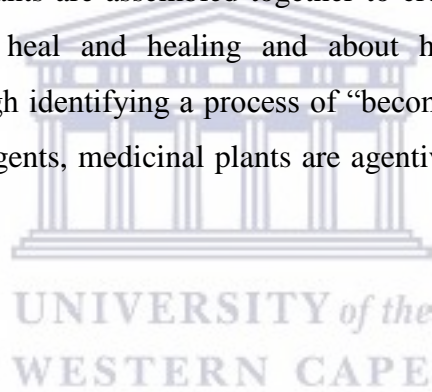
I would like begin with and turn attention to the three mountain vignettes discussed earlier, to illustrate the ways in which the medicinal plants are agentive-actants. I begin with the first mountain narrative in the Maskam mountains (Field note 15 March 2015). In this segment Levi mentioned how the burning of a fire with dry plant leaves and branches served to eliminate evil spirits. The fiery flames represent the burning away of bad spirits while the plants used to make the fire possess a positive “gees”. This is the same kind of “gees”, a positive God-like or rather *Jah* like spirit which Judah, Benjamin and Oom Boyce highlighted in the third mountain story. According to the Rasta’s the burning of the dried medicinal plants protected them from evil spirits from the man-made world. In the second and third mountain ethnography the Rasta’s also emphasised the medicinal plants as possessing a *Jah*-like “gees”. Therefore it is through this notion of the “gees” that I want to unpack to illustrate a plant agentivity.

As indicated previously, there are three kinds of “gees” which emerge in the mountains. When these “geeste” [spirits] come together it is said that the Rasta “become one with nature” and reach a state of “*InI* consciousness”. My point of departure is the Rasta’s emphasis that they become one with nature and not that nature becomes in tune with the Rasta. This already, at least to me, reflects the way that Rastafarians think about the non-human agents that make up nature – the medicinal plants – as possessing a kind of agentivity. Secondly, when Rasta’s become one with nature they are able to identify and thus comprehend the ways in which the plants communicate with them. Through their “gees”, the medicinal plants enrol the Rasta’s in the process of ‘becoming one with nature’. When the plants summon the attention of the Rasta’s by pulling them back, through hooking onto their clothes or clinging to their feet, legs, arms or hands, the plants are performing their individual volition to associate with the Rastas in the assembling of their “geeste” [spirits]. Thus the medicinal plants are “actants” because they allow themselves to be “enrolled” by the Rastas so that they, the latter agents, can “become one with nature”. However, the medicinal plants are also *agentive-actants* because they communicate with the Rastas in unique ways. Also it seems that it is the plant’s good intention to give these curatives and *gees* to the person who is ill. It is almost as if this adds to the *gees* – the plant’s *gees* is so good that it will sacrifice

itself to heal and will call healers out of the cities to the mountains so they can give their powers to the sick. Therefore the medicinal plants possess transformative abilities.

Conclusion

In this chapter I began with an explanation on the importance of Rastafarians to this study because it is through the movement of Rastafarianism that I am able to suggest the mountain as an assemblage. Through a Rastafarian understanding of a *Jah* like consciousness, an “*InI*” awareness, I was able to explain the ways in which non-human things act with volition and thus possess transformative abilities. In so doing I attempt to break the existing binaries, in Anthropology, between nature and culture and on the understanding of human and non-human ontological relations. I hope that through the use of extensive field notes that I have successfully illustrated how people and plants, particularly how Rastafarian *bossiedokters*, *kruiemanne* and medicinal plants are assembled together to create, maintain and sometimes transform knowledge about heal and healing and about how human and non-human ontologies are related. Through identifying a process of “becoming one with nature”, I have argued that just like human agents, medicinal plants are agentive subjects in the assemblage of the mountain.



Conclusions: Moving towards a ‘plantthropology’ (Myers, 2016).

I have not been able to see any way this inquiry into modes of existence could do without philosophy. I am turning to philosophy, then, not in the vain hope of finding in the “foundations” what field study is unable to provide but, on the contrary, in the hope of forging a metalanguage that will allow us finally to do justice, in theory, to the astounding inventions that the fields reveal at every step.

(Latour 2013: 21)

5.1. ‘Metalanguage’: assemblages, subjects and agentive-actants.

5.1.1. Assemblages.

In an ethnographic analysis, the representation of findings inevitably relies on the ways in which these social worlds are presented through writing. It is the language used by the researchers or authors that play a significant role in understanding the social world as it is practiced, perceived and understood by research subjects. In attempting to postulate a re-conceptualization of the social world through complex ontological relations between people and plants, I posit a theory of Assemblages. In which the garden and the mountain, respectively, are presented as an assemblage. In these assemblages, the processes of “the making of a garden and gardener” and “becoming one with nature” provided a kind of philosophical meta-analysis of language. I therefore posit that in writing against dualistic theories between nature, culture and society that novel methods of analysis and theory - such as interdisciplinary and transdisciplinary approaches - de-constructs and re-constructs the ways in which contemporary researchers ought to write about and represent the world. It is the use of language; the use of concepts and notions and the way in which they are used and understood in practice, that ought to be as accurately as possible represented in writing.

Through a careful analysis and use of language I have presented and represented notions of knowing and being – a gardener and Rastafarian *bossiesdokter* and *kruiemán* - as it is experienced and understood by the participants (both human and non-human) who took part

in this study. By following the trail of plants but also through what Pitt (2015) refers to as ‘being shown’ it was through the stories and narratives by gardeners and Rastafarian *bossiedokters* and *kruiemanne*, through their gardens and the mountains, which revealed the unique ways in which plants have come to experience their relations in the world. Therefore through these experiences of the world, both human and non-human, I have proposed different ways in which to think, analyse, theorize, speak of and ultimately write about the complex ontological relations between people and plants, in which the former and latter agents are presented as subjects of research who each possess transformative agentivities.

5.1.2. *Subject versus object.*

As Latour (2013) suggests in the above epigraph, in writing about the plurality of modes of existence the employment of a meta-language is imperative. In this dissertation, in chapters 3 and 4 I reconstruct the understanding of what it means to be human. In which theories of ‘being’ and ‘becoming’ cannot be separated from understanding the human to non-human relations as mutually constitutive. For example, in analysing the concept of ‘*gees*’ in chapter 4, I attribute the notion of *gees* to a human and non-human agentivity. Implying that people and plants are *agentive-actants* who possess unique forms of agentivity. Through this mode of hypothesis I argued for the deconstruction of human-centred dualisms within the nature/culture/society divide. As well as the re-conceptualization of dichotomous relations between people and plants. In this multi-species ethnography, the presence of a meta-language was not an intentional category of analysis but rather became a necessary method of writing in the paradigm of ontological multiplicities. My attempt at a kind of philosophical meta-language thus reconsiders the way in which multi-species ethnographers ought to write about and conceptualize the object-subject dualism. In postulating a theory of post-humanism, I thus propose to write about and speak of non-human things, particularly plants - like in the case of this thesis - as subjects of research and not simply as objects in research. Since the topic of a meta-language is suggested as a contributing element to inquiries into modes of existence I then propose that plants ought to be understood, through the research process, during analysis and in writing, as subjects of research. But also as subjects in the world who actively participate in their relations with humans and who also transforms people and thus assemblages. Consequently in this thesis gardened ornamental potted plants and medicinal plants from the mountains are not simply agentive objects but rather subjects who possess unique forms of agentivity and thus transformative abilities.

5.1.3. Agentivity.

In this thesis I suggested to call “quasi-object” (Latour, 2013), *agentive-actants*. In so doing I argue that non-human things like ornamental pot plants and medicinal plants possess a unique kind of agentivity. In relational philosophies non-human agents are referred to as actants. As such, the idea of agency in relational philosophy imply that actants have agentivity only as an effect of their relations to people (actors) and other quasi-objects (actant) within particular assemblages (Haraway 2008; Latour 2005, 2013). However, I have attempted to push the boundaries of the Actor-network approach and relational philosophies. I have suggested that in the assemblage of the garden and the mountain, the pot plants and medicinal plants possess more than just a kind of relational agentivity. I thus refer to these plants as *agentive-actants* because through the exploration of the ways in which they perform their relational agencies, I have discovered and thus argued that these ornamental potted plants and medicinal plants have enrolled themselves as unique agents who also act with intentionality. Moreover I posit that in the assemblages of the mountain and garden, in the processes of the “making of a garden and gardener” and in the process of “becoming one with nature”, both human and non-human subjects are mutually constitutive. In these processes of becoming, each agent performs themselves as “discrete entities” (Hitchings 2003:107). Therefore I argue that the potted plants in the garden and medicinal plants from the mountains are active subjects in the assemblage and thus valuable subjects within this research project.

5.2. An Afro-centric approach towards transdisciplinary knowledge.

In this dissertation I have attempted to demonstrate the ways in which contemporary research ought to consider the influences of various agents through a multi-species ethnography. I argue that through the exploration of assemblages researches are able to investigate and recognise how non-human subjects mutually contribute to the existence of an assemblage and other agents. However I do not make final recommendations but rather propose novel ways to re-consider the relations between people and plants. I posit that we ought to look into new methods of understanding multi-species relationships. In other words, I provide tentative conclusions to novel theories and methods in research which aims to re-conceptualize notions of knowing and being. I thus propose that researches reconstruct and construct novel ways of understanding the world through parallel relationships between human and non-human subjects.

5.2.1. De-constructing binaries: nature/culture/society.

I have emphasised the limited scope of literature in Anthropology towards multispecies relations between gardeners and the plants in their gardens and between Rastafarians and medicinal plants from the mountains. In addition, the nascent scholarship towards the ontological turn to a post-humanist perspectives (cf Archmabault, 2016; Green *et al.*, 2015), also provide very limited approaches to exploring non-human agentivity through multi-species ethnographies. As a result I have approached this study, holistically, through interdisciplinary and transdisciplinary approaches (Ryan 2011). However, I stress here that this thesis does not encompass a collaborative effort between various experts in multiple disciplines like in work of Green *et al* (2015). The findings and arguments presented in this text are grounded on my own expertise in Anthropology. As such what I imply is that this project provides a kind of transdisciplinary stream of thought, although it lacks the nuances of multiple disciplinary inputs. In others words when I write of this thesis as presenting a kind of transdisciplinary knowledge, what I mean it that the arguments put forward in this text encompass the many encounters (conversations, conferences, training, workshops and literature) with diverse knowledge systems in multiple disciplines on the topic of plant studies.

I began with an interdisciplinary approach through my involvement in an ethno-botanical project²⁰. As such I applied multiple skills from the disciplines of Anthropology and Botany. I conducted household surveys walking from door-to-door; I spent time with people in their gardens and in nurseries with gardeners; I sat on street corners where medicinal plants are traded and spent time in the mountains where they are collected. I also spent several hours a day with Rastafarian *bossiedokters* and *kruiemanne* from their gardens into the mountains where I collected medicinal plant specimens will simultaneously learning how to identify plants through their shape, smell, texture, colour and sometimes taste. I subsequently spent time preparing plants for identification by carefully pressing them in a plant presser, sometimes grooming them by cutting off dead leaves or twigs, removing excess sand from the roots and applying organic pesticide, as well as changing the plant press papers regularly.

²⁰ Refer to chapter 1 and 2 in which I speak to my involvement in the Knowledge Interfaces project.

In addition I also spent time in botanical gardens²¹ and herbariums where I was trained on how to collect and prepare plants for identification. These several techniques thus incorporated an interdisciplinary approach to a multi-species ethnography through an ethnobotanical endeavour. The experiences and knowledge gained through this interdisciplinary approach has valuably contributed to the production of a kind of transdisciplinary stream of thought on people-plant relations.

Moreover I posit that the aim towards transdisciplinary knowledge necessitates the incorporation for multiple disciplinary approaches. Such interdisciplinary approaches have the potential to strengthen theoretical positions. For example, in this thesis I focus on the processes of “the making of a garden and gardener” and “becoming one with nature” in which I argue that plants possess a kind of botanical agentivity characterized with the volition to act with intent. However I was able to confidently present this argument because of the various training and exposure to plant practices in the fields of Botany and Chemistry. I will make two examples to emphasise my point. Firstly, I learnt that when plants are pressed they ought to be pressed in a particular way: neatly and in its natural state. Plants ought to be tightly pressed between the plant presser in order to retain its natural growing shape, and the plants should be well protected from pollination from insects by spraying the plants with organic pesticide. In addition, when these final pressed plants are sent to the herbarium for identification the botanists would first freeze the specimens to further guarantee that it is not pollinated by insects and/or to kill any other poisonous chemicals that are potentially dangerous to the plant and other plants stored in the herbarium. Secondly in Phytochemistry when scientists test for bio-activity in medicinal plants the extracted compounds are stored in a freezer at 88, 22, or 4 Degrees Celsius. This is done to ensure the consistent and reliable results of the bio-activity in medicinal plants. I learnt that if the extracted compounds are not stored at particular temperatures the compounds become vulnerable and therefore comprise the potential to produce reliable and valid result. To me, the exposure to these plant practices further revealed the unique ways in which plants act, contribute and transform various assemblages.

²¹ As part of the Knowledge interfaces project I participated in various training sessions facilitated by botanist at the Kirstenbosch Botanical Gardens in Cape Town and at the Harold Porter Botanical Gardens east of Cape Town situated in Betty's Bay.

Therefore my exposure to various plants practices in the field but also within multiple disciplines have revealed the many ways in which plants perform and possess a kind of botanical agentivity. As such my experience with these interdisciplinary approaches has aided my confidence to push the boundaries of the Actor-network theory on the idea of relational agency.

Additionally, I applied the methodological tool of following non-human subjects as proposed by Latour who specializes in the field of Science and Technological Studies (STS). I thus incorporated multiple fields of expertise to the collection of data. In so doing I subsequently drew on theoretical positions from other disciplines as well, these include Botany, Geography, Environmental literature, Philosophy and of course Anthropology. By incorporating multiple perspectives in the analysis and theoretical arguments made in this thesis, I have achieved the following objectives:

- To illustrate how the Actor-network approach is used applied within a multi-species ethno-botanical study:
 - explored and illustrated the ways in which humans and plants mutually co-exist in an assemblage;
 - explored and presented the garden and mountain as an assemblage thus,
 - illustrating the ways in which plants - ornamental and medicinal - possess a kind of agentivity as an effect of their connections to other agents in the assemblage, particularly between gardeners and the plants in their gardens and between medicinal plants and Rastafarian *bossiedokters* and *kruiemanne*.
- Make comment on the ways in which gardeners experience, perceive or understand their relationships with the plants in their garden:
 - explored the ways in which gardened plants possess an agentivity of relation;
 - explored and argued for the ways in which gardened plants possess an agentivity of intent.
- Make comment on the ways in which Rastafarian *bossiedokters* and *kruiemanne* have come to experience, perceive and understand their relations with medicinal plants in the mountains:

- explored the ways in which medicinal plants possess an agentivity of relation;
 - explored and argued for the ways in which medicinal plants possess an agentivity of intent.
-
- Identified the kinds of medicinal plants that are grown in home gardens:
 - documented for which health care solutions they are used to treat;
 - documented information about the preparation, dosage and storage of medicinal plant and mixed herbal remedies.
-
- Identified the kinds of medicinal plants that are collected in the mountains by Rastafarian *bossiedokters* and *kruiemanne*:
 - documented for which health care solutions they are used to treat;
 - documented information about the collection, preparation, dosage and storage of medicinal plants and mixed herbal remedies.



Conclusion

The application of multiple disciplinary inputs methodologically, analytically and theoretically, resulted in a contemporary transdisciplinary understanding of human-plant relations. As such I hope that I have successfully and convincingly illustrated the ways in which researchers ought to re-construct the nature/culture/society divide. In which it is argued, from an afro-centric approach, that experiences, perceptions and understandings of knowing and being a gardener and Rastafarian *bossiesdokter* or *kruieman* are entangled through cultural, ecological and societal practices and beliefs, as well as interwoven experiences within the natural environment, in cultural ideologies and other societal philosophies.

I propose the need for more interdisciplinary studies towards multi-species relations. As evident through research in Botany, Geography, Environmental Literature and Anthropology thus far and hopefully including this thesis, I argue that such holistic interdisciplinary approaches have great potential to undo Euro-centric and thus human-centred understanding of the world and the various agents, both human and non-human, who make up the world. Moreover I posit that this ought to be the very nature of multispecies approaches particularly within an African context. The production of contemporary Afro-centric knowledge ought to be interdisciplinary and transdisciplinary.

UNIVERSITY of the
WESTERN CAPE

CHAPTER 6

Medicinal plant monographs.

As indicated in previous chapters, the initial objective for this project was to investigate plant practices of medicinal plants cultivated in home gardens and used by local residents of Klamer. However in applying novel approaches to multi-species ethnographies I followed the trail of medicinal plants which led me to a variety of plant spaces. These include home gardens, front yard porches, taxi rank corners, nurseries and local mountains. As such I discovered more medicinal plant information than initially anticipated. It is for this reason that I dedicate an entire chapter to present a medicinal plant monograph.

The monographs provided represents medicinal plant knowledge as understood by residents of Klamer particularly those living in Volstruisingle and Buitekantstraat. These monographs are also informed by several other Rastafarian *bossiedokter* (bush doctor) and *kruiemanne* (herbalists) whom I met during the course of my research but who do not reside in the aforementioned streets.

The monographs will represent and include information about local plant knowledge pertaining to their vernacular names in Afrikaans, methods of preparation, consumption, treatment and application methods, and dosage details. The monographs will also highlight for which ill-health conditions each plant is purportedly used.

The subsequent monographs are divided into two sections. The first part identifies the eight medicinal plants that is commonly cultivated in the home gardens of residents living in Volstruisingle and Buitekantstraat only. Albeit not limited to, section 6.2 provides a list of several medicinal plants that local Rastafarian *bossiedokters* and *kruiemanne* collect, use, and sometimes trade. Therefore like this dissertation in its entirety, the monograph is a representation of the medicinal plant knowledge and practices as understood by Klamer residents.

6.1. Commonly gardened medicinal plants.

Malva (Afr)/ Pelargonium Graveolens (Scientific name)



FIGURE 12&13: Photo taken by author.

Traditional uses:

The *Malva* plant is used to treat toothache and earache. One leaf is pulled directly from the plant and inserted in the painful ear or in the mouth with an aching tooth. The leaf is applied to the affected area for about one hour or until the pain is gone. It is used for treatment on children and adults.

Additional information:

Family: Geraniaceae;

Genus: *Pelargonium*

Vernacular names: Kanniedood, Malva (Afr); Geranium (Eng)

The *Malva* plant is found in South Africa and other parts of the world throughout the year. It takes well to the Hardeveld habitat which is characterized by well drained and fine grained soil. The pelargonium is listed as least concern on the Red List of South African plants. The oils in the leaves and stalks have been extracted and used commercially in various essential oil products for its calming and therapeutic purposes (Philander, 2011; Raimondo *et al.*, 2009; Van Wyk *et al.*, 2009; Watt *et al.*, 1962).

Wynryk/Wynruit (Afr)/ Rue/Ruta graveolens (Scientific name)



FIGURE 14: Photo taken by author.

Traditional uses:

A handful of leaves are picked and used in various herbal mixtures that combine several plant medicines boiled together for a few minutes. *Wynruit* is used to treat symptoms related to colds or flu-like fever, blocked noses, headaches and other bodily pains. A dosage of ½ to 1 glass of steeped *wynruit* is drunk by an adult 3 times daily from the onset of a cold or flu indicator until the patient is longer symptomatic. A lesser dose of one teaspoonful 3 times daily or once at night is given for treatment to children, but it is not administered to infants.

Additional information:

Family: Rutaceae;

Genus: *Ruta*

Ruta originated from Europe but is abundantly found in South Africa and other parts of the world. It grows in well drained and fine grained soil. *R.graveolens* grows between May – July and is listed as least concern on the Red List plants of South Africa. It is also believed that *Ruta* was once used to remedy bad wine quality. The essential oils as well as the anti-inflammatory and anti-microbial activities of *Ruta* are extracted and used in allopathic medicines to treat disorders like Glaucoma and Inflammation in the eyes (Raimondo *et al.*, 2009; Van Wyk *et al.*, 2000; Van Wyk *et al.*, 2004; Van Wyk *et al.*, 2009; Watt *et al.*, 1962).

Wildeals or Als (Afr) / Artemisia afra (Scientific name)



FIGURE 15: Photo taken by author.

Traditional uses:

A handful of *als* leaves is freshly picked and boiled together with other plant medicines to treat symptoms of cold and flu like fever, blocked nose, headaches and bodily pains. ½ to 1 glass of this herbal mixture is drunk 3 times daily by adults. This dosage is administered from onset of a cold or flu indicator until the patient is no longer symptomatic. A dosage of one teaspoonful 3 times daily is administered to children but is not given for treatment to infants. It is also used to treat colic, headaches, malaria, intestinal worms, gout, and blood poisoning. In traditional practice a fresh leaf is inserted into the nostrils to relieve nasal congestion or placed in boiling water as a steam bath for menstrual pain or post childbirth pains.

Additional information:

Family: Compositae; **Genus:** Artemisia; **Species:** *afra*

Vernacular names: Wilde-als, als (Afr.); wild wormwood, African wormwood (Eng.); Umhlonyane (isiXhosa&isiZulu)

This plant is named after the Greek goddess Artemis. It was used in religious rites but also for its medicinal properties by ancient Egyptians, Greeks and Romans. It was also believed to work as a love charm centuries ago. In Indian tribes of North America *Artemisia afra* was used to treat sore throats and bronchitis. It is believed to be an essential part of the herb garden, in South Africa, because it is easy to grow. This plant has a wide distribution from

Cederberg Mountains in the Cape, northwards to tropical East Africa and stretching as far as Ethiopia. It requires full sun and heavy pruning in winter to encourage new lush growth in spring to summer. It is registered as least concern on the Red List plants of South Africa (Raimondo *et al.*, 2009; Van Wyk *et al.*, 2000; Van Wyk *et al.*, 2009; Watt *et al.*, 1962).



Geneesbos (Afr) / Bulbine frutescens (Scientific name)



FIGURE 16&17: Photo taken by author.

Traditional uses:

The *Geneesbos* is a succulent plant with long, green leaves. The leaves are freshly picked, broken and the jelly-like substance is rubbed directly onto the skin to treat burns, cuts, rashes, blisters, insect bites, cracked lips, cracked skin, acne and mouth ulcers. The *Geneesbos* can be applied on one's skin daily until the affected area has cleared up. It is used on children and adults but it is not administered for treatment to infants.

Additional information:

Family : Asphodelaceae;

Genus: Bulbine

Vernacular names: Geneesbos, Katstert, Geelkatstert. Balsem, kopieva, copaiba (Afr); Cat's tail, burn jelly plant, stalked bulbine, grass aloe (Eng); Khomo-ya- nysukammele, sehlare-sa-pekane, sehlare-sa- mollo (Sotho); Ibucu (Twana); Intelezi, ingelwane (isiXhosa); Ibhucu, intelezi (Zulu)

The *genesbos* is abundantly found in the Northern Cape, Western Cape and Eastern Cape Provinces of South Africa. *Bulbine frutescens* is registered as least concern on the Red List Plants of South Africa. The *genesbos* has been used in commercial herbal products such as the "Montagu Museum Bulbine Crème" gel available since 1995 (Philander, 2011; Raimondo *et al.*, 2009; Roberts, 1990; Van Wyk *et al.*, 2000).

Wilde knoffel (Afr) / Tulbaghia Violacea (Scientific Name)



FIGURE 18: Photo taken by author.

Traditional uses:

Wilde knoffel is locally claimed to work as an anti-biotic. It is also commonly used to treat symptoms related to colds and flu. Fresh leaves are sometimes eaten uncooked, directly from the plant. The leaves and bulbs are also commonly used when boiled with other herbal medicines to treat symptoms of cold or flu. Adults drink ½ to 1 glass 3 times daily while children are only given one teaspoonful 3 times daily or once at night. The herbal mixture is drunk from the onset of the cold or flu indicators until the patient is no longer symptomatic. *Knoffel* is not administered to infants for oral consumption. A piece of bruised leaf is hung around the neck of an infant and the garlic-like smell is believed to cure symptoms related to colds and flus. Additionally, fresh leaves are also used boiled or uncooked in salads and other food dishes.

Additional information:

Family: Alliaceae;

Genus: Tulbaghia

Vernacular names: Wilde Knoffel, Wilde Knoflok (Afr); Wild garlic, society garlic, sweet garlic (Eng); Incinsini (Zulu)

The bulbs of *Wilde knoffel* have been recorded for the following uses: arthritis, diabetes, rheumatism and hypertension. It also supports the immune system, helps control blood cholesterol and overall circulation. Tulbagia Violacea is believed to have the same or a similar kind of pharmacopoeia to true garlic (*Allium sativum*). Thus *wilde knoffel* is purported to have anti-bacterial, anti-fungal, antihypertensive and antiplatelet activity. (Philander, 2011; Raimondo *et al.*, 2009; Roberts, 1990; Van Wyk *et al.*, 1997; Watt *et al.*, 1962).

Groen-a-mara (Afr)



FIGURE 19: Photo taken by author.

Traditional uses:

In Klawer, the *Groen-a-mara* leaves are freshly picked, boiled and used in cold and flu herbal mixtures, and $\frac{1}{2}$ to 1 glass of this decoction is drunk 3 times daily from the onset of cold or flu indicators until one is no longer symptomatic. It is administered for treatment to children and adults. Children's doses are smaller, one teaspoonful 3 times daily. It is not administered for treatment to infants.

*Scientific verification of this plant is uncertain and has therefore been withheld. Additional information about local uses in Southern Africa has not been found.

UNIVERSITY of the
WESTERN CAPE

Plakkieblaar (Afr)



FIGURE 20: Photo taken by author.

Traditional uses:

In Klawer the *plakkieblaar* is believed to treat stomach pains and is especially reported to be used for treatment on infants and children. The large succulent leaves are boiled in water; once the leaf softens it is placed directly on the stomach and then tightly wrapped with a warm cloth until aching symptoms stop.

*Scientific verification of this plant is uncertain and has therefore been withheld. No other additional information about local uses in Southern Africa has been found.

UNIVERSITY of the
WESTERN CAPE

6.2. Medicinal plants from the Matzikama Mountains.

Renosterbos (Afr) / Elytropappus rhinocerotis



FIGURE 21&22: Photo taken online from www.plantzafrica.com.

Traditional uses:

In Klawer, the *bossiesdokters* and *kruiemanne* burn dried leaves of this bush which they believe provides protection against negative energies or evil *geeste* (spirits). When the branches of this bush are infused in alcohol it is believed to increase appetite, to treat indigestion, dyspepsia and stomach cancer. The preparation are also said to induce sweating and the plant has been used in treatment of influenza and fevers. This active ingredient appears to be a chemical called rhinoterotinoic acid which was isolated from *renosterbos* and found to have significant anti-inflammatory activity.

Additional information:

Family: Asteraceae; **Genus/species:** *Elytropappus*

Vernacular names: *Renosterbos*, *rhenosterbos*, *renosterbostoppe*, *krimpsickbos* (Afr.);
Rhinoceros bush, *rhenoster bush* (Eng.)

Although *renosterbos* is not aesthetically beautiful it is an interesting and important medicinal bush to our indigenous flora. This bush has been recorded as a remedy to treat

krimpsicke (shrinking sickness) in sheep. When sheep suffer from *krimpsicke* it is believed that their sickness literally makes their stomach shrink. The genus *Elytropappus* derived from the Greek *elytron*, a sheath and *pappos* referring to the small cup-like rim around the base of the feathery pappus. The genus consists of eight species which all occur in the Cape Floristic Region. The species name *rhinocerotis* refers to the association with the rhinoceros (probably the black rhino) which occurs in the Cape before colonial times. Although the *renosterbos* is widespread in the Cape Floristic Region it is also found throughout Namaqualand and as far north as the Richtersveld. The bush is considered as not threatened on the Red List Plants of South Africa. It is an unpleasant medicine as the plant is bitter and strongly astringent as well as being resinous (Court, 2000; Egli, 2002; Leistner, 2000; Raimondo *et al.*, 2009; Smith, 1966; Watt *et al.*, 1962).



Koorsbos/Ysterhout(toppe)/Volteinbos (Afr) / Dodonea angustifolia (Scientific name)



FIGURE 23&24: Photo sourced online from www.plantzafrica.com.

Traditional uses:

The *Koorsbos* is also used in various herbal mixtures to treat symptoms related to colds and flus. A handful of fresh leaves are added to a decoction of boiled medicinal herbs. Once the mixture has cooled off to a suitable drinking temperature the mixture is drunk by children and adults. Adults drink $\frac{1}{2}$ to 1 glass of herbal medicine 3 times daily. Children are only given about one teaspoonful 3 times daily or once at night. The herbal mixture is drunk from the onset of cold or flu indicators such as a blocked nose, fever, headaches, etc; until the patient is no longer symptomatic. It is not administered for treatment to infants.

Additional information:

Family: Sapindaceae;

Genus: Dodonaea

Vernacular name: Ystertoppe, sandolien, basterolienhout, ysterhouttoppe, koorsbos, volteinbos (Afr.); sand olive (Eng.)

The genus *Dodonaea* was named after Rembert Dodoens. He was a Dutch physician and botanist who wrote a book on plants of the Middle Ages. He died in 1585. This is a fast growing bush which is drought and wind resistant. It is abundantly found in Southern Africa and flourishes in a variety of habitats. The *koorsbos* is registered as least concern on the Red List Plants of South Africa. It is believed to also be used as a mild purgative and to treat inflammation, hypertension, pneumonia, tuberculosis and arthritis (Van Wyk *et al.*, 1997; Van Wyk *et al.*, 2000; Van Wyk *et al.*, 2002; Van Wyk *et al.*, 2009; Watt *et al.*, 1962).

Matunga (isiXhosa) / Haemanthus coccineus (Scientific name)



FIGURE 25&26: Photo taken by author.

Traditional use:

Fresh leaves are applied as a dressing to septic ulcers, sores or swollen feet and also to the pustules of anthrax. A diuretic is made from the sliced bulb boiled in vinegar and mixed with honey. Asthma is also treated with this mixture.

Additional information:

Family: Amaryllidaceae;

Genus: Haemanthus

Vernacular name: Bloedblom, Koning-van- kandië, Maartblom, Misryblom, Misryersblom, Poeierkwas, Rooikwas, Seeroogblom, keerkwas, Skoensole, Velskoenblaar, Velskoenblare, Velskoensole, Bobbejaansool, (Afr); Blood lilly, Blood flower, King-of- candia; Uzeneke (Zulu); Matunga (isiXhosa)

In Klawer, Rastafarians do not have an Afrikaans name for this plant and refer to the bulbous medicinal plant by its local isiXhosa vernacular name, Matunga. The generic name *Haemanthus* is derived from the Greek word haima for blood, and anthos for flower, and alludes to the colour of the perianth in certain species. *Coccineus* is the Latin word for red or

scarlet. The common name bloedblom is said to have been derived because of the opinion that it stops bleeding. It is highly toxic. *Haemanthus coccineus* is not red listed and is commonly found in the Eastern Cape, Northern Cape and Western Cape (Raimondo *et al.*, 2009; Van Wyk *et al.*, 1997; Van Wyk *et al.*, 2000).



Dawidwortel (Afr) / *Cissampelos capensis* (Scientific name)



FIGURE 27&28: Photo sourced online from www.southernafricanplants.net/index.php.

Traditional uses:

Cissampelos capensis is locally referred to as the Dawidwortel. It is commonly known for its medicinal uses within the Western Cape. The root is grated in various herbal mixtures to treat diabetes, bladder infections, stomach pains and headaches. A piece of the root is kept by an individual and believed to protect and bring good luck and strength. The Xhosa refer to the plant as “mayesaki” literally meaning medicine for court cases. The fine powder of the grated root is used as an apotropaic charm for witnesses and accused. The rhizomes and roots are mainly used.

Additional information:

Family: Menispermaceae;

Genus: *Cissampelos*;

Species: *capensis*

Vernacular names: Dawidwortel, Dawidjieswortel (Afr); David’s root (Eng)

Cissampelos capensis is frequently found in Eastern Cape, Northern Cape and Western Cape. It is said to grow throughout the year. *Cissampelos capensis* is registered as least concern on the Red List Plants of South Africa. It is also often used as a blood purifier for treatment of boils and syphilis (Philander, 2011; Raimondo *et al.*, 2009; Watt *et al.*, 1962).

Rooistorm (Afri) / Galium tomentosum (Scientific name)



FIGURE 29&30: Photo sourced online from
<http://fernkloof.com/species2.mv?Galium%20tomentosum>

Traditional uses:

The root can be chewed raw or a root infusion can be made as a general tonic. Mixing the root with a salt solution is also used as a body wash and assist in relieving pains. *Galium tomentosum* is also used for protection against witchcraft spells. It has also been reported in mixtures used for female ailments. Red signs for the healers its potential use in complaints dealing with menstruation and blood disorders.

Additional information:

Family: Rubiaceae; **Genus:** Galium

Vernacular names: Kleefgras, Rooivergeet, Rooihoutjie, Nooit vergeet, Rooistorm, Klein keelfaitjie (Afr)

Galium tomentosum is a shade plant that climbs into surrounding vegetation. The twisting stems occasionally cover the supporting plant. Birds often use the woolly yarn like stems to build their nests. The distribution of the species covers much of the southern parts of South Africa as far north as the Free State, as well as parts of Namibia. The plant is found in many habitats (De Beer, 2012; Goldbatt *et al.*, 2000; Raimondo *et al.*, 2009; Vlok *et al.*, 2010).

Afrika Aartappel or Afrika-patat (Afr) / Hypoxis hemerocallidea (Scientific name)



FIGURE 31&32: Photo taken by a colleague.

Traditional uses:

Weak decoctions of the tuber are made to treat various ailments such as HIV, tuberculosis, cancer, arthritis, urinary tract infections, anxiety, palpitations and depression. It is also used as an immune booster and to strengthen the blood. Many healers find it difficult to explain the use of quantities of the corm. They usually just describe quantities of use by saying ‘small amounts’ or ‘enough’. They believe that becoming a healer is a spiritual calling and that when they prepare herbal remedies they are guided by supernatural spirits. As a result the dosage requirements are context specific and cannot be quantified.

Additional information:

Family: Hyoxidaceae;

Genus: Hypoxis

Vernacular name: Afrika-patat (Afr); African potato, tar flower, yellow star (Eng); moli kharatsa, lotsane (Sotho); Nonkwe, iNkomfe(Zulu)

The *Afrika-patat* has become a popular medicinal curiosity among many patients, healers and researchers alike. Since 1967 researchers have spent millions investigating the African potato. The former health minister, Manto-tshabalala Msimang recommended the African potato as dietary supplement for people living with HIV/AIDS. The African potato is argued to be inappropriately referred to as a ‘potato’. Potatoes grow horizontally containing a

swollen stem whilst the H.Hemerocallidea is a corm which grows vertically with its stem compressed underground. However it is assumed that the English name ‘African potato’ is a direct derivative of its Afrikaans name, ‘Afrika-patat’. *Hypoxis hemerocallidea* is registered as a declining species on the Red List Plants of South Africa (Philander, 2011; Raimondao *et al.*, 2009; Van Wyk *et al.*, 2004).



Wildedagga (Afr) / Leonotis Leonurus(Scientific name)



FIGURE 33: Photo sourced online from
<https://www.serenataflowers.com/pollennation/garden-helpers-best-plants-for-pollination/>

Traditional uses:

Leonotis leonurus contains a chemical constituent leonurine that has been reported to be used in traditional medicine for curing a wide range of ailments including headaches, coughs, fever, asthma, haemorrhoids and dysentery. A remedy concocted out of the leaf and root is also used in treating snakebites as well as a natural remedy or charm to keep snakes away. An infusion of the flower and leaf is used to treat tapeworms. The twigs of this plant is infused in warm bath water and used to soothe itchy skin and to relieve muscle cramps.

Additional information:

Family: Lamiaceae; **Genus:** Leonotis

Vernacular names: Wildedagga, Bulderdagga, Duiwelstabak, Duiwelstwak, Klipdagga, Koppiesdagga, Rooidagga, Rivierdagga, (Afr); Leonotis, Cape Hemp, Lion ear, Loins Tail, Minaret Flower, Narrow-leaved Leonotis, Red Dacha, Red Dagga, Wild Dagga, Wild Hemp, (Eng); Lebake (Sotho); Umfincafincane, Utywala Bengcungcu (isiXhosa); Utshwala-bezinyoni, Omncane (Zulu)

Leonotis leonurus is common and widespread throughout South Africa. The original inhabitants of the Western Cape, the Khoikhoi and San populations, smoked the dry leaves and flowers which are believed to provide a calm sensation or euphoric feeling, hence the vernacular name *wildedagga* meaning wild dagga. It has been reported to be similar to Cannabis but very mild and not as potent. It is one of the most effective legal herbal substitutes to smoking tobacco or cannabis. Users have reported to have experienced symptoms of mild excitement or elation, visual impairment, dizziness and light headedness, nausea, and sweating. The dried leaves can also be brewed to make an appetizing tea. In livestock it is used to treat cattle and fowl with Gall sickness.

Leonotis leonurus is commonly pollinated by birds. The flowers contain sweet nectar that attracts sunbirds like the Whitebellied, Black, Yellowbellied, Olive, Collared and Marico Sunbirds. *Wilde Dagga* is listed as least concern on the Red List of South African Plants (Goldbatt *et al.*, 2000; Paulsen *et al.*, 2012; Pooley, 2003; Raimondo *et al.*, 2009; Vlok *et al.*, 2010).



Geneelbal (Afr) / Pelargonium triste (Scientific name)



FIGURE 34&35: Photo sourced online from
www.exoticplants.de/seeds/caudiciforms/Pelargonium-triste.php.

Traditional uses:

Among locals in the Matzikama municipal region of the West coast district, infusions of the plant is consumed orally to purify blood. When dried, the astringently flavoured tuberous root of *Pelargonium triste* is crushed and used to treat diarrhoea and dysentery. A tea is made of this plant which is drunk for the treatment of nausea and other digestive problems. The tuber has also been recorded as traditionally used to treat Hemorrhoids, internal bleeding, tuberculosis, water retention, chest ailments, anemia and respiratory problems.

Additional information

Family: Geraniaceae; **Genus:** *Pelargonium*

Vernacular names: Kaneelbol, kaneeltjies, rooirabas (Afr); Sad geranium (Eng); wit n/eitjie (Khoi)

Pelargonium triste is said to be the oldest known species of the Pelargoniums and is traced back to Holland in 1635. The plant is called *kaneelbol* (Afr). *Kaneel* is the Afrikaans translation for cinnamon. Therefore the tuberous rootstock (*bol:Afr*) is called the *kaneelbol* because it gives off a cinnamon (*kaneel*) odour in the evening. *Pelargonium triste* is

registered as Least Concern on the Red List of South African Plants. The roots of *Pelargonium triste* is mixed with potatoes and onions and used in food dishes like stews and soups. In Namaqualand the tuber is used for tanning leather because the tuber is rich in tannin which produces a reddish colour to leather (Philander, 2011; Raimondo *et al.*, 2009; Roberts, 1990; Smith *et al.*, 1966; Van Wyk *et al.*, 2000; Watt *et al* 1962).



Duiwels poeier (Afr) / Pisolinthus tinctorius (Scientific name)



FIGURE 36: Photo sourced online from <http://mycopigments.com/announcing-the-mushroom-dyers-trading-post/pisolithus-tinctorius-small/>.

Traditional uses:

In the Matzikama municipality locals grate the fungi into a powder. The powder is applied directly to open wounds such as sores, cuts, blisters, burns etc. The powder of *Pisolinthus tinctorius* dries the wound and remedies the skin. It is similarly recorded that the powder of the fungi *Pisolinthus tinctorius* is made into a paste and applied to burns as remedy for the wound and skin. There are also reported uses of the finely ground powder mixed with ochre and applied to the skin to treat acne.

Additional information:

Family: Sclerodermataceae; **Genus:** Pisolithus

Vernacular names: Duiwels poeier (Afr); Devils powder, bushmans powder mushroom (Eng)

Pisolinthus tinctorius is a fungi to the host plant *Eucalyptus globulus* (Eng: bluegum; Afr: bloekom). There are several documentations of the recorded medicinal uses of the *Eucalyptus globulus* plant, but limited literature on the traditional uses of *Pisolinthus tinctorius*. At other times we were shown dried specimens that were lighter in colour and did not contain the mottled appearance of the plant we collected. *Pisolinthus tinctorius* is not listed on the Red

list Plants of South Africa (Iwu, 1993; Philander, 2011; Siegel, 2013; Van Wyk *et al.*, 2000; Violet *et al.*, 2001).



UNIVERSITY *of the*
WESTERN CAPE

Camphorbos or *Camphorhout* (Afr) / *Tarchonanthus camphoratus*



FIGURE 37: Photo sourced online from www.plantzafria.com

Traditional uses:

The seeds, leaves, twigs, wood and bark is used for medicinal and other purposes. Several leaves of the camphor bush are soaked in one cup of boiling water for about 5 minutes then strained. The tea like infusion is drunk to relieve chest pains and other symptoms related to colds and flu's. Additionally, pieces of the wood are also grated into boiling water and the camphor vapours from the steam is inhaled to treat cold and flu symptoms like a blocked nose, headaches and fever. Sometimes the dried leaves and twigs are also burned. The smoke releases an herbaceous camphor scent which is also believed to relieve cold and flu symptoms. To treat asthma, decoctions of the camphor leaves are infused with other medicinal herbs. The strong camphor smell of the wood is used to repel insects from clothes, blankets and food. Decoctions of the leaves and twigs are made to treat asthma, toothache, stomach ailments, bronchitis, inflammations, over-anxiety and heartburn.

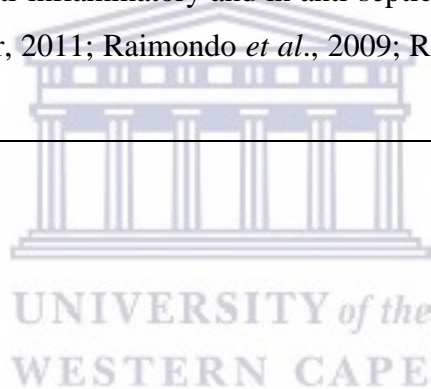
Additional information:

Family: Asteraceae; **Genus:** *Tarchonanthus*

Vernacular name: Vaalbos, wildekanferbos (Afr); wild camphor bush (Eng); Sefahla (Northern Sotho); Umgebebe (Shona); Mofahlana (Southern Sotho); Mohata (Twana) Mathola (isiXhosa); Igqeba-elimhlophe (Zulu)

The *camphor bush* is famously known to survive in any habitat. It is referred to as the camphor tree because the entire bush releases a strong camphor smell, particularly when the seeds, leaves, twigs and bark is crushed, grated, burnt or infused in boiling water. Although it is used for medicinal purposes, the bark is also used to make musical instruments and other furniture pieces. The wood is used to build huts, boats, utensils and various hunting equipment. The seeds also release a strong camphor aroma and are burned to fumigate huts. It is also believed that the San and Khoi people smoked dried camphor leaves for their narcotic effects. The Camphor bush is registered as least concern on the Red List Plants of South Africa.

The oils extracted from the wood and leaves are used to develop natural insect repellent products. Camphor oil extracted products are also used for there therapeutic benefits for pain-relief, as an antidepressant, anti-inflammatory and in anti-septic products. (Orwa *et al.*, 2009; Paulsen *et al.*, 2012; Philander, 2011; Raimondo *et al.*, 2009; Roberts, 1990; Van Wyk *et al.*, 2009; Watt *et al.*, 1962).



Dassiepis (Afri) / Hyraceum (Scientific name)



FIGURE 38 & 39: Photo taken by author.

Traditional uses:

A small piece of the black, tar like, rock formed substance, *Dassiepis*, is infused in about one litre of boiling water. Once the water is cold, the substance is consumed orally to detoxify the body. It is particularly used to treat bladder infections and to cleanse the blood. Locally, in Klawer, infused *Dassiepis* water is commonly drunk by females post child birth and whilst they are menstruating.

Additional information:

Family: Procaviidae;

Genus: Procavia Stor

Vernacular names: Dassiepis (Afr); Rock hyrax (Eng)

Dassiepis is the Afrikaans name which refers to the urine (*Hyraceum*) of the rock rabbit or rock hyrax (*Procavia capensis*). In the Dutch language, the word *Das* is used to refer to a badger. Consequently, the Afrikaans word *Dassie* is then a derivative of the Dutch word, *Das*. The *Hyraceum* has been recorded as treating various spasmodic conditions such as hysteria and epilepsy, as well other bodily pains of the back or stomach. The *Procavia capensis* is listed as least concern on the IUCN Red List of Threatened Species (Khoza & Hamer, 2013; Van Wyk, 2008) .

*Disclaimer: Some of these plants are toxic. This study did not test the efficacy or toxicity of the plants.

REFERENCE LIST

Alexander, J. (2010). *'Stories from the forest, river and mountain: exploring children's cultural environmental narratives and their role in the transmission of cultural connection to and protection of biodiversity'*. South Africa: Rhodes University, (Published Master's thesis).

Anderson, B., Kearnes, M., Mcfarlane, C., & Swanton, D. (2012). On assemblages and geography. *Dialogues in Human Geography*, 2(2): 171–189.

Archambault, J.S. (2016). Taking love seriously in human-plant relations in Mozambique: Towards and Anthropology of Affective Encounters. *Cultural Anthropology*, 31 (2): 244–271.

Basit, T. (2003). Manual or electronic? The role of coding in qualitative data analysis. *Educational Research*, 45(2): 143-154.

Bennett, J. (2004). The Force of Things: Steps toward an ecology of matter. *Political theory*, 32(3): 347-372.

Bennett, J. (2010). *Vibrant Matter: A political ecology of things*. Duke University Press: Durham and London.

Blaser, M. (2009). Political Ontologies: Cultural Studies without 'cultures'. *Cultural Studies*, 23(5-6): 873-896.

Blaser, M. (2013). 'Notes towards a political ontology of 'environmental' conflicts'. In: L. Green (ed). *Contested Ecologies: Dialogue in South Africa in Nature and Knowledge*. Cape Town : HSRC Press. Pp:13-37

Bronislaw, M. (2013-reprint). *Coral gardens and their magic. A study of the methods of tilling the soil and of agricultural rites in the Trobriand islands*. Hamburg: SEVERUS Verlag.

Callon, M. (1986). Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay. In: J, Law (ed), *Power, Action and Belief a new sociology of Knowledge*. London: Routledge. Pp: 196-223.

Cambridge English dictionary. (2016). Available from: <http://dictionary.cambridge.org/dictionary/english/>. Accessed 20 August 2016.

Cape Floral Region Protected Areas, 2015. Available Online: <http://whc.unesco.org/en/list> accessed on 18 February 2015.

‘CAPE REGION: West Coast National Park’. (2015). *SANParks Times: South African National Parks*, March edition, p. 45.



Chawane, M.H. (2012). The Rastafari movement in South Africa: Before and after apartheid. *New Contree*, 65: 163-188.

Chevannes, B. (1977). The literature of Rastafari. *Social and Economic Studies*, 26 (2): 239-262.

Cissampelos capensis. *Photo Guide to Southern African Plants*. Available online from www.southernafricanplants.net/index.php. Accessed on 1 November 2016.

Cocks, M., & Dold, A. P. (2002). The trade of medicinal plants in the Eastern Cape Province, South Africa. *South African Journal of Science*, 98: 589-597.

Cocks, M., & Moller, V. (2002). Use of indigenous and indigenized medicine to enhance personal well-being: a South African case study. *Social Science and Medicine*, 54: 387-397.

Cohen, J. (2008). *Medisyne van die vader: people, plants and landscape in Kannaland, South Africa: University of the Western Cape*. (Published Master's Thesis).

Congo-Nayah, R.B., Komaromi, R., Murray, K., and Waldstein (2013). 'Communications from the Herbs: A step-by-step guide to InI consciousness'. In: C. Adams., D. Luke., A. Waldstein., & B. Sessa (eds.), *Breaking Convention: Essays on Psychedelic Consciousness*. Strange Attractor Press, London. Pp: 254-277.

Court, D. (2000). *Succulent Flora of Southern Africa*. Rotterdam: A.A. Balkema.

Crawford, C.S. (2004). Actor-network theory. *A Ritzer Encyclopaedia, Page 1-3*. Available from:

http://www.sagepub.com/sites/default/files/upmbinaries/5222_Ritzer_Entries_beginning_with_A_%5B1%5D.pdf. Accessed in 15 February 2016.

Creswell, J. (2003). 'The use of theory'. In: J. Creswell (ed), *Research Design: Qualitative, Quantitative and Mixed Methods Approach*. Thousand Oaks: Sage Publications. Pp: 49-71.

Dahlberg, A., and Trygger, O. (2009). Indigenous Medicine and Primary Health Care: The Importance of Lay Knowledge and Use of Medicinal Plants in Rural South Africa. *Human Ecology*, 37(1): 79-94.

Davids, D. (2010). *Culture and Materia Medica: A study of the uses of "oumensraad" as a means of healthcare and coping amongst older "coloureds" in Bonteheuwel, South Africa*. (Unpublished honours thesis).

Davids, D., Blouws, T., Aboyade, O., Gibson, D., De Long, J., Van't Klooster, C., and Hughes, G. (2014). Traditional health practitioners' perceptions, herbal treatment and management of HIV and related opportunistic infections. *Journal of Ethnobiology and Ethnomedicine*, 10(77): 1-14.

Davids, D., Gibson, D., and Quinton, J. (2016). Ethnobotanical survey of medicinal plants used to manage High Blood Pressure and Type 2 Diabetes Mellitus in Bitterfontein, Western Cape Province, South Africa. *Journal of Ethnopharmacology*. Available from: <http://dx.doi.org/10.1016/j.jep.2016.10.063>. Accessed on 1 November 2016.

De Beer, J.J.J. (2012). *An Ethnobotanical Survey of the Agter-Hantam, Northern Cape Province, South Africa*. (Published Masters thesis). Johannesburg: University of Johannesburg.

DeLanda, M. (2006). *A New Philosophy of Society: Assemblage Theory and Social Complexity*. London and New York: Continuum.

Delueze, G., and Guattari, F. (2004). 'A Thousand Plateaus'. In: J. Rivkin., and M. Ryan (eds.) *Literary Theory: An Anthropology*. (Second edition). USA: Blackwell Publishing. Pp: 378-388.

Descola, P. (1998). *The Spears of Twilight: Life and Death in the Amazon Jungle*. The New Press.

DiCicco-Bloom, B., and Crabtree, B.F. (2006). The Qualitative Research Interview. *Medical Education*, 40(4): 314–321.

Dodonea angustifolia. South African National Biodiversity Institute, South Africa. Available from: <http://www.plantzafrika.com/frames/plantsfram.htm>. Accessed on 25 February 2016.

Eggle, U. (2002) *Illustrated Handbook of Succulent Plants: Crassulaceae*. Berlin: Springer.

Elytropappus rhinocerotis. South African National Biodiversity Institute, South Africa. Available from: <http://www.plantzafrika.com/frames/plantsfram.htm>. Accessed on 25 February 2016.

Ernstson, H. (2013). Re-Translating Nature in Post-apartheid Cape Town: the, material semiotics of people and plants at Bottom Road. In: *Actor-Network Theory for Development*:

working paper series, Paper no.4, Manchester: Centre for Development Informatics Pp. 19-35.

Farquhar, J. (2012). 'Knowledge in translation: global science, local things'. In S. Levine (ed). *Medicine and the Politics of knowledge*. Cape Town: HSRC Press. Pp:153-167.

Fawcett, J., and Downs, F. (1986). *The Relationship between Theory and Research*. Norwalk, CT: Appleton Century Crofts. Pp. 4-7.

Ferreira, M., Charlton, K., & Impey, L. (1996). Traditional medicinal use of indigenous plants by older coloureds in the Western Cape. In: H. Normann, I. Snyman & M. Cohen (Eds.), *Indigenous Knowledge and its uses in Southern Africa*. Pretoria: Human Sciences Research.

Gibson, D. and Kilian, S. (2013). In L. Green (ed.) *Contested Ecologies: Dialogues in the South on Nature and Knowledge*. Cape Town: HSRC Press.Pp:162-186.

Gibson, D., and Oostuysen, E. (2012). Biomedical and Traditional Knowledge in the search for healing in Namibia. In: S. Levine (ed.) *Medicine and the Politics of knowledge*. Cape Town: HSRC Press. Pp: 79-97.

Ginn, F. (2013). Sticky lives: slugs, detachment and more-than-human ethics in the garden. *Royal Geographical Society*, 39(4): 532-544.

Ginn, F. (2014). Death Absence and Afterlife in the garden. *Cultural Geographies*, 21(2): 229-245.

Goldblatt, P. (1997). Floristic diversity in the Cape Flora of South Africa. *Biodiversity and Conservation*, 6: 359-377.

Goldblatt, P. and Manning, J.C. (2000). *Cape Plants: A conspectus of the Cape Flora of South Africa*. Strelitzia 9.Cape Town: National Botanical Institute.

Greene, J.C. (2008). Is Mixed Methods Social Inquiry a Distinctive Methodology. *Journal of Mixed Methods Research*, 2(1): 7-22.

Green, L., Gammon, D.W., Hoffman, M.T., Cohen, J., Hilgart, A., Morrell, R.G., Verran, H., & Wheat, N. (2015). People, Plants and Health: Three disciplines at work in Namaqualand. *South Africa Journal of Science*, 111 (9/10): 76-88.

Hall, M. (2011). *Plants as persons: a philosophical botany*. United States of America: SUNY Press.

Haraway, D. J. (2008). *When Species Meet*. Minneapolis: University of Minnesota Press.

Hitchings, R. (2003). People, plants and performance: on actor network theory and the material pleasures of the private garden. *Social and cultural geography*, 4(1), 99-113.

Hsu, E. (2010). Plants in Medical Practice and Common Sense: On the Interface of Ethnobotany and Medical Anthropology. In: S, Harris., and E, Hsu. (eds), *Plants, health and Healing: On the Interface of Ethno-botany and Medical Anthropology*. New York: Berghahn Books. Pp:1-48.

Hughes, G., Aboyade O.M., Clark, B.L. & Puoane, T.R., (2013). The prevalence of traditional herbal medicine use among hypertensives living in South African communities. *BMC Complementary and Alternative Medicine*, 13(38).

Hughes, G., Aboyade, O.M., Mamadisa, H., & Puoane, T.R. (2014). Complementary and Alternative Medicine Utilization among Stroke Patients in Western Cape, South Africa-PURE cohort study', Paper presented at 142nd APHA Annual Meeting and Exposition. Available from: <http://apha.confex.com/apha/142am/webproprogram/Paper311476.html/>. Accessed on 1 December 2014.

Iwu, M.M. (1993). *Handbook of African Medicinal Plants*. Florida: CRC Press, Inc.

Jacobs, P., and Makaudze, E. (2012). Understanding rural livelihoods in the West Coast District, South Africa. *Development Southern Africa*, 29(4): 574-587.

Jones, L., and Somekh, B. (2011). *Chapter 15: Observation*. In: B. Somekh., and C. Lewin (eds.). *Theory and Methods in Social Research* (2nd Edition). Sage Publications, London.

Kangas, I. (2002). 'Lay' and 'expert': illness knowledge in the sociology of health and illness'. *Health: An interdisciplinary Journal for the Social Study of Health, Illness and Medicine*, 6(3): 301-304.

Kirksey, S. E., and Helmreich, S. (2010). The Emergence of Multispecies Ethnography. *Cultural Anthropology*, 25(4):545-576.

Latour, B. (1996). On actor-network theory a few clarifications. *Soziale Welt*, 47(4): 369-381.

Latour, B. (2005). *Reassembling the social: an introduction to actor-network theory*. New York: Oxford University Press.

Latour, B. (2013). *An Inquiry Into Modes of Existence: an anthropology of the moderns*. USA: Harvard University Press.

Law, J. (1992). Notes on the theory of actor-network: ordering, strategy and heterogeneity. *Systems Practice*, 5(4): 379-393.

Law, J. (2009). Actor network theory and material semiotics. In: B.S. Turner (ed). *The New Black well companion to social theory*. Blackwell Publishing Ltd. Pp: 141-158.

Leistner, O.A. (2000). *Seed plants of Southern Africa: families and genera, Strelitzia 10*. Pretoria: National Botanical Institute.

Mcdonald, H. (2012). 'Behaving skeptically: rethinking health seeking behaviors in central India'. In: S, Levine (ed). *Medicine and the Politics of knowledge*, Cape Town: HSRC Press. Pp: 101-117.

Medicinal herbs from the hardeveld. Field guide compiled by The Applied Herbal Sciences Programme, University of the Western Cape.

Mi Nzue, A.P.M. (2009). *Use and conservation status of medicinal plants in the Cape Peninsula, Western Cape Province of South Africa*. (Published Master's thesis).

Mol, A. (2002). *The Body Multiple: Ontology in Medical Practice*. USA: Duke University Press.

Mol, A., and Law, J. (2004). Embodied Action, Enacted Bodies: The Example of Hypoglycaemia. *Body and Society*, 10(2-3): 43-62.

Myers, N. (2016). "Photosynthesis". *Theorizing the Contemporary, Cultural anthropology website*. Available from: <http://culanth.org/fieldsights/790-photosynthesis>. Accessed on 10 June 2016.

Niaah, J. (2010). Towards a New Map of Africa through Rastafari 'Works'. *Africa Development*, 35 (1/2): 177-199.

Nortje, J. (2011). Medical Ethnobotany of the Kamiesberg, Namaqualand, Northern Cape Province, South Africa. South Africa: University of Johannesburg. (Published Master's thesis).

Nortjie, J. (2014). 'n Reddingsoperasie in die hartjie van Namakwaland'. *Die VeePos*, 1 May, p. 1 & 5.

Ogden, L.A., Hall, B., and Kimiko, T. (2013). Animals, Plants, People, and Things: A Review of Multispecies Ethnography. *Environment and Society: Advances in Research*. 4(1): 5-24.

Omohundro, J. (1995). "All Hands Be Together": Newfoundland Gardening. *Anthropologica*, 37(2): 155-171.

Orwa, C., Matua A., Kindt, R., Jamnadass, R., & Simons, A. (2009). Agroforestree Database: a tree reference and selection guide version 4.0. Page 1-5. Available from:

http://www.worldagroforestry.org/treedb2/AFTPDFS/Tarchonanthus_camphoratus.PDF.

Accessed on 20 February 2016.

Paulsen, B.S., Ekeli, H., Johnson, Q., & Norum, K. R. (2012). South African Traditional Medicinal Plants from Kwazulu-Natal: Described 1903-1904 by Dr. Greve Blessing. Norway: Unipub.

Peltzer, K. (2009). Utilization of traditional/complementary/alternative medicine (TM/CAM) in South Africa. *African Journal of Traditional Medicine*, 6(2): 175 – 185.

Philander, L. (2010). *An Emergent Ethnomedicine: Rastafari Bush Doctors in the Western Cape, South Africa*. The University of Arizona. (Published Doctoral Thesis).

Philander, L.A. (2011). An Ethnobotany of Western Cape Rasta Bush medicine. *Journal of Ethnopharmacology*, 138: 578-594.

Philander, L.E.A. (2012). Hunting Knowledge and Gathering Herbs: Rastafari Bush Doctors in the Western Cape, South Africa. *Journal of Ethnobiology*, 32(2): 134-156.

Pitt, H. 2015. On showing and being shown plants-a guide to methods for more than-human geography. *Area*, 47(1). Pp.48-55.

Pooley, E. (2003). *Mountain flowers: a field guide to the flora of the Drakensberg and Lesotho*. Durban: Natal Flora Publications Trust.

Raimondo, D., Von Staden, L., Foden, W., Victor, J.E., Helme, N.A., Turner, R.C., Kamundit, D.A., & Manyama, P.A. (2009). *Red List of South African plants*. SANBI: Pretoria.

Rival, L. (2010). "Anamism and the meanings of life: Reflections from Amazonia." Pp. 69-81. In: B. Marc., V. Grotti., and U. Olga (eds). *Shamanism in Rainforest and Tundra: Personhood in the Shamanic Ecologies of Contemporary Amazonia and Siberia*. Oxford: Berghahn.

Roberts, M. (1990). *Indigenous Healing Plants*. Southern Book Publishers Ltd: South Africa.

Rose, D. B., Van Dooren, T., Chrulew, M., Cooke, S., Kearnes, M., and O’Gorman, E. (2012). Thinking Through the Environment, Unsettling the Humanities. *Environmental Humanities*, 1: 1-5.

Ruiters, A.K., Tilney, P.M., Van Vuuren, S.F., Viljoen, A.M., Kamatou, G.P.P., and Van Wyk, B.E. (2016). Antimicrobial activity and essential oil composition of Southern African species of *Teucrium* (Lamiaceae). *South African Journal of Botany*, 102:175-185.

Ryan, M. (2004). Agency-Structure Intergration. *A Ritzer Encyclopaedia*, Page 5-6. Available from: http://www.sagepub.com/sites/default/files/upmbinaries/5222_Ritzer_Entries_beginning_with_A_%5B1%5D.pdf. Accessed in 15 February 2016.

Ryan, J. C. (2011). Cultural botany: Towards a model of transdisciplinary, embodied and poetic research into plants. *Nature and Culture*, 6(2): 123–148.

Ryan, J. C. (2012). Passive flora? Reconsidering nature’s agency through human-plants studies (HPS). *Societies*, 2 (1): 101-121.

Sander-Regier, R. (2009). Bare Roots: Exploring Botanical Agency in the Personal Garden. *Topia. Canadian Journal of Cultural Studies*, 21: 63-84.

Savinshinsky, N.J. (1994). Rastafari in the Promised Land: The Spread of a Jamaican Socio-religious Movement among the Youth of West Africa. *African Studies Review*, 37(3): 19-50.

Simard, S. 2016. “How trees talk”
https://www.ted.com/talks/suzanne_simard_how_trees_talk_to_each_other?language=en.
Accessed on June 2016.

Smart, A. (2014). Critical perspectives on multispecies ethnography. *Critique of Anthropology*, 34(1): 3-7.

Smith, C.A. (1966). Common Names of South African Plants. Dept. of Agricultural Technical Services, Botanical Survey Memoir No 35, Government Printer.

Statistics Southern Africa (2012). Census 2011: community profile data. Available from: <http://census2011.adrianfrith.com/place/160>. Accessed on 19 June 2014.

Strathern, M. (2004). *Partial Connections* (Updated Edition). New York: Altamira Press.

Trewavas, A. (2003). Aspects of plant intelligence. *Annals of Botany*, 92: 1–20.

Trewavas, A. (2014). *Plant Behaviour and Intelligence*. Oxford: Oxford University Press.

Van Wyk, B. E., Van Outshoorn, B., and Gericker, N. (1997). *Medicinal Plants of South Africa*. Briza: Pretoria.

Van Wyk, B.E., & Van Wyk, P. (1997). *Field guide to trees of South Africa*. Struik: Cape Town.

Van Wyk, B.E., & Gericke, N. (2000). *People's plants: A guide to useful plants of southern Africa*. Briza: Pretoria.

Van Wyk, B., Van Heerden, F.R., & Van Oudtshoorn, B. (2002). *Poisonous Plants of South Africa*. Briza: Pretoria.

Van Wyk, B.E., Van Oudtshoorn, B., & Gericke, N. (2009). *Medicinal plants of South Africa*. BRIZA: Pretoria.

Van Wyk, B.E., & Wink, M. (2004). *Medicinal plants of the World: An illustrated scientific guide to important plants and their uses*. BRIZA: Pretoria.

Watt, J.M., & Breyer-Branddwijk, M.G. (1962). *The medicinal and poisonous plants of Southern and Eastern Africa*. London: Livingstone.

World Health Organisation Report (WHO). (2008). Global Tuberculosis Control: Surveillance, Planning, Financing. Available from:

http://data.unaids.org/pub/Report/2008/who2008globaltbreport_en.pdf. Accessed on 3 October 2015.

Violet, C., Du plessis, S., Encelot, N., & Martin, F. (2001). Identification of symbiosis-regulated genes in *Eucalyptus globulus-Pisolithus tinctorius* ectomycorrhiza by differential hybridization of arrayed cDNAs. *The Plant Journal*, 25(2): 181-191

Vlok, J., & Schutte-Vlok, A.L. (2010). *Plants of the Klein Karoo*. Hatfield: Umdaus Press.

