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The Bakkie Brigade in Cape Town's urban waste economy: exploring waste mobilities and the precariat

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Abstract

Solid waste management in South Africa is in a phase of transitioning. This transition entails the valorisation and diversion of recyclable waste away from landfills for the creation of a new secondary recycling economy. However, reclaimers within the Global South have been engaged in valorising waste through market-driven pricing. Localised and 'informal' as they are, they remain a significant source of labour for global capital. Their presence runs parallel to the emergence of green models such as the circular economy, coupled with contentious initiatives that aim at formalising and integrating reclaimers. Given the revitalised emphasis on the urban waste economy, inadequate attention has been given to understanding the linkages between the formal processing companies and informal waste reclaimers operating at the level of the street and landfill. In South Africa's urban waste economy, the role of actors within the formal-informal linkage remains indistinct, with the literature increasingly suggesting that buy-back centres, intermediaries and middlemen best represent the role of actors within this linkage. In Cape Town specifically, the 'bakkie brigade' represent actors that have greater mobility and capital within the waste value chain because they utilise motorised transport (bakkies) to collect, transport and sell recyclable waste to formal processing companies.

Through utilising ethnographic methods, this study provides an anthropological contribution to understanding the bakkie brigade operators' subjectivities, their role in adding value to waste as well as how their mediating instruments/infrastructures either enable or constrain the movement and valorisation of waste. Drawing from the Marxian strands of Activity Theory and the new mobilities paradigm, I introduce the concept of 'itinerant soteriology' to explain how the globalised neoliberalism mediates labour in the waste-scape as the motive force that not only valorises the type of waste that gets reclaimed, but also mediates the localised mobilities of the bakkie brigade operators presented in this study. I situate reclaimers within the Marxian labour process to connect their labour with the global recycling economy, I do this through a discussion Guy Standing's concept of the precariat to further theorise the role of the bakkie brigade (as reclaimers) within the context of an increasingly neoliberal and globalised system of trading recyclable commodities.

Keywords: bakkie brigade; urban waste economy; linkages; precariat; waste mobilities; neoliberalism

Declaration:

I declare that 'The Bakkie Brigade in Cape Town's urban waste economy: exploring waste mobilities and the precariat' is my own work, that it has not been submitted before for any degree or assessment in any other university, and that all the sources I have used or quoted have been indicated and acknowledged by means of complete references.

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Johnathan Goeiman

Dedication

This thesis is dedicated to my parents, Marilyne and Collin, thank you for your love and support.

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I would like to firstly thank my supervisor, Prof Bradley Rink, for your patience, guidance and wisdom. Thank you for teaching me how to construct 'argumentative billboards', guiding me through the fluidity of ethnography and highlighting the salience of human-centred research. I have a deep respect for you and the work that you do. Thank you also to Prof. Catherina Schenck for not only funding this study through the Waste and Society Chair, but also for the professional development that has come with it. The support you have given has been invaluable.

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1.1. The 'bakkie brigade': just a matter of semantics?

The term '*bakkie brigade*' is a colloquial term used by actors in Cape Town's urban waste economy to describe middlemen/intermediaries found within the linkage between processing companies and reclaimers operating at the level of the street. The term is unique in the sense that it is an informal signifier that developed in Cape Town's urban waste economy and describes a heterogenous set of actors that operate at a higher-level utilizing mediating instruments such as *bakkies,* buy-back centres and balers. However, the term 'bakkie brigade' is merely a shell (signifier) that conceals the kernel of subjectivities and experiences of real actors that play the role of the bakkie brigade in Cape Town's urban waste economy. This is what I discovered through this research process to which I attempt to move beyond the signifier of bakkie brigade to reveal the much more concrete experiences and complex organisation of the intermediaries and middlemen within Cape Town's urban waste economy. While interpreting the term 'bakkie brigade' through its linguistic construction may lead one to think they are homogenous or rogue small time operators, often deceptively, the bakkie brigade do indeed represent a heterogeneous set of individuals that act, feel, move, and labour within the urban waste-scape of Cape Town. In this study the respondents that I interacted with, that the term 'bakkie brigade' pointed toward, did not in fact, identify with the term, but rather had their own understanding of the bakkie brigade. Through this process of listening to and engaging with the respondents I have discovered that the term 'bakkie brigade' is a complex notion with several layers of meaning and are subject to the subjectivities of who is engaged and how this engagement occurs. From the insights that this study produces, the meaning of the term 'bakkie brigade' is never produced finally but is continually deferred. Deferred in the sense that the bakkie brigade has different meanings to different people in Cape Town's urban waste economy, yet the term maintains salience and is kept alive as a colloquial signifier that exists among actors in Cape Town's urban waste economy. I therefore contend the concept 'bakkie brigade' is an empty (or floating) signifier, in that there is no fixed or scientifically agreed upon meaning that the concept strictly points toward. Consequently, the term 'bakkie brigade', at surface value, paints a homogenous picture of what is potentially a heterogeneous cast of *reclaimers* that operate within Cape Town's waste-scape at varied scales and capacities.

The term 'bakkie brigade' emerged in the academic sphere through Timm's (2015) seminal doctoral research and refers to independent individuals who utilise motorised transport in order to collect waste from industrial and commercial outlets. Their work is largely service based, involving agreements with various clients for the removal of recyclable materials. The bakkie brigade's work differs from waste reclaimers found on the lower end of the waste value chain because they can store waste in bulk and have the mobile capabilities (a bakkie)[1] to transport waste over longer distances. They are considered *'besigheidsmanne'* (businessmen/entrepreneurs) and their income is significantly higher than waste reclaimers on the lower end of the value chain. Timm's (2015) use of the term 'bakkie brigade' stems from her proposition that the terms used to describe informal waste collectors should be a matter of empirical investigation, and what have may indeed been valid for her fieldwork experience, has not yielded the same results for this study. Through this research, I was confronted with an array of subjectivities with regard to the term 'bakkie brigade', where the respondents did not identify with the term. This posed immense difficulty in discerning whether I was actually interacting with the 'bakkie brigade'. However, instead of getting caught up with semantics, I sought rather to uncover how the respondents and research participants understood their role in the waste economy in relation to the term 'bakkie brigade'. This was extremely generative in uncovering the complex social stratification, power relations and hierarchies within Cape Town's urban waste economy that is often rendered invisible when signifiers like the 'bakkie brigade' are plastered over it.

While there remains shortcomings with using the term 'bakkie brigade' to describe actors beyond the surface level understandings of the actors that it refers to, I still use the term throughout this thesis for a couple of reasons. The term 'bakkie brigade' is unique to Cape Town's urban waste economy and within the locale of where this research takes place the term presented a generative conduit to unearth deeper meanings to how research respondents understand themselves and their role in Cape Town's urban waste economy in relation to the concept. The term 'bakkie brigade' became a central feature of how I conducted my research and answering the research question: *What is the role of the 'bakkie brigade' in Cape Town's urban waste economy?* However, the fact that the term 'bakkie brigade' cannot accurately correspond to the real world due to the subjectivities that the term arouses, brings into question

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[1] 'Bakkie' is a colloquial South African term for a light-duty truck. The term is also synonymous with any container used to carry goods, and is therefore an important tool in waste mobilities and circulation.

the validity of what the term measures. This may pose a problem for a quantitative researcher trying to measure the extent, reliability, and accuracy of the 'bakkie brigade', a theme that I grappled with throughout the research journey. However, the concept 'bakkie brigade' as colloquial signifier, is a social construct, in that it does not exist in objective reality, but as a result of human interaction. It is here where I wish to explicitly state and argue that I view the actors that play the role of the 'bakkie brigade' (middlemen and intermediaries) as *reclaimers* (Samson, 2009), to maintain objectivity throughout the thesis. I posit that the word 'reclaimer' is more instructive in describing actors in the waste economy generally, as the human that lies behind the signifiers, as the humans that *labour* in the waste economy.

It is here where the research method that this study utilizes becomes relevant. The thesis utilizes an ethnographic research methodology which aims to provide an account of the culture, societal structure, community, and the humans that lies behind the surface level signifier of the 'bakkie brigade'. I have adopted what Clifford Geertz has termed 'thick description' (1973) as a description of human social action that describes not just physical behaviours, but their context as interpreted by the actors as well, so that it can be better understood by an outsider. Moreover, a venture into the multiplicity of meanings has been a daunting task where I struggled to find my feet (especially the jungle of meanings associated with the term 'bakkie brigade'), however, Geertz reassures us that one does not need to start this venture 'intellectually' empty-handed (1973:27). Conceptualisation and theoretical formulation therefore remain a useful tool to generate meaningful interpretations. Geertz contends that the role of theory in interpretive science suggests that the distinction between 'description' and 'explanation' appears as one,

> "between setting down the meaning particular social actions have for the actors whose actions they are, and stating, as explicitly as we can manage, what the knowledge thus attained demonstrates about society in which it is found and, beyond that, about social life as such" (1973:27).

Therefore, the aim of this study is to elucidate the socio-cultural contexts, processes, and social stratification of Cape Town's urban waste economy from the perspective of the members of that system. To achieve this understanding, the ethnographer should maintain both 'emic' and etic' approaches to studying any given cultural system. An emic approach attempts to understand the components of a cultural system from the perspective of the group being studied. While an etic approach analyses a cultural system with research paradigms brought by

the researcher outside of that system. This thesis does not solely depend on the data gathered in the field, but weaves in theoretical frameworks and paradigms to make sense of the complex organisation and stratification of the bakkie brigade (middlemen and intermediaries).

To this end, I have situated my exploration of the bakkie brigade (as reclaimers) within a broader context of capitalist social and economic relations through the dual lenses of Marxism and the inner workings of capitalism. Questions around the forms of labour of the bakkie brigade (as reclaimers) that centre around the circulation of waste and its valorisation and the consequent creation of commodities are primary concerns in Marxist thought and have thus guided this study. Cementing this approach were ongoing debates around reclaimers' struggle for recognition (Schenck, Blaauw and Viljoen, 2016) and to be appreciated as knowledge producers (Samson, 2015), evoking images of the struggle of the working class, who Marx emphatically theorised to be the revolutionary class of the twentieth century (Lafferty, 1996). However, the *mobile* and *flexible* labour practices of the bakkie brigade and the broader set of reclaimers do not quite fit the image of the working class comprised of mainly industrial wage-labourers within spatially fixed factories producing commodities for capital. The so called 'workplace' of reclaimers exists within the social sphere and the urban metabolism where negotiating space and mobilities is a central part of reclaimers labour practices. There is less spatial fixity to reclaimers labour practices, in comparison to what has been thought of as the 'working class' that produced commodities in spatially-fixed factories. The mobilities of reclaimers necessarily foregrounds the mobilities of waste/commodity as well through the urban fabric. This study therefore explores urban waste mobilities from the perspective of Cape Town's 'bakkie brigade' and how circulations of waste inform the precariousness of the bakkie brigade operators in Cape Town's urban waste economy in an effort to understand the complex situatedness of their labour.

1.2. Waste and labour from a global neoliberal perspective

Given the impact of globalisation and the rise of neoliberalism, the image of workers has diversified from a model that privileged employer-employee and wage-labour relationships within an 'industrial imaginary', to the proliferation of precarious and flexible labour statuses. This is characteristic of both informal workers in the Global South and increasingly flexible labour patterns in the Global North. The proliferation of flexible labour emerges against the backdrop of the social-democratic project of instituting national labour markets that privileged

stable labour within twentieth-century industrial capitalism. This was to be known as welfarism. Guy Standing has argued that globalisation has created a global market society and now in its aftermath we are in the midst of a 'Global Transformation' (Standing, 2009) that will see a shift from labour patterns that privileged employment and stability to labour patterns that privileges flexibility and precarity. Standing has likened the creation of a global market society to Karl Polanyi's *The Great Transformation* (1944), which foresaw the emergence of welfare states and national labour markets against the backdrop of market excesses where everything was turned into a commodity driven by financial capital. To curb the market excesses, welfare states premised on the protection of workers in stable industrial wage-labour were instituted. However, the 1970's marked the disintegration of the welfare consensus, and the rise of unemployment and declining competitiveness was linked to Europe's social model based on protective regulations and institutions such as unions and collective bargaining. There has been a consequent proliferation of flexible labour centred around the ideology of neoliberalism, which espouses the values of competitiveness and allows market principles to permeate social life. To make sense of labour flexibility within neoliberal globalisation, Standing's theories have identified what he calls the 'precariat', which has been stirring up contentious debate among scholars in this field. The precariat refers to a disparate group of humans that *labour* precariously and flexibly, that do not have the same entitlements and social protections presupposed by the currently disintegrating welfare state. The precariat is seen as global phenomenon and a feature neoliberal globalisation, where the labour of workers is increasingly being mediated by market forces. I rely on the work of Standings book titled: *Work After Globalization: Building Occupational Citizenship* (2009) to situate precariat and reclaimers within the Marxian labour process. I do not rely on the more commonly known book titled: *The Preacriat: The New Dangerous Class* (2012), my reading of this book suggests that Guy Standing broadens the reach of the precariat to include feelings of alienation, anomie and detachment which goes beyond the analysis of the labour process (as commodity production).

It is against this backdrop that I aim to study the bakkie brigade's (as reclaimers) labour practices in Cape Town's urban waste economy. Although it could be argued that workers in the Global South have a longer history of precarious and flexible labour patterns through the influence of colonialism (and apartheid, in South Africa), the context of globalised neoliberalism within which Standing develops the notion of the precariat remains instructive for this study to link the reclaimers with the shift toward global flexible labour patterns within a global market society. These labour patterns coincide with a global shift from industrial

manufacturing-based economies to societies and economies dominated by services, which has been termed the 'tertiarization of societies and economies' (Standing, 2009:77). This global labour restructuring has promoted flexible and precarious labour on a wide spectrum of workers all around the world, with the means of production becoming ever more *mobile* and privatised (Standing, 2009:231). Through the analysis I find that, through neoliberal globalisation, the relations of production have changed and the means of production (which I take to be the mediating technologies that reclaimers labour with for commodity production) have become externalised. It is no longer viewed that capital owns the means of production, rather the means of production are scattered within the urban fabric through the mediating technologies that reclaimers utilize (i.e. bakkie; buy-back centre; baling machine). The twenty-first century imagery of labour has drastically changed from the industrial imaginary where the means of production (property relations) were owned by capital which situated labour in fixed factories for commodity production.

In it seeking out of markets for capital accumulation, globalised neoliberalism has also encompassed the waste-scape. The circular economy has also emerged to shed the old industrial-era armoury that centred around a linear paradigm where consumers purchase, consume and then dispose of their waste, including a product at the end of its lifecycle. The linear economy was highly successful in generating material wealth in the industrial nations up to the twentieth century. However, as Sariatli (2017) argues, its weaknesses are showing in the new millennium, ultimately leading to its breakdown in the near future. The new circular economy paradigm has emerged to assist in maximizing the value embedded in solid waste. However, neoliberalism remains the impetus behind the circular economy, where the profit motive (Geisendorf and Pietrulla, 2017), market value of resources (Di Maio et al., 2017) and the encouragement of economic growth (Valenzuela and Böhm, 2017) are argued to be among its central features. In the Global South, this form of commodity production relies on the labour of reclaimers. In a critique of the circular economy's continued emphasis on economic growth, Valenzuela and Böhm (2017) have argued that the concept has become a fetishising narrative in a capitalist order. Valenzuela and Böhm (2017) detect a depoliticising strategy inherent in this attempt at reform and are in agreement with Yates (2011) in critically conceptualising waste as the inherent by-product of a regime that thrives on the excessive exploitation of labour and the environment. However, there remain silences concerning the basic assumptions of the values, societal structures, cultures, underlying worldviews and paradigmatic potential of the circular economy, especially that of the Global South. On a related note, Hobson (2016) argues

that the circular economy should be brought into ongoing geographical research which feeds into its parallel socio-cultural transformations and practices. Therefore, conceptualising the future of the urban waste economy might suggest that waste will become permanent, always in circulation, intersecting with people, places and spaces. Circulation and the mobility of waste become central to thinking through the future of the circular economy. In this respect, Swanton explicates how waste gets 'caught up in, and [reproduces], material orderings of the world' (2014). Waste is conceptualised as an object of politics; its materiality necessarily foregrounds mobility. The concept of mobility sees waste's movement entangle with all kinds of social relations, material orderings, power relations, material transformations and injustices. Within this context, issues surrounding changing politico-economic structures as well as related changes in labour/work patterns and how mobility weaves these features together become central to exploring the bakkie brigade's labour, which intersects with all of these factors.

Throughout the Global South, waste is being conceptualised as a means of job creation, economic development and community uplift. This is occurring alongside efforts by municipal governments to privatise waste streams, often with the support of or pressure from international actors (Millington and Lawhon, 2019). Wastes are often secondary resources for lower-income countries, as 'harvesting' (reclaiming) them is a significant economic activity and consequent resource recovery is a key part of the global economy (Gregson and Crang, 2015). With informal solid waste management increasingly becoming part of South Africa's urban fabric, the significance of localised reclaimers operating on the streets and landfills of South African cities should be understood as operating within this globalised market context. While waste reclaimers on the lower end of the waste value chain are the first to uncover value from waste, it is intermediaries like the 'bakkie brigade' that continue the process of value addition along a complex chain that eventually reaches processing companies and enters the global market for recyclable commodities. The range of mediating technologies (such as bakkies), the range of material infrastructures (such as buy-back centres) and tools (baling machines) utilised by the bakkie brigade (reclaimers) create specific and complex layers of hierarchies, labour relations and profit allocation (Millington and Lawhon, 2019), all contributing to different degrees of flexibility and subjectivity among bakkie brigade operators.

1.3. Waste, labour and valorisation: an ethnographic analogy

The global perspective of waste and labour positions the localised mobilities of reclaimers (inclusive of bakkie brigade operators) and the consequent mobilisation of waste as a lively and instructive case study of how waste's function as an object of labour, and of how the mobilities of waste are entangled in all kinds of social relations, material orderings, power relations, material transformations and injustices (Swanton, 2014). The main contribution of this study is to provide an interpretation and understanding of the bakkie brigade's culture and organisation within this globalised context. Therefore, drawing from the theoretical framework of Activity Theory and the new mobilities paradigm, I provide a 'thick description' (Geertz, 1974) of the bakkie brigade's *mobile* culture and organisation. Moreover, according to Geertz (1974), cultural analysis is intrinsically incomplete and contends that an ethnographer should commit oneself to a semiotic concept of culture to avoid the danger of cultural analysis that delves too deep and loses touch with the hard surfaces of life – the political, economic and stratificatory realities within which men are everywhere contained. Thus, Geertz (1974:29) contends that in the interpretive approach to the study of culture is to commit oneself to an ethnographic assertion that is 'essentially contestable'.

Acknowledging the seminal work like *Purity and Danger* of Mary Douglas that articulates a systemic approach to explanations of ritual pollution as well as to situate the idea of purity as part of a larger whole, I draw on some symbolic analogies to further elucidate the process of reclaiming. The book is highly generative and suggestive in thinking systemically about waste as "matter out of place" (Douglas, 1966:36), evoking a sense of order and disorder, belonging and abjection:

> "It implies two conditions: a set of ordered relations and a contravention of that order. Dirt then, is never a unique, isolated event. Where there is dirt there is system. Dirt is the by-product of a systematic ordering and classification of matter, in so far as ordering involves rejecting inappropriate elements. This idea of dirt takes us straight into the field of symbolism and promises a link-up with more obviously symbolic systems of purity."

A systemic approach to understanding reclaiming process would imply two conditions: wasting and valuing. This is taken to heart through Swanton's (2014) explication of the of the multiple and complex mobilities of waste. It is here where the questions about the mobility and

entanglement of reclaimers within processes of wasting and valuing emerges. Where an object in one place can appear as waste, can concurrently be considered valuable in another place. There is a force of wasted things that compels the mobility of reclaimers through its materiality. However, I am more concerned with what creates this value latent within waste, where does it come from and what coerces it? 'Dirt' or waste is not an isolated event, as Douglas correctly suggests, where there is a system of wasting implies that there is also a system of valuing. I take the system that mediates the processes of wasting and valuing as the market structure for recyclable commodities as well as the ideological framework of neoliberalism that induces it. Thinking of these processes in symbolic terms is highly generative for elucidating how the market mediates the mobilities of the respondents presented in this study.

Therefore, for the purpose of this study, I introduce the concept 'itinerant soteriology' to explain how the global force of neoliberalism is mediated throughout the waste-scape through the localised mobilities of the bakkie brigade operators. Just as the doctrine of neoliberalism has assumed hegemony in the world, itinerant soteriology explains the markets' mediating force through the corporeal and incorporeal understandings of providing 'salvation' for waste (reclaiming) among the bakkie brigade operators (reclaimers) presented in this study. Itinerant soteriology aims to reveal the hierarchies and distributed power relations of reclaimers through analogy. I view reclaiming waste as analogous to a process of salvation, not for humans to be saved, but for 'waste' to go through a process of ritual cleansing (valorisation/labour input) to be assimilated back into a 'neoliberal order', otherwise stated assimilating waste back into the global economy for recyclable commodities. In an evangelic manner, the mediating instruments (bakkie, buy-back centre, baling machine) of the bakkie brigade (as reclaimers) facilitate the movement, management, and the valorisation of waste. Through this process, waste is reclaimed and transformed into a commodity through the reclaimers labour. The process valorisation of waste is equated to 'salvation' and the markets' mediation in the waste-scape is equated to 'soteriology', the doctrine of salvation.

Moreover, the aim of this interpretation is to reveal the hierarchies, distributed power relations and the differential scales that waste is moved and valorised among reclaimers which is contingent on their mediating infrastructures (bakkie, buy-back centres and baling machines). However, due to the single-case in-depth design of this ethnographic study, the use of analogy (soteriology) is not meant to codify abstract regularities, but to make thick description possible, not to generalize across cases, but to generalize *within* one case. Therefore, in this study I use

'itinerant soteriology' as an interpretive tool, that is to say, rather than beginning with a set of observations and attempting to subsume them under a governing law, this analysis starts with presumptive signifiers and attempts to place them within an intelligible frame (Geertz, 1974). The use of 'itinerant soteriology' does not attempt to speak *for* the 'bakkie brigade' (an illusive term that merely describes reclaimers that operate at increased capacities and capabilities), but rather to speak *with* respondents in this study and scratch beneath the surface of the 'bakkie brigade' signifier to understand the power structures, material orderings and organisation of reclaimers operating at a higher level within the waste value chain.

I found it necessary to use the analogy (for the purpose of explanation and clarification) to answer the research question: What is the role of the bakkie brigade in Cape Town's urban waste economy? However, what has emerged from this was moving beyond the signifier, 'bakkie brigade', to expose the heterogeneity of scale that reclaimers at this level operate at, through their mediating technologies. The analysis therefore identifies three key mediating technologies that the reclaimers operating at this level utilise, namely the bakkie, buy-back centre and baling machine, that are heterogeneously configured among individual bakkie brigade operators which positions them disparately along the value chain. Moreover, the insights from this study shows that there are diverse bakkie brigade operators (reclaimers) with a heterogenous array of subjectivities that are contingent on their varied sets of mediating technologies that move and transform waste in the urban setting.

1.4. Bakkie brigade operators as precarious reclaimers that labour in Cape Town's urban waste economy

This thesis posits that it is more instructive to understand bakkie brigade operators as reclaimers that *labour* through utilizing mediating instruments, namely the bakkie, buy-back centre and baling machines. This study, therefore, is not a study focussing on bakkies, buy-back centres or baling machines (mediating tools), but rather the reclaimers (humans) that operate these mediating tools and *labour* through them. This framing provides for clearer analytical precision for understanding actors that are framed as middlemen or intermediaries (and much more broadly, reclaimers) in the urban waste economy. To sketch this framing, I have drawn from Activity Theory to highlight analytical distinctions between the *subject* (reclaimer), *mediating instrument* (bakkie; buy-back centre; baling machine) and the *object* (waste/recyclable commodity). Moreover, thinking of reclaimers as equipped with mediating instruments that

manage, move and valorise waste, centres the mobilities of reclaimers as entangled with the processes of wasting and valuing as well as the processes of categorisation where things discarded in one place turn up elsewhere as valuable (Swanton, 2014).

I contend that this process of valorisation (Jones, 2011) is embedded in a global neoliberal system of recyclable commodities which has implications for how labour is performed. I therefore rely on Guy Standing's notion of the precariat to contextualise reclaimers' flexible labour patterns within the context of globalised neoliberalism. This contextualisation and discussion of the precariat and reclaimers takes place in Chapter 2. However, the intervention here is to situate reclaimers within the analytical frameworks of Activity Theory and the new mobilities paradigm which positions neoliberalism as the motive force that mediates their reclamation activities. Along these lines, the thesis attempts to understand neoliberalism as an ideological framework that foregrounds the logic of market relations which in effect governs the movement of reclaimers and how waste is valorised. I take neoliberalism to be the 'motive force' that drives reclaimers (as bakkie brigade operators) to utilize their mediating technologies (bakkie, buy-back centre, baling machine) in enacting the valorisation process that transforms waste into a commodity. In this way, the production of reclaimers mobilities (as utilizing mediating instruments to move and valorise waste) are understood as part of the larger labour process. Labour in this thesis is understood in the Marxian sense, which involves the interaction between a reclaimer (subject) who works on the natural world (as objects that are perceived as waste) and the conscious alteration and transformation of waste in a purposive manner to produce the recyclable commodity that is sold on a globalised market. This is explained by Marx (1867:127):

> Labour is, in the first place, a process in which both man and Nature participate, and in which man of his own accord starts, regulates, and controls the material re-actions between himself and Nature. He opposes himself to Nature as one of her own forces, setting in motion arms and legs, head and hands, the natural forces of his body, in order to appropriate Nature's productions in a form adapted to his own wants. By thus acting on the external world and changing it, he at the same time changes his own nature.

I explain this labour process in the thesis as the process of joining of the subject (reclaimer) and object (waste), which through the valorisation process the subject acts on object to transform waste into a commodity, thereby changing his/her own nature into a reclaimer. The materiality of waste is an objective force, more specifically, the latent value embedded in waste

is an objective force because there is a market for it, the embedded value in waste does not exist if there is no market for the recyclable commodity. David Harvey explains this form of value as a relation that is an "immaterial, but objective force" (Harvey, 2017:5). Harvey uses the analogy that value is like the force of gravity, in that, the same way that one cannot dissect a stone and find atoms of gravity, in a similar way, one cannot dissect waste/recyclable commodity and find an atom of value in it. The point here is that value, like gravity, is an immaterial force, but at the same time has real and objective material consequences. This Marxian form of the labour process is explained and detailed through the use of Activity Theory which I expand on in Chapter 3.

Moreover, the thesis productively draws from the new mobilities paradigm to theorise around the labour process at multiple scales which envisions the distributed agency that is both human and non-human and that circulates amongst people, objects, and environments (Sheller, 2013). The application of the mobilities paradigm is profitably engaged with Activity Theory in this thesis to understand the heterogeneity of bakkie brigade operators (as reclaimers) that operate at varying scales through the differentiated capacities and spread of mediating technologies that individual bakkie brigade operators are equipped with. Mobilities theory departs from classic social theory through drawing from a wider philosophical purchase to rethink the relation between bodies, movement and space (Sheller, 2013). Through re-thinking the relations between subjects, technologies and objects, mobilities theory is not limited by a micro vs macro imagination of agency and structure, therefore it goes beyond thinking of localised assemblages (i.e. reclaimer configurations of the bakkie, buy-back centre and baling machine) and takes into account larger processes of spatial production. Mobilities theory therefore instructively engages the process of valorisation as the value-adding process that mediates the reclaiming activities of the bakkie brigade and radically challenges the boundaries of social processes and where we locate action and social change (Sheller and Urry, 2006). I detail the convergence of the new mobilities paradigm and Activity Theory in Chapter 4.

Unfortunately, this thesis does not attempt to understand neoliberalism through the influence of state institutionalism, political reforms and public infrastructure through a detailed history of South African intervention policies in the waste sector. While I do make explicit reference to the global neoliberal institutional mechanisms (such as the World Bank, the World Trade Organisation and the Washington Consensus) that is ideologically shaping neoliberalism and flexible labour on a global scale, and local policy measures, such as through South Africa's National Development Plan (2030) that implicitly agrees with global trends regarding

neoliberalism and configuring labour, the detailed policy developments and the specific forms of neoliberalism that takes shape in South Africa's waste management system through such an analysis exceeds the scope of this study. Examining Rosalind Fredricks work on *'Garbage Citizenship'* productively explores that type neoliberal development with an excellent analysis of austerity measures in Dakar and how it has shaped public infrastructure and the erosion of public services of waste management. The intervention that Fredricks makes is to expand the notion of 'infrastructure' to include the social, embodied and affective aspects of infrastructure in an effort to effectively capture the political implications of how the lives and bodies get caught up in urban restructuring. Fredricks notion of vital infrastructures thus cogently illuminates how urban infrastructures are composed of human as much as technical elements and how collective identities and political action can be mobilized in the face of austerity. It brings together the material and social life of infrastructure positioned within neoliberal austerity measures.

However, unlike *Garbage Citizenship,* this thesis is not an analysis of Cape Town's garbage collection systems and the "vital infrastructures" that inform processes of neoliberal development and austerity measures and how it shapes the institution of flexible and precarious labour. Rather my research intervenes through an understanding of the Marxian labour process in processes of recycling waste. The thesis understands mediating technologies that the reclaimers operate with as the means of production, and the performance of labour situated within a global recyclable commodity market. It is more instructive to understand the labour process as constituting of reclaimers activities with the help of instruments of labour which effects an alteration and transformation of waste into a commodity. From the perspective of the product produced through this process, the commodity, it becomes clear that the mediating technologies and the reclaimers that perform the labour are the means of production, and the labour itself is productive labour (Marx, 1867:129). This goes hand in hand with the assertion of Standing (2009) that the means of production are becoming ever more mobile and privatised within globalised neoliberalism. Labour in the waste-scape in the form of commodity production is being externalised, whereas the process is operationalised and exacerbated through ideological means via propounding the virtues of entrepreneurialism as the ideal form of work that shapes the future of the urban waste economy in South Africa. I see this as an ideological move by global capital, however, in the waste-scape it manifests as a justification for the exploitation of cheap labour.

Moreover, unlike Miraftab's (2004) study of neoliberalism and casualisation of public sector services in Cape Town, where she explores waste collection strategies employed by the municipal government of the City of Cape Town issuing short term contracts for labour paid at minimum wage under precarious conditions, my focus on commodity production and valorisation situates reclaimers labour within a global economy for recycling commodities. This differs from a focus on waste collection as a means of municipal programmes to clean townships as well as the understandings of neoliberalism operationalised through state and municipal institutions. The focus on labour through commodity production foregrounds the influence of the recycling industry that the commodities are produced for. The market therefore enters as the coercive force to induce labour of reclaimers across the waste value chain.

Therefore, neoliberalism in this thesis is seen as an ideological framework that posits the market logic to be the mediating/motive force that shapes the mobilities/labour of the bakkie brigade (as reclaimers). It is through the understanding that market relations are becoming the normative ideal to which labour is being structured in the waste-scape that the ethos of neoliberalism is manifest within the mobilities of the bakkie brigade operators (as reclaimers).

From a Marxian perspective, the understanding of class positions reclaimers which is determined through the role they play in the commodity production process. The implications of how this labour is performed is discussed through Guy Standing's notion of the precariat which he claims to be a 'class in the making'. From a Marxian perspective, the structure of the production process forms the basis of class construction. Therefore, for the purpose of this thesis I do contend that the broad set reclaimers (inclusive of the bakkie brigade) understood through their labour produced outside of the industrial wage-labour relation are part of the precariat.

1.5. Chapter outline

In Chapter Two I sketch out a broad perspective of changing labour patterns around the world and the parallel rise of neoliberalism. This chapter introduces key analytical frameworks that shape the thesis, namely the mobilities paradigm, the precariat. Literature on reclaimers are weaved throughout the chapter as well as debates on the formal-informal dualism. This chapter ultimately situates the bakkie brigade within a context of waste, mobilities and labour.

In Chapter Three I introduce Activity Theory as the theoretical framework that will structure my exploration into the labour practices of the bakkie brigade. I also expand on some of the

methodological challenges encountered and decisions made throughout the fieldwork process. This chapter presents the area, ethical considerations and limitations of the study. Furthermore, I expand on the ethnographic methods and narrative storytelling structure of how I present data in this study.

In Chapter Four I present an interpretation of the bakkie brigade's social stratification and organisation through storytelling. I introduce the concept of itinerant soteriology to explain how the global ideology of neoliberalism mediates through the localised mobilities of the bakkie brigade (as reclaimers). This chapter makes use of empirical data from respondents as well as of vignettes in prose form based on my personal experiences and observations during fieldwork to draw out meanings and cultural aspects of the bakkie brigade's organisation.

In Chapter Five I provide a discussion of the bakkie brigade's 'workplace' and explicate the range of mediating instruments that shape the labour mobilities of the bakkie brigade, such as the bakkie, the buy-back centre and the baling machine. The chapter concludes with a discussion of the role of the bakkie brigade in Cape Town's urban waste economy and draws from the frameworks that this study incorporated to exemplify the significance of waste mobilities that lie at the centre of the bakkie brigade's organisation.

In Chapter Six I conclude with reflections on the key takeaways of this study. Namely, itinerant soteriology, the subject-object-tool triad and the mobilities of waste and, in conclusion, coming to a better understanding the role of the bakkie brigade in Cape Town's urban waste economy.

Chapter 2: Situating the bakkie brigade in a world of waste, mobility and labour: Review of literature

2.1. Introduction

This chapter provides a sketch of the global shift of labour patterns, the creation of a global market society and how reclaimers in the Global South are interlinked with this shift. It includes a discussion of the precariat, and weaves it through relevant literature of solid waste management, finally situating the bakkie brigade within the world of waste, mobilities and labour.

2.2. The creation of a global market society and the proliferation of flexible labour patterns

In *The Great Transformation* (1944), Karl Polanyi explored the emergence of welfare states against the backdrop of prior excesses of market societies (namely fascism and Bolshevism), as he understood the extremist reactions to the insecurities that emanate from a market society. Polanyi viewed nineteenth century Europe as a period during which there was a shift, driven by the rising power of finance capital, towards a market society, one in which everything was turned into a commodity. Commodification, according to Polanyi, is one of the central aspects of a market society. Nonetheless, Polanyi's claim was that when a market society took precedence there would be a re-action, or 'double movement', whereby the state would re-embed the economy in society with new forms of regulation, redistribution and social protection. This double movement took the form of 'industrial citizenship' (Standing, 2009:4) through the creation of welfare states, which gave way for the International Labour Organisation (ILO) as an instrument to institute a labourist model where the social protection for workers were linked to stable, formal employment, wage-labour and collective bargaining.

Polanyi made a distinction between 'fictitious' commodities and 'real' commodities and, according to Polanyi, labour is a fictitious commodity because it is 'not originally produced to be sold on a market.' Bent on taking labour out of international competition and to develop protective mechanisms for workers, Polanyi stated: 'labour is simply the activity of human beings, land is subdivided nature, and the supply of money and credit in modern societies is necessarily shaped by government policies' (Standing, 2009:4).

Polanyi did not view labour as a commodity that could be bought or sold, because the idea at the time was to protect workers by removing labour from international competition to enable a

shift toward developing social security through state and enterprise benefits. This is a similar position adopted by the ILO through its Philadelphia Declaration of 1944, stating in its first article: 'Labour is not a commodity'.

The ILO is a global regulatory body founded in 1919 as part of the Treaty of Versailles for the 'Promotion of the International Regulation of Labour Conditions'. The ILO also became the first specialised agency of the United Nations (UN) in 1946. The ILO was geared toward national labour markets and industrial citizenship, which was based on labour law, collective bargaining and tripartism. The ILO was also to a certain extent a development agency, in the sense that less-developed economies would adopt labour regulations, policies and standards that were forged in more developed nations. Initially, however, the ILO was a European organisation and has not lost its Eurocentric orientations and values since (Standing, 2008). The ILO's standards were designed for national systems of regulation to give protection to workers in stable, full-time and unionised jobs. Implicitly, the ILO stood for a model of national welfare capitalism and was geared towards formal labour markets. However, due to the impact of globalisation, the 1980s represented a period of crisis for the industrial labourist model and the ILO could not get past the assumption that jobs were desired by everybody (Standing, 2009:263). Faced with the challenge of an eroding labourist model, there was a shift to extend social security and regulations to the informal sector, which became a focal point of discussion for the ILO (Standing, 2008). Keith Hart coined the term 'informal sector' in his doctoral research in Ghana (Hart, 1985) and further conventions from the ILO popularised the term. However, there was much confusion within the ILO on the definition and the measurement of the informal economy as well as the appropriate policy response to it. These debates continue to this day (see Chen and Carré, 2020). As the ILO was debating the appropriateness of the concept of the informal economy, the World Bank jumped into the gap created by the erosion of the labourist model and introduced the Washington Consensus, which advocated pro-individualistic and pro-market regulations through labour flexibilisation. The language of deregulation and privatisation took hold, which reduced the role of governments within industry and occupations, consequently further dismantling protective regulations (see Standing, 2009:147-179). A new globalised market society thus took root, along with all of its commodifying effects, re-establishing the wave of commodification that Polanyi sought to limit.

The vision of Polanyi and the ILO was to put people into stable jobs within the formal economy in an effort to counter the excessive tendencies of the market economy experienced during prior

fascist and Bolshevik regimes, which aligned with the ILO's fundamental principle, 'the war against want':

> the war against want requires to be carried on with unrelenting vigour within each nation, and by continuous and concerted international effort in which the representatives of workers and employers, enjoying equal status with those of governments, join with them in free discussion and democratic decision with a view to the promotion of the common welfare. (Declaration of Philadelphia, ILO, 1944:1)

Although the creation of the stable industrial labour system gave protection and social entitlements to many workers in the twentieth century, Standing claims that the preoccupation with an employer-employee relationship is problematic for analysing the impact that globalisation has had on the proliferation of flexible labour patterns. It is from this perspective that Standing breaks from Karl Polanyi and the ILO and sets the premise of his book, since he asserts that 'Labour is a commodity' (2009). A commodity is a good or service that can be bought or sold. Because labour as a commodity can be sold on a market, a commodity can have exchange value that may or may not have a use value. Exchange-value and use-value are Marxian concepts that explain what a commodity conceals within itself. The exchange-value of a commodity relates to a commodity's exchangeability in the market, while use-value refers to the utility a commodity provides (Marx, 1867). The point here is the position that labour is not a fiction; its commodity status is real, however the activities come about.

A key theme Standing develops is that labour takes place also outside of the wage-labour relation, this contrast underpins the development of the notion 'precariat' (which I will expand on later in this review). This is indicative of the forms of labour usually lumped together in the informal sector and increasingly precarious and flexible labour within countries in the Global North. I find this instructive to frame reclaimers *labour* in the waste-scape as part of the process of commodity production and how the value latent in recyclable waste shapes the mobilities of reclaimers. Their labour is not performed for a wage and benefits that make up a remuneration package, this was the design of labour through the welfare state and formal employment. Instead, reclaimers labour is characterized by income-generating activities through valorising and trading recyclable waste. I will unpack this point throughout this review.

Standing's claim is that through the impact of globalisation, workers around the world have become more exposed to market forces, conforming to the central feature of neoliberalism. In a similar way, reclaimers are exposed to market forces through the value latent in recyclable

waste and through their labour they revive this value and trade it within a global recyclable waste industry. Commodification takes place through this form of subordination of the capitalist logic. Moreover, the imagery of 'industrial citizenship' through the construction of welfare states assumes formal employment, the wage-labour relation, the factory where the working day was fixed. It is similar to the imagery that Karl Marx uses to explain the working class's industrial jobs in *Capital*, but this sort of imagery would not be as effective within a more informal, tertiarised and flexible economy, as the structures of working time and fixed workplaces have also changed.

2.3. Introducing the imagery of labour within economies of recycling of the twenty-first century

Today, in industrialised countries as well as in developing countries, people live in societies that are increasingly tertiary and not industrial, in that the major activities are covered by services. The process of tertiarisation implies a shift from industrial manufacturing-based economies to a service-dominated economy (Standing, 2009). Services range from high-income, high-status activities such as financial services all the way to petty street trading and other activities that stretch beyond into the nebulous informal sector (Standing, Sender and Weeks, 1996:76). The process of tertiarisation includes informalisation, casualisation, triangulation and contractualisation (Standing, 2009:77). The process of tertiarisation is taking place on a global scale with developing countries in the Global South having an ever-expanding informal sector (see Chen, 2012) that does not accord with the rules and standards presupposed by the labourist model of formal employment, while industrialised countries are shifting toward more labour flexibility and precarious forms of work (see Van Eyck, 2003). The form of tertiarisation that this study is more interested in is the process of informalisation which takes three forms (Standing, 2009:70). The first form consists of petty production mostly found in developing countries. The second consists of firms informalising employment by using sub-contractors and outworkers. The third involves the use of illegal forms of labour, to avoid tax and social contributions and to evade regulatory safeguards.

The tertiarisation of societies and economies will be a dominant feature for the twenty-first century (Standing, 2009:77) and, with the rise of services, there is an increasing fuzziness around the notion of workplace (Standing, 2009:231). The labourist model used an industrial imagery where labour was done in blocks of time in fixed workplaces. To combat exploitation in an industrial workplace, there was a struggle for reductions in the working day. This is what

Marx articulated in Volume 1 of *Capital*, and this became the struggle of many trade unions in the twentieth century. This differs from a tertiary labour market where struggling for reductions in the working day will not help nearly as much, as it will tend to reduce the number of hours for which someone earns a living while increasing the amount of time in work-for-labour that is unpaid (Standing, 2013). Instead of controlling workers through disciplinary devices in a formal workplace, current social and economic policy is reconstructing workers as autonomous risk-takers or entrepreneurs, or possessors of human capital (Standing, 2009:114). With the influence of globalisation, the temporal and spatial norms of industrial capitalism – working hours and fixed workplaces – are crumbling (Standing, 2013).

Coinciding with the global transformation in labour patterns is the global transformation of materials, values and social relations or the global economy of recycling (Alexander and Reno, 2012). Alexander and Reno explore the transformations and re-evaluations of materials, objects, spaces and the people who carry out this work. Recycling is usually framed as an easy win-win moral exhortation of households and industry to recycle their waste, however, Alexander and Reno show that this becomes more complicated when we see how the process of recycling is actually carried out. This occurs when materials go through a process of re-evaluation and is reinserted into mainstream material flows. I see this as the commodity production process where there is harm done to the bodies (reclaimers) that actually carry this process out through their labour. Reclaimers are entangled with a global economy based on trading recyclable materials that intersects with "households and international trades, commodity prices and demands, core industrial regions and peripheries, and geographically dispersed technologies of recovery." (Alexander and Reno, 2012).

2.4. The development of precarity and instituting global labour flexibility

The development of the concept of precarity and precariousness emerged at a time when the term subaltern was losing its explanatory and analytic power, primarily due to the rise of neoliberalism. The term subaltern describes the lower social classes and the 'Other' social groupings often relegated to the margins of society. The social revolutions of 1968 represented the twentieth-century moment where the concept of subaltern was put to its severest test (During, 2015). This was also a time when the post-war welfarist consensus broke down. Subaltern studies developed from Maoist and Gramscian ideas that gave an historical account and affirmation of the distance between the privileged elites and the subaltern (Chakrabarty, 2006). The development of this line of thought influenced a series of left-wing and anti-

authoritarian theories and social movements, which became known as autonomism. During the same time, postcolonial studies also grew to prominence, which highlighted the coloniser/colonised relationship as well as combatting Eurocentric influences in the humanities and social sciences. During (2015) shows that as autonomism receded, the politics of subalterneity were largely absorbed into the machinery of the emergent neoliberal state capitalism, thereby undercutting the analytic power of the term subaltern and in turn also destabilising the postcolonial attunement to relatively stable geographical and cultural relations of dominance and subordination. The stable and dualistic categories of subaltern and postcolonial studies that have been used to explain the world have been replaced by relatively unstable and dispersed conditions of deprivation and insecurity (During, 2015). The old leftist terms under which the subaltern problem has long been understood no longer hold (During, 2015). This is because new, more extensive and less visible patterns of global dispossessions are gaining ground. On this basis, During chooses the term 'precariat' as a term with currency. He states that precarity 'effectively invokes the insecurity of all those who live without reliable and adequate income or without identification and/or residency papers' (2015). Furthermore, it also applies to those with no or unstable access to those communities or institutions best able to provide legitimacy, recognition and solidarity (During, 2015).

The concept of precarity has a wide epistemic reach. Precarity can be understood as an anthropological or existential condition, one in which human beings are constitutionally unable to fully ground themselves in the world and for that reason are open both to anxiety and to risk (During, 2015). Examining Judith Butler within this context is also helpful, as she explores precarity, precariousness and vulnerability (for example, see Shulmann, 2011; Butler, 2014). Alternatively, Han (2018) explains that precarity also denotes a socio-economic position of insecurity and poverty, often particularly associated with statelessness. This is common among migrant experiences of work (see, for example, Pajnik, 2016). There are also strands that view precarity and precariousness through the Capability Approach of Amartya Sen and Martha Nussbaum (see Hobson and Bede, 2015). However, this study is more concerned with precarity and precariousness framed as tightly bound to transformations of labour and the welfare state under conditions of globalisation (Han, 2018). This is also in accordance with Standing's position.

The crumbling of the post-war welfare-state consensus was driven by an argument that linked rising unemployment and declining competitiveness to Europe's social model, which is based on protective regulations and institutions such as unions and collective bargaining (Standing,

2008). This was a direct attack on the ILO's existence. In turn, there was a shift to promote labour market flexibility. The debates were mainly led by the World Bank,[2] the Organisation for Economic Cooperation and Development (OECD)[3] and the International Monetary Fund (IMF). The eventual expansion of flexible labour statuses and labour markets posed a difficulty for the ILO's identification with a particular form of labour status – between employer and employee – and made the traditional forms of labour law and regulation hard to apply (Standing, 2008; Fudge, 2017; see also ILO, 2016). The labourist model depicted a 'jobholder society' (Standing, 2009:7) that was based on industrial labour, employment and collective bargaining. This model has been gradually replaced by global labour flexibility, epitomised by the World Trade Organisation (WTO) and its General Agreement of Trade in Services (GATS) through 'promoting trade and development through progressive liberalisation'. Today, trade and labour flexibility are ever more interrelated (Standing, 2009:64). Workers are now bearers of risk, with many workers becoming dependent or independent contractors instead of stable employees. The risks have been transferred from major corporations to sub-contractors and nominally self-employed suppliers in global production chains.

The WTO has been described as the midwife of globalisation (Standing, 2009:60). Whereas its predecessor, the General Agreement on Trade in Tariffs (GATT), has since 1948 concerned itself with reducing and eliminating tariffs linked to manufacturing, the WTO rules have since 1995 extended to cover issues long considered the sovereign territory of governments, including, among others, the regulation of services. The WTO rules have opened developing countries' markets to foreign investment, while GATS gives capital security by protecting foreign firms from eviction and differential treatment. The privatisation of economic activities that started in the 1980s has been followed by the global privatisation of social policies and services, with implications for patterns of labour use and income distribution (Standing, 2009:65). Privatisation has rolled back the protective character of the public economy, making more activities subject to market forces and commercial ventures. The privatisation of lucrative parts of a public service is a global trend, as is the technique of doing it in steps to allow

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[2] See Lee, McCann and Torm (2008), writing in the *International Labour Review* on the World Bank's 'Employing Workers' index. The index is linked to the World Bank's Doing Business Project, which measures the costs of labour market regulations. In this index, 'rigid' labour market policies are blamed for poor labour market performance, while a more flexible labour regime is perceived to be associated with increased growth and employment creation. They show that the project can be understood as an empirical basis for the Washington Consensus.

[3] See Tridico (2018). He posits that the increase in inequality over the past two decades within OECD countries is linked to an increase in financialisaton, a deepening of labour flexibility, the weakening of trade unions and the retrenchment of the welfare state.

multinationals build a market without causing political debate (Standing, 2009:150). Once a service is privatised and liberalised, a service will be subject to market principles, and firms will be protected by international rules under the WTO's GATS.

2.5. The emergence of the precariat and understanding precarity

Saumyajit Bhattacharya's critique of Standing's work highlights some misunderstandings of Standing's ideas of work and labour. In a paper titled, 'Is Labour Still a Relevant Category for Praxis? Critical Reflections on Some Contemporary Discourses on Work and Labour in Capitalism' (2014), Bhattacharya argues that the significance of labour as a category is being eroded in critical reflections on contemporary capitalism. This erosion of the use of labour is argued to reduce labour rights of workers and more broadly the traditional labour rights discourse. Bhattacharya's critique of Standing is based on the claim that Standing does not use labour as a critical category. Bhattacharya also claims that Guy Standing *counters* labour with work, 'which represents for him both a correct representation of effort as well as a normative counterpoint to the capitalist exploitation process' (Bhattacharya, 2014). Bhattacharya (2014) states:

> Such a view is a logical culmination of rejecting labour as a critical category: it leads to a framework in which the vertical relationship between capital and labour (employer and employee) is discarded in favour of horizontal inter-worker relationships.

It is true that manufacturing jobs (within an industrial imagery) that deal with a working class and productive capital that deals with a vertical relationship of employer and employee are still prevalent and ongoing in many if not all countries around the world. Within the commonly known national industrial labourist model, the proletariat (working class) was adjusted to stable labour and stable living to serve the interests of capital; this was the social democratic and industrial citizenship project. However, today's global capital wants workers, or as Standing posits, the precariat, to adjust to unstable labour and unstable living (Standing, 2015). This is the reason why Standing does not put the proletariat (working class) and precariat in one category; the conflation of the two classes would prevent analytical reasoning and political imagination.[4]

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[4] See Breman (2013). Jan Breman holds on to a working-class understanding of class and posits that Standing entrenches different distinctions between different fractions of the working class through his use of the term precariat. Otherwise also suggesting that the precariat is a bogus concept.

Given the stated significance of the precariat, the differences between the precariat and precarity needs to foregrounded. In this respect, Jørgensen (2016) argues that the analysis of what precarity *is* should be supplemented by an inquiry into what it *does*. From this perspective, Jørgensen (2016:960) provides a clearer understanding of precarity:

> precarity does refer to a structural condition but one that characterizes the economic condition and workplace as well as the social space. It characterizes not only employment conditions but the social system as such. Precarity is hence understood as a mode for analysing economy and for rethinking heterogeneous identities and group formations under neoliberal capitalism.

This is an important point to highlight and allows for a much better understanding of the precariat. From this perspective, precarity or precariousness becomes an emergent property of a market exchange economy where conditions of insecurity prevail, as well as limited protective mechanisms for recognition and status. It is true that throughout history, a high proportion of those doing labour have been in insecure, low-paid, low-status jobs, especially in the Global South, as argued by Scully (2016). The number of people working informally was expected to be absorbed by the formal sector, but this has unfortunately not been the case (Chen, 2012). Therefore, Standing (2009) has chosen the term precariat (or flexiworkers) to describe this disparate group of workers in non-regular statuses. The precariat describes individuals that are trapped in petty activities in rural and peri-urban areas mostly within developing countries, though it must be noted that the wave of flexible labour processes has boosted informalisation everywhere (Standing, 2009:110). The precariat lacks a voice – representation security – because they are denied the opportunity to join unions or because they are either in service, subordinated in precarious labour, or providing services where associational bargaining is constrained. The differentiated forms of work that do not accord with the industrial imagery and the multifaceted group of humans that labour in these conditions can be thought of as part of the precariat, which can be thought of in class terms. Class in a Marxian sense refers to an individual's role in the production process and the structure of that production. In the next subsection, I posit that reclaimers are part of the commodity production process, which positions the precariat as an adequate descriptor to understand their role of their labour in the commodity production process.

2.6. Extending the reach of the reclaimer through labour

There is a wide range of waste reclaimers, each with varying capabilities and capacities that allow them to move, manage and monetise the embedded value in waste in a multiplicity of manners. The intricate dynamics of the work waste reclaimers perform require us to embrace the multidimensionality of their work practices (Coletto and Bischop, 2017). Theorising the reclaimer has conformed with theorising informal workers more broadly and has mostly been directed toward emphasising the agency that reclaimers assert, coupled with the lack of associational voice among the broader set of informal workers within the informal economy. For example, Samson (2009) has theorised reclaimers as 'neoliberal citizens' in an effort to understand and explain the complete marginalisation of reclaimers in the process of formalisation. She frames reclaimers as being caught in a situation where neither the state nor industry would provide them with employment and they have instead acted on their own initiative to create an income through transforming waste into a marketable commodity. In developing and theorising the reclaimer, Samson (2009) draws from Foucault's concept of governmentality to gain an understanding of reclaimers as individuals with agency and posits that government policy constructs particular categories of the population to create neoliberal citizens who believe in self-reliance and do not expect the state to provide them with what was previously seen as the rights of citizenship. Reclaimers are framed as autonomous and have full agency when left free from the interference of the state, police and private companies (Samson, 2009). Furthermore, Samson (2009) brings in insights from Chari's (2006) exploration of a Durban community and their development of the concept 'detritus'. Detritus captures how capital accumulation and colonialism has created surplus populations compelled to find ways to produce their labour outside the wage-labour relation and how these surplus populations are forced to contend with the by-product of the capitalist production system – waste.

This is useful in articulating the unrecognised and under-privileged forms of work that exist outside the industrial imagery. Normally, non-regular economic activity outside of the wage-labour/industrial framework is lumped together within the informal sector. These activities have been described as income-generating activities (Viljoen, Blaauw and Schenck, 2015; Reyneke, 2016). Contestations on what activities are considered informal still presents fresh debates (Chen and Carré, 2020). Nonetheless, the debate regarding how to frame workers outside the formal industrial imagery goes as far back as 1984, with William House's analysis

on Nairobi's informal sector. House (1984) argues that the simple dichotomy between the formal and informal sector is inadequate, as he observes the diversity and dynamism of the informal sector in Nairobi. He grapples with whether workers in the informal sector should be framed as either 'dynamic entrepreneurs' or 'surplus populations', as he observes both enterprising individuals that generate reasonable incomes for themselves and, in stark contrast, other individuals that are forced by their circumstance to eke out a meagre subsistence lower down on the informal spectrum (House, 1984). House, like Jan Breman, is critical of the use of the concept 'informal sector'. Breman (1976) argues that any attempt to demarcate the informal sector will give rise to inconsistencies and difficulties.

More recent attempts at understanding reclaimers come from Webster et al. (2008). Their attempt aims to discern 'decent work' (a concept they borrow from the ILO) and assess the 'decent work deficit' (DWF) among reclaimers in the informal economy in South Africa using Standing's labour security framework[5]. Their results show that reclaimers who recycle metal and plastics rank the lowest on the DWF and thus face a high degree of labour insecurity. The call for decent work has been advocated by the ILO and further reinforced globally by the incorporation of decent work into the UN's Sustainable Development Goals (SDGs). From this, Lawhon, Millington and Stokes (2018) note that there has been little critical inquiry into the contemporary relevance of the modern work ethic in a context of widespread unemployment and limited demand for labour. They draw from interviews from people in South Africa's waste management sector and find that entrepreneurialism is increasingly

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[5] Guy Standing uses the seven forms of labour security to define how security within the twentieth-century national industrial labour market was structured to provide an understanding of how insecurities are emerging within a more globalised world. These include (Standing, 2009:37):

1. Labour market security: adequate income-earning opportunities; at the macro-level, this is epitomised by a government commitment to full employment.
2. Employment security: protection against arbitrary dismissal; regulations on hiring and firing; imposition of costs on employers for failing to adhere to rules and so on.
3. Job security: ability and opportunity to retain a niche in employment; barriers to skill dilution; opportunities for upward mobility in terms of status and income.
4. Work security: protection against accidents and illnesses at work through, for example, health and safety regulations; limits on working time, unsociable hours and night work for women; compensation for mishaps.
5. Skill reproduction security: opportunity to gain skills through apprenticeships, employment training and so on; opportunities to make use of competencies.
6. Income security: assurance of an adequate income, protected through, for example, minimum wage machinery, wage indexation comprehensive social security; progressive taxation to reduce inequality and supplement low incomes.
7. Representation security: possessing a collective voice in the labour market, through, for example, independent trade unions.

These were the seven forms of labour security within the industrial citizenship era. The lack of these forms of security results in insecurity among workers.

becoming the dominant discourse through which waste work is being framed. Lawhon, Millington and Stokes (2018) argue against the assumption that jobs (historically linked to citizenship, i.e., colonial and apartheid formations) are the primary means of claiming resources, dignity, moral worth and full citizenship. They see that entrepreneurialism is increasingly understood as a necessary and morally valuable step towards the creation of work itself. However, they also acknowledge that this framing is problematic, not only for marginalising those who do have jobs, but also for shifting the responsibility of job creation to the unemployed themselves.

It is well known that both reclaimers and the broader set of informal workers perform insecure and precarious labour. Although reclaimers have been described as entrepreneurial, Samson (2015) provides an interpretation that acknowledges reclaimers' and informal workers' agency as intentional knowledge producers. Through expanding on David Harvey's theory of accumulation by dispossession, Samson (2015) shifts the focus toward framing informal workers as knowledge producers and exemplifies how reclaimers have created a new sphere of accumulation through transforming waste into valuable commodities or, in the words of Samson, through 'turning a landfill from a commodity cemetery to a resource mine' (2015). Moreover, Samson (2015) shows how some of the informal aspects of the economy are bound up in the process of accumulation by dispossession, in which dispossession is not linked to wage-labour. She counters the dominant interpretation of the process of accumulation by dispossession as a process that leads people to become informal workers and instead argues that the process of accumulation by dispossession can also involve the state and formal capital-capturing spheres of accumulation created by informal workers in ways that either completely exclude them or render them subordinate to formal private capital. Samson attempts to counter overtly structural accounts of accumulation by dispossession, highlighting the agency of reclaimers that contested this process (Samson, 2009). This is in line with what Lindler (2019) has detected, in highlighting that reclaimers value the forms of agency and flexibility that allow them to enter and exit the waste economy at their will, as well as their ability to retain autonomy through a reliance on informal norms at a local level through their rejection of formalisation via their resistance to government bureaucracy. The features of informal workers' agency have also been observed in Cairo's attempt to modernise the informal waste sector and bring it under municipal control. This process was facilitated by the municipality, who issue licenses to large corporate contractors, and it amounted to a confrontation between its municipal legal regulatory authority and the existing informal system. However, eventually, the informal service providers

selectively adopted institutional forms that could be legally recognised by municipal authorities, while retaining the personalised and informal practices that were central to the informal system (Assaad, 1996).

In a similar direction, building on Samson and Harvey's accumulation by dispossession, Reyneke (2016) has explored how waste reclaimers have responded to the formalisation and privatisation of the waste management system by the City of Tshwane to develop the concept of the 'urban waste precariat'. The urban waste precariat, developed by Reyneke (2016), draws on Standing's seminal work *The Precariat: The New Dangerous Class* (2012) to describe the conditions of informal income-generating activities under the unique form of neoliberalism that has emerged over the last decade. He finds that the term 'waste picker' (represented by media and literature as an undifferentiated group) is too homogenous and does not adequately encapsulate all the forms of informal reclaiming and recycling activities. Reyneke (2016) therefore provides a wider conceptualisation of reclaimers by using the term 'urban waste precariat'. More strikingly, however, this conceptualisation places reclaimers within the context of neoliberalism and the privatisation of waste management systems and landfills within developing countries. Furthermore, he highlights how the privatisation of landfills, more specifically in the City of Tshwane, have transformed them into privately run sorting facilities that entail minimal reclaimer participation and job creation.

What I find particularly instructive from Samson's use of the 'reclaimer' is not that she situates them operating on landfills, but more specifically, that reclaimers have uncovered commodities that are of value within landfills. I want to productively extend this aspect of uncovering value inherent in recyclable waste to actors operating in the streets of the urban to which I posit that they should also be considered reclaimers. Moreover, I want to emphasise the labour process of commodity valorisation of reclaimers operating on the streets at multiple levels of the value chain. This opens a wider conceptualisation of scale and capacities that reclaimers operate at, suggesting that there may be complex hierarchies, social stratifications and inequality within the waste value chain of reclaimers. This framing posits that the 'workplace' (thought in terms of the labour process) of reclaimers remains nebulous, operating on landfills and the streets and permeating the wider urban fabric. Extending the conceptualisation of reclaimers in this way suggests that reclaimers are constantly moving from place to place in search for waste to valorise. For further analysis, I contend that the new mobilities paradigm remains incredibly useful for understanding the labour process of reclaimers.

2.7. Introducing the mobilities paradigm and exploring the role of intermediaries and middlemen

Guy Standing states that part of the precariat participates in what has been called 'urban nomadism' (2009:231). He goes on to say that this emerging lifestyle is dissolving the notion of the workplace, partly because the means of production are becoming more mobile and privatised. This restructuring is depicted as creating a 'social factory' in which the production regime treats society as an extension of the workplace (Standing, 2009:77). Similarly, waste reclaimers' everyday work practices are entangled with the everyday social space, operating on landfills and within the streets of the urban, or otherwise described as 'itinerant', which does not conform to conventional imagery of the industrial workplace. This is similar to Timm's explanation of the workplace of actors in Cape Town's urban waste economy as 'regulatory space' (2015:176):

> A large number of informal waste collectors make an income from collecting waste from various public spaces in Cape Town. These spaces are an important source of livelihood as they present the only opportunity to access recyclable materials for such people.

The mobility of reclaimers entangles with the location and mobility of waste, and therefore, from this perspective, the mobilities of waste provides an instructive lens for exploring the politics of wasted stuff (Swanton, 2014). To understand this unorthodox and mobile workplace of waste reclaimers, I draw on what is called the 'new mobilities paradigm' (Sheller and Urry, 2006). The 'mobility turn' has captured the imaginations of researchers within the social sciences, exposing the limits of the static nature of practice and theory of the social sciences and how it has largely ignored and trivialised the importance of systematic movements of people for work and family life, and for leisure and pleasure. Relatedly, Cresswell, Dorow and Roseman (2016) contribute to this by arguing that the mobility turn can be utilised more widely to analyse the spectrum of employment-related geographical mobility. Even though they speak about employment and labour mobility as migration to other countries or cities for work, their assertion is that mobilities studies has taken a somewhat narrow and sometimes uncritical view of work, labour, and employment. The mobilities turn focuses on moving and holds it as

fundamental fact of life (Cresswell, 2001).[6] It is well known that the movement of people, ideas, objects and information plays a crucial role in social life. The social sphere presupposes many issues of movement and non-movement, of forced movement and of chosen fixity, of people, images, ideas and objects. Social relations are spatially organised (Urry, 2007) and such spatial structuring makes a significant difference to social relations. Within space, there is always an intermittent movement of materials, objects and environments.

Mobilities as a paradigm explores heterogeneous 'hybrid geographies' of human-and-machines/tools that contingently enable people and materials to move and hold their shape as they move across various networks (Urry, 2007). Although not adequately acknowledged in waste scholarship, technological instruments play an important role in the social configuration of the waste-scape. In some cases, technology may result not only in managerial shifts but also in new layers of hierarchy, profit allocation and labour relations (Millington and Lawhon, 2019).

In the case of South Africa, the different forms of technology/transport reclaimers utilise have been adequately depicted by Timm's (2015) framework of Cape Town's informal waste economy:

- 'Skarelaars' (waste pickers) use a trolley or carts to transport waste.
- 'Carties' use a horse-cart and ride a horse in the urban. Rink and Crow (2019) explore working horses and horse-cart drivers and their experiences negotiating mobility and livelihood in the streets of Cape Town in greater depth.
- The 'bakkie brigade' use a motorised form of transport (bakkie).

Millington and Lawhon (2019:1057) have argued that these technologies must be examined in the context of global capital flows and governance processes, as this contributes to our understanding of the dynamics of global waste metabolisms. Additionally, they point out that 'Waste materialities cut across the formal and informal, drawing attention to the interrelated dynamics of governing the surplus materialities of contemporary life' (Millington and Lawhon, 2019:1057).

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[6] See Cresswell (2011b); Cresswell (2012); Cresswell (2014). In a trio of articles on mobilities, titled 'Catching up', 'Still' and 'Moving On', Cresswell attempts to uncover mobilities as a discipline in and of itself through differentiating and disconnecting it from other mobility-related strands of geography. Mobilities differentiates itself from disciplines like transport geography, migration and tourism, which have traditionally been important aspects of geography. Furthermore, it draws from a vast amount of theories and research fields based on the fact that moving is a central fact of life.

There has been burgeoning literature explicitly exploring the important role of mobilities within the waste-scape. For instance, the centrality of mobility in waste management has been highlighted by Omokaro and Taipale (2016), who explore the management of e-waste by e-scrappers in Nigeria. Their study sheds light on the relationship of e-scrappers and the locations of their work by analysing the influence of environmental and social factors on their mobility. Adding to the field of mobilities, Inverardi-Ferri (2018) investigates the everyday mobilities of actors through an account of Beijing's waste industry to develop the idea of the 'urban nomad' in an effort to foster our understanding of the connection between labour and mobility. He shows how the existing literature in China pays little attention to the everyday mobilities of marginal urban actors.

However, most literature on the urban waste economy (as well as waste mobilities) has focused on waste reclaimers on the lower end of the value chain, while the role of middlemen and intermediaries is often dismissed as being exploitative. For example, Medina (2005) has found that waste reclaimers on the lower end of the waste recycling chain are subject to discrimination and exploitation by middlemen and federal government policies in Mexico. Furthermore, low incomes of scavengers can be explained by low prices paid by middlemen that operate as monosomic markets in Mexico City (Medina, 2000). Luubale and Nyang'oro (2013) identify a similar tendency among middlemen in Kenya, where they report that middlemen engage in unfair trade practices such as the use of faulty weighing scales or, through cartels, forcing waste pickers to sell at unfairly low prices. Nzeadibe and Iwuoha (2008), in the case of Lagos's informal waste economy, has described middlemen as small buyers, while large buyers are described as brokers. In the case of Lagos, middlemen have often taken advantage of and exploited the illiteracy of waste pickers. Additionally, they see that the small buyers (middlemen) operate as a cartel that limits new entrants into the market.

Nevertheless, there is burgeoning literature making use of urban waste metabolisms methodologies that have highlighted the unrecognised role of intermediaries, which is comprised of heterogeneous waste handlers and their impact within multi-scalar and changing structures of waste flows. As Geibrunet et al. (2017:365) highlight:

> Documenting the experiences of different levels of intermediation is a means to reveal the complex stages of waste management and the risks they pose to the people who manage such stages, something which is hardly acknowledged in formal waste management systems.

In line with acknowledging the role of intermediaries or middlemen, Tuori (2009) observes in the case of Bandung, Indonesia, that the 'middlemen industry' has a great deal of heterogeneity in terms of earnings and vulnerability. He also shows that the middlemen industry adds value to the supply chain by providing capital and transportation to waste reclaimers at the lower end of the value chain. Tuori (2009:76) asserts:

> By providing transportation and storage of materials, middlemen contribute to the efficiency of the supply chain by supporting a reverse distribution system that, through a decentralized network of middlemen, can aggregate materials from a large number of dispersed locations to a few centralized facilities. This process requires a great deal of trust among players on both sides, and middlemen bear some of the risk associated with dealing with both factories and waste pickers.

Tuori's (2009) is one of the only studies that hints at the importance of mobilities through emphasising the transport that supports waste reclaimers on the lower end of the value chain. Highlighting the significance of the middlemen industry, Tuori (2009) argues in favour of policies that take into consideration all actors within an informal supply chain. Correspondingly, given the complexity of the informal economy, in the last decade there has been a renewed effort to develop holistic frameworks that can take into account all aspects of informality and all categories of informal workers (Chen, 2016). The linkages of the informal to the formal economy and the formal regulatory system are still a matter of concern, as there is no overarching policy intervention to address the concerns associated with the informal economy (Chen, 2016). Therefore, to facilitate this goal, an adequate understanding of the linkages within the urban waste economy, which include middlemen, intermediaries and buy-back centres, is essential.

2.8. A broad overview of solid waste management in South Africa

Solid waste management remains one of the most challenging issues in developing countries, as these countries suffer from serious pollution problems caused by the generation of large quantities of waste (Al-Khatib et al., 2010). The positive role of informal reclaimers with regard to solid waste management in developing countries has been well documented (Moreno-Sanchez and Maldonado, 2006; Samson, 2010; Gunsilius, Spies and García-Cortés, 2011; Ramusch and Lange, 2013; Jerie and Tevera, 2014; Wilson et al., 2017). Their significant contribution to urban sustainability and development is increasingly being recognised around

the world (Medina, 2005; Dias, 2016). However, the contributions of informal workers are difficult to estimate as there is no obligation for informal workers to keep accurate records (Linzner and Lange, 2012). The formal-informal dichotomy has been a necessary one for estimating the respective performance of the two sectors. Performance data of formal enterprises do not usually cover informal systems and official statistics do not reflect the bigger picture of waste management in low-income countries (Linzner and Lange, 2012). This data is important for policymaking and enforcement, but also for the advocacy and visibility of informal systems. This has led to extensive research on the methods by which and the extent to which formalisation and integration of the informal waste economy can take place (Vergara and Tchobanoglous, 2012; Kashyap and Visvanathan, 2014; Kasinja and Tilley, 2018; Samson, 2019). There has also been an increased drive to recognise the role that informal participants play in developing countries' waste management. There has been a consequent focus on enabling and hindering factors that influence the effective implementation of formalisation measures in developing countries. Key factors in formalisation include: policy, economic and institutional measures; acknowledgement of the contribution of informal recycler; and country-appropriate measures at policy, economic and institutional levels (Aparcana, 2017). However, an unawareness of interactions between measures may cause formalisation to fail and, regardless of the initiative, not all attempts of formalisation have proved successful, due the existence of barriers preventing their implementation in the long term (Aparcana, 2017). Moreover, based on their analysis of Ghanaian cities, Oteng-Ababio, Owusu-Sekyere and Amoah (2017) have argued that global development trajectories that overemphasise the role of foreign-based approaches against indigenously derived approaches create specific contestations. They demonstrate that the new models have hardly had visible success stories even after two decades of experimentation, which is because they are incompatible with local development trajectories. They conclude by emphasising that the livelihoods of the informal sector should be recognised, valued and considered in local economic development.

South Africa has followed a similar trajectory in terms of the emphasis on formalisation/integration and recognising the role of the informal waste sector. South Africa has a local recycling economy on par with other developing countries, which is in part due to its large and active informal waste sector (Godfrey and Oelofse, 2017). Informal solid waste management has increasingly become part of the urban landscape in many of South Africa's cities and towns (Dlamini, 2016). Extensive research has been done on waste pickers that operate on South Africa's streets (Schenck and Blaauw, 2011) and landfills (Samson, 2017;

Nyathi, Olowoyo and Oludare, 2018), including an analysis on the differences between them (Schenck et al., 2016). Due to the many hazards and challenges waste pickers face in their working environment, the focus has mainly been on waste pickers' occupational livelihood strategies, how they are perceived (Nyathi, Olowoyo and Oludare, 2018), their food security as 'nutritional capability' (Schenck et al., 2017) and the potential health risks they face (Kubanza, 2010; Schenck, Blaauw and Viljoen, 2019). Furthermore, to mitigate these concerns, the literature in South Africa has focused on waste pickers' recognition and on enabling factors allowing waste pickers to operate (Schenck et al., 2016). There has also been a focus on finding ways to manage landfills in such a way that grants waste pickers access, dignity and recognition (Schenck et al., 2018). This aligns with the central claim by WIEGO that if waste pickers are organised, they would be better able to win recognition for the work they do (Theron, 2010). Moreover, on a more epistemological level, Samson (2015) advocates for the recognition of waste reclaimers, as knowledge producers, highlighting the epistemic and social agency of informal workers. The concept of 'recognition' is explained by Schenck, Blaauw and Viljoen (2016) as waste pickers becoming more visible, having a voice and being validated.

Given the challenges waste pickers face there has been a drive to formalise South Africa's informal waste sector, which would offer waste pickers access to government-backed enterprise development opportunities. However, it has been found that formalisation reduces waste pickers' flexibility and ability to enter and exit the waste management economy and that they value the kind of flexibility that allows them to start and end work at their will (Lindler, 2019). It has been argued that the focus on formalisation minimises waste pickers' substantial contribution to the waste management economy in favour of legal compliance and potentially ignores the fostering of dialogue that could serve to increase waste pickers' responsiveness to regulatory mechanisms in the long term (Lindler, 2019). Waste reclaimers have often been excluded and marginalised from formalising processes (see Samson, 2009) and, as a result, the conflict among informal waste reclaimers and initiatives aimed at formalising informal waste pickers shifted to finding methods for integrating informal waste reclaimers (Samson, 2019). An example of this has been observed in Cape Town, where Timm (2019) examines how municipal policies and by-laws impact the existing activities of informal 'salvagers' and argues that in its quest to achieve efficient, effective and innovative integrated waste management, the City of Cape Town had a negative impact on informal salvagers and generally excluded them from integrated waste management planning. Samson (2019) observes a similar trend from the City of Johannesburg's Pikitup waste management utility initiatives to integrate waste

reclaimers/waste pickers. Samson (2019) argues that these new initiatives are paradoxically creating new forms of exclusion for reclaimers. Understanding Pikitup's approach to integration as colonisation reveals that integration is a mechanism of border control designed to eject and dispossess reclaimers rather than include them.

The Council for Scientific and Industrial Research (CSIR) has also turned their focus to finding ways of integrating informal waste pickers into South Africa's formal waste and recycling economy. However, this integration is proposed alongside the introduction of a mandatory Extended Producer Responsibility[7] (EPR) policy that is to be implemented for certain waste streams in South Africa (Godfrey, Strydom and Phukubye, 2016). An EPR system seeks to shift the financial and operational responsibility for the management of certain waste streams from municipalities to producers. Godfrey, Strydom and Phukubye emphasise that the existing active, but marginalised, informal sector must be taken into consideration when implementing EPR schemes:

> The intention with the planned implementation of EPR in South Africa is to move away from separate service and value chains towards a more integrated service-value chain that will result in increased recovery of recyclables. (Godfrey, Strydom and Phukubye, 2016:2)

There have been alternative initiatives from local and national levels of government in South Africa to promote waste cooperatives as a viable business model for waste reclaimers to 'transition from informal waste picker to entrepreneur' (Mswema and Oelofse, 2016). The suggestion for waste reclaimers to gain recognition through cooperatives has been supported by Mvuyane (2018), although they stress that it should not be seen as a 'one-size-fits-all' approach. However, there has been a reported 92% failure rate of cooperatives among reclaimers (Godfrey et al., 2015).

Other alternatives include promoting Small and Medium Enterprises (SMEs), as service contracts are issued by local governments as a mechanism for waste service delivery and recycling. This is also in the context of the broader National Development Plan 2030, which, according to Shane Godfrey, seems to accept that many jobs in other sectors will disappear,

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[7] Extended Producer Responsibility (EPR) is a policy approach under which producers are given a significant responsibility – financial and/or physical – for the treatment or disposal of post-consumer products. Assigning such responsibility could in principle provide incentives to prevent wastes at the source, promote product design for the environment and support the achievement of public recycling and materials management goals. Within the OECD the trend is towards the extension of EPR to new products, product groups and waste streams such as electrical appliances and electronics.

while most new jobs will be in services, with a view that there will mostly be more small firms ('NDP is long, vague', 2013). This trend is highlighted by Lawhon, Millington and Stokes (2018), showing that the NDP 2030 strives, as its long-term vision, to promote entrepreneurship and decent work and promote public/private investment facilitating the creation of new jobs in South Africa. However, they also note that by relying on growth and capital-led notions of development, the call for entrepreneurship and decent work rests on the assumption that the economy is able to provide enough individual opportunities to develop sustainable livelihoods. Municipal approaches are reconfiguring the waste labour force to increase community recruitment by mimicking public work schemes or privileging local small businesses and cooperatives through procurement schemes (Lawhon, Millington and Stokes, 2018). Waste is increasingly framed as an ideal industry because of its ease of entry; however, this framing also shifts the moral responsibility onto those who take part in these opportunities and away from government. It is from this perspective that recent research has explored the entrepreneurial and value-adding opportunities linked to the start-up of buy-back centres (Viljoen, Blaauw and Schenck, 2019).

2.9. Linkages between the formal and informal urban waste economy: the role of buy-back centres

The literature on the informal waste economy focuses mainly on waste pickers on landfills and in the streets, but often overlooks the role of buy-back centres in the process of recycling and the waste value chain (Viljoen, Schenck and Blaauw, 2012). Buy-back centres are defined as:

> A location where mostly post-consumer but also pre-consumer waste materials are bought and temporarily stored. Buy-back centres are often directly supported by a recycling firm that offers start-up finance, a location and infrastructure for an individual to get started and to collect waste for them. Most buyback centres accept all types of waste that are sorted on the premises and then sold to the respective recyclers. (Langenhoven and Dyssel, 2007)

Buy-back centres are the linkage between recycling companies and the informal sector activities at the lower end of the recycling chain, and therefore fulfil a crucial role in the waste recycling industry in South Africa (Viljoen, Schenck and Blaauw, 2012). Buy-back centres play an important role in informal recycling and the waste value chain through revealing the linkages between the informal economy and recycling companies. Moreover, Viljoen, Schenck

and Blaauw (2012) found that buy-back centres play an important role in creating both formal jobs and informal income-generating opportunities for the poor and unemployable.

Buy-back centres' competitive advantage is that they have facilities that add value to recyclables according to the recycling industry's standards and specifications (Viljoen, Blaauw and Schenck, 2019). Buy-back centres are generally defined as a depot where individual waste collectors, reclaimers and street waste pickers can sell their recyclable waste (Viljoen, Schenck and Blaauw, 2012). However, buy-back centres have various additional functions and roles. For example, Viljoen, Schenck and Blaauw (2012) describe buy-back centres' ability to create job opportunities on three different levels: entrepreneurs, who initiate, manage and operate the buy-back centre; sorters and balers, who receive recyclable waste from various waste collectors; and finally, waste pickers, who collect and sell recyclable material to buy-back centres. In the case of Pretoria and Bloemfontein, Viljoen, Schenck and Blaauw (2012) found that most of the owners of buy-back centres are sole proprietors, while there were also examples of partnerships and a family-run business. They also found some complexity to the ownership structure of buy-back centres. For example, four of the buy-back centres in the study were owned by the same owner, while the remaining buy-back centres had one owner each. Private companies also own large buy-back centres; in this specific study a company that owned a buy-back centre had up to five directors. And Chisango (2017) has researched the efficiency, profitability and sustainability of informal waste recycling in semi-urban areas in Limpopo and focused on a buy-back centre as a community project for poverty alleviation.

There is a complex relationship between buy-back centres and street waste pickers as well as buy-back centres and recycling companies. Many of the buy-back centres have direct relationships with street waste pickers as waste pickers sell waste directly to them. Buy-back centres also often have a direct relationship with recycling companies. To a certain extent, many of the buy-back centres are agents of large recycling companies (Schenck and Blaauw, 2011).

There are also varying types of buy-back centres. For example, some smaller buy-back centres sell waste to larger buy-back centres that are able to bale plastics and who do not necessarily receive waste directly from street waste pickers. This creates more levels within the waste value chain (Schenck and Blaauw, 2011). In many townships in Cape Town, buy-back centres claim that they buy only a small portion of their waste from street reclaimers; they buy most of their waste from bakkies who deliver waste from steel and paper companies or make use of their

own on-call collection (Benson and Vanqa-Mgijima, 2010). In Cape Town specifically, the term 'bakkie brigade' has also been used to describe actors within this linkage that use a bakkie or pick-up truck to move waste from waste pickers or between buy-back centres to recycling companies. Timm (2015) describes the bakkie brigade as operating within the informal sector, as do most analyses of waste reclaimers in the Global South. However, as noted by Nzeadibe and Adama (2015), there are growing debates on the scope and applicability of the notion 'informal sector', as well as a growing interest in the heterogeneity, dynamism and complexity of the informal sector.

2.10. The bakkie brigade: a potentially heterogenous set of reclaimers

The term 'bakkie brigade operator' refers to independent individuals with motorised transport who collect waste from industrial and commercial outlets (Timm, 2015). The bakkie brigade represent a set of actors found somewhere within the linkage between formal and informal systems. The dualistic formal-informal characterisation of the urban waste economy often undermines the dynamism of actors found within the informal economy, and I find this to be troublesome in the case of the bakkie brigade. I mainly drew from Timm's (2015) study on the informal sector reclaimers, which characterised the bakkie brigade as informal. From Timm's (2015) analysis, there are several key concepts that emerge, namely, middlemen, buy-back centres, intermediaries and the bakkie brigade, all of whose roles are to a certain extent entangled. I will briefly discuss a few points from Timm's (2015) study to position the starting point of this thesis.

The link between the formal and informal sector, according to Timm, is at the point of storage facilities, which according to her analysis, 'mediate relationships between formal and informal actors' (2015:69). An example given by Timm is that of skips and shipping containers, which play an important role in bringing formal and informal actors together. The tenure of a branded skip or shipping container signifies that operators can deliver the required volumes. This allows for direct engagement with converters and operators and bakkie brigade operators to be able to cut out middlemen (Timm, 2015:169).

To contrast the formal and informal systems, Timm (2015:223) makes a distinction between buy-back centres and the 'koop-in[8] system'. A koop-in system is an example of how informal

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[8] 'Koop-in' is an Afrikaans expression for 'buy-in' or 'buy-back'.

waste collectors enrolled the capacity of other actors through incentives (Timm, 2015:223). This system is defined as an informal, small-scale, unregistered operation where bakkie brigade operators and carties buy recyclable waste materials from skarelaars and other carties (Timm, 2015:231). It has the same basic activities and tasks as larger formal buy-back centres, though one of the key differences highlighted by Timm (2015) is that the koop-in systems are informal and operate from an operator's home and backyard. The main tasks and activities of the koop-in systems are, according to Timms (2015:231), receiving, weighing, sorting and packing recycled materials.

Another difference between the koop-in system and the buy-back centres is that the pricing structure in koop-in systems are not all the same, while the price systems of the buy-back centres are determined by recycling companies. The koop-in systems play an important role in the goal of accumulating large volumes of waste:

> It translated into tangible benefits in the following way: first, and most importantly, enrolling skarelaars in the process of accumulating volumes, bakkie brigade operators were able to supplement their collection at commercial premises that improved their income. Skarelaars collect waste in various areas across the city, which give bakkie brigade operators access to large amounts of the recyclable materials to which they would otherwise not have access. (Timm, 2015:235)

It is through the use of koop-in systems that the bakkie brigade accumulate large volumes of waste, allowing waste collectors to cut out middlemen. Cutting out middlemen would allow waste collectors to deal directly with recycling companies, instead of selling waste to larger buy-back centres. Middlemen in this case seem to be an intermediary between waste collectors and recycling companies. Timm states that 'most skarelaars working on the Cape Flats often sell to a middle man – a bakkie brigade operator or the nearest buy-back centre (2015:124). From this quote, the bakkie brigade and buy-back centre are both presented as a middleman. This clearly suggests that there are complex layers of hierarchies within the linkage between formal and informal waste economy. For example, Timm goes on to add that dealing directly with recycling companies has important implications for bakkie brigade operators:

> One operator reported that the *koop*-in he operates from his backyard has allowed him to sell his glass directly to Consol, a large glass manufacturing and recycling company. With this came the benefit of getting skips from the company, which translates into collecting more glass and cutting down on transport costs, as the company collects the

skips. Additionally, the direct engagement with big recycling companies also creates the opportunity for bakkie brigade operators to negotiate better prices. Enrolling skarelaars in their process of accumulating volumes was critical. (Timm, 2015:235-236)

According to Timm (2015), a koop-in system is a strategy that the bakkie brigade use to accumulate large volumes of waste and good quality material, and this system is essentially informal but operates similarly to a buy-back centre. Relatedly, Timm (2015) does not make much distinction between a formal bakkie brigade operator and an informal bakkie brigade operator. For example, this analysis found that some of the bakkie brigade operators may operate buy-back centres (p. 130), and some bakkie brigade operators operate buy-back centres from their backyard (p. 131). Furthermore, some bakkie brigade operators are able to become accredited service providers through the City of Cape Town, which affects and determines whether operators will be able to gain access to collection opportunities at commercial properties. In addition, there are also by-laws that regulate the way bakkie brigade operators ought to handle and store their waste.

What is clear is that there are different scales of bakkie brigade operators; they can be large scaled or smaller scaled. The notion of the bakkie brigade as small is highlighted by Timm (2015:166) as being a regulator and is related to the capacity of waste that operators are able to handle. Describing them as small acts as a euphemism for saying that operators do not fit the profile of waste management companies. They are contrasted with larger waste management companies that have branded trucks with their logos on them and employees who use the correct protective gear and appropriate clothing for waste collection (Timm, 2015:166). Timm states:

> Bakkie brigade operators *do not* operate with branded non-humans nor wear protective clothing and this makes property management services at commercial premises uneasy because they cannot clearly identify who is accessing their premises. (Timm, 2015:166; emphasis added)

However, Timm also found the following:

> Working at commercial premises with a bakkie that does not have a logo was often considered a security concern. In a conversation with a cleaning manager at an office building I learned that bakkie brigade operators who have branded vehicles find it easier

to access commercial premises because they were easily identifiable by security. Those who do not have branded vehicles had to give security guards the contact details of the department from which they were collecting recyclable materials. (Timm, 2015:167)

There is clearly a wide range of bakkie brigade operators, and what exactly makes them either formal or informal is indistinct. In the first quotation, it is understood that the bakkie brigade operators do not have branded bakkies. However, in the second quotation some ambiguity emerges, in that the bakkie brigade may or not have branded vehicles, because they might be linked to a small business or recycling company.

Furthermore, the bakkie brigade operators use words like operate, service and clients to describe their daily activities (Timm, 2015:95). According to Timm (2015), bakkie brigade operators often describe themselves as '*besigheidsmanne*' (businessmen), thereby emphasising their entrepreneurial capabilities. Timm also states that:

> The usage of this term to refer to their activities was important and, although waste collection was their key source of income, it was clear that this was a business and not merely a subsistence activity. (Timm, 2015:95)

This is important as it made me reflect on the scope of what is considered formal or informal. It asks one to consider how applicable the formal-informal dualism is in understanding the urban waste economy. Acknowledging my positioning of the bakkie brigade within Marxian perspectives of labour, Standing is instructive for establishing a foundation on which to understand the bakkie brigade. Standing (2014) finds the division of any economy into formal and informal sectors misleading. He states:

> More and more workers labouring for large corporations are "informalized", in having weak or non-existent labour contracts, no "rights", no protection, and low or volatile earnings. They are thus loosely attached to a very formal "sector", but they hardly accord with the image of formal workers. (Standing, 2014:973)

The bakkie brigade (as well as the broader set of reclaimers) do not conform to the industrial imagery of factory workers in formal and stable employment. I consider the bakkie brigade as reclaimers that is part of the process of valorising waste into commodities. Although they could be called entrepreneurs, they still perform labour for recycling companies by facilitating the movement, management and valorisation of waste through the creation of commodities for recycling companies and global capital. Samson (2010) has also highlighted that there might

be varying degrees of labour inputs that reclaimers provide for processing companies. There remain silences on understanding the heterogeneity, scale and relational aspects of the bakkie brigade's mobile labour practices within the context of global neoliberalism. Moreover, within this globalised context, my position is that the broad set of reclaimers are part of the precariat positioned through their labour.

2.11. Conclusion

This chapter provided a comprehensive and interlinked overview of the circular economy, informal waste economy and waste mobilities in the Global South. Insights from Guy Standing (2009) provided an analytical framework to help shape this review and to highlight the labour practices of reclaimers within the global economy of waste flows. In the next chapter I aim to introduce the theoretical framework that will be used for the study, which also sets up my exploration into the bakkie brigade as reclaimers.

Chapter 3: A sketch of the contours of waste, mobilities and valorisation: outlining the theoretical framework and methodology

3.1. Introduction

In the previous chapter we have seen that the roles of actors within the linkage between the formal and informal sectors of the urban waste economy, namely middlemen, buy-back centres, intermediaries and the bakkie brigade remain indistinct, and, to varying degrees, entangled and ambiguous. The roles of these diverse actors have been described as 'value-adding' (Viljoen, Blaauw and Schenck, 2019), and others have emphasised the role of non-humans (bakkies) as a regulator as well as a mediator (Timm, 2015). Actors within this linkage are often perceived to have an exploitative relationship to waste pickers (Medina, 2000; Medina, 2005; Nzeadibe and Iwuoha, 2008). However, Tuori (2009) and Geibrunet et al. (2017) suggest that the middlemen industry or intermediaries provide well-needed transport and capital support to waste reclaimers on the lower end of the value chain.

In this chapter I introduce Activity Theory (see Engeström, 1999 cited in Jones, 2009), which will be used as a theoretical framework for the study. Activity Theory assists in demonstrating how the activities of the bakkie brigade (moving, managing and valorising waste) are mediated both by instruments of individual actors as well as by the broader social system that the bakkie brigade operator is embedded in. This is to bring attention back to waste mobilities; as Swanton states, 'the movements of waste are entangled in all kinds of social relations, material orderings, power relations, material transformations, and injustices' (2014). Particularly, I want to demonstrate how the activities of the bakkie brigade are linked to 'the process of valorisation' (Jones, 2011) through adding-value (Viljoen, Blaauw and Schenck, 2019) to waste and transforming it into commodities that feed formal recycling companies.

This chapter also outlines the methodology and methods used during fieldwork and the data collection process. This study incorporates an ethnographic methodology and mobile methods and ultimately produces an account of the bakkie brigade through a theoretical montage.

3.2. Activity Theory and the valorisation of waste

Activity Theory is a theoretical framework for the analysis and understanding of human interaction with objects through their use of tools and artefacts (Hashim and Jones, 2007). Activity Theory is used as a theoretical framework in this study to orient an understanding of

the bakkie brigade operators' activities in their use of varying tools and instruments that assist in moving, transforming and valorising waste. This conceptual framework assists in gaining a better understanding of 'who is doing what, when and how' (Hasan and Kazlauskas, 2014). This is important because it highlights both individual actions and social/collective transformation (Engeström, 1999 cited in Jones, 2009) of the object and, in line with the research question, it assists in getting closer to understanding the role of the bakkie brigade.

In Activity Theory, the relationship between the subject (human doer) and object (the thing being done) forms the core of the activity.

Instruments/tools
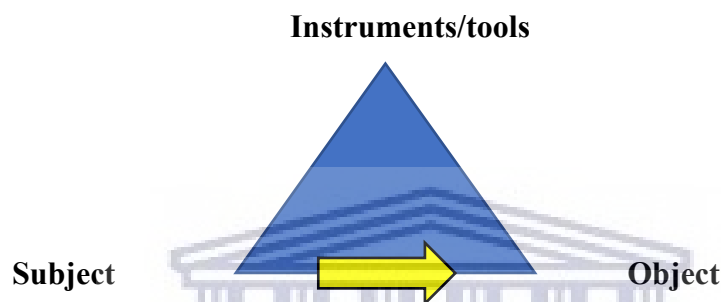
Figure 3.1: Level 1 Activity Theory

The object of an activity encompasses the activity's focus and purpose while the subject, a person or group engaged in the activity, incorporates the subject's or subjects' various motives (Hasan and Kazlauskas, 2014). Activity Theory sees the integration of technology as tools which mediate social action. Activity Theory uses the whole work activity as the unit of analysis, where the activity is broken into the analytical components of subject, tool and object, where the subject is the person being studied, the object is the thing being worked on, and the tool/instrument is the mediating device by which the action is executed (Hashim and Jones, 2007). Engeström's modification of Lev Vygotsky's original theory provides for two additional units of analysis, which have an implicit effect on work activities. The first is rules,or sets of conditions that help to determine how and why individuals might act and are a result of social conditioning. The second is division of labour, which provides for the distribution of actions and operations among a community of workers. These two elements affect a new plane of reality known as community, and, through this, groups of activities and teams of workers are anchored and can be analysed (Hashim and Jones, 2007). This is illustrated in the diagram below:
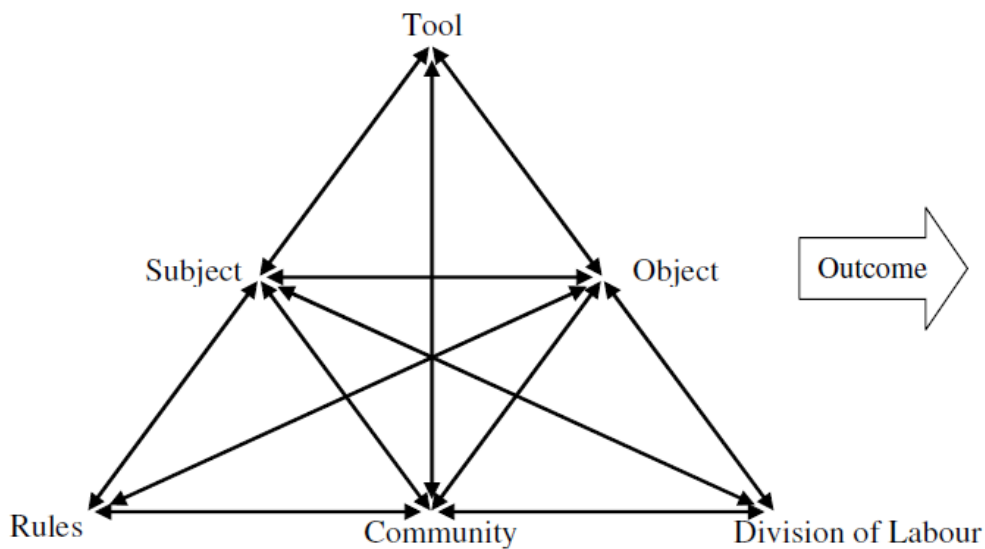
Figure 3.2. Level 2 Activity Theory

This strand of Activity Theory was developed and popularised by Yrjö Engeström, building on the work of the founding theorist of Activity Theory, Lev Vygotsky (see Roth and Lee, 2007), a former Soviet and Marxist psychologist. Although Engeström (1999) acknowledges the Marxian underpinnings of Activity Theory, there is a group of scholars who argues that this strand of Activity Theory is losing touch with its Marxian roots (see, for example, Avis, 2007; Jones, 2009; Jones, 2011). Jones (2009) argues that Engeström departs significantly from Marx's conception of human activity and, in particular, that the dominant strand of Activity Theory has conflated the labour process (human activity) with the valorisation process (process of adding value), which is a distinction that is fundamental to Marx's theoretical and political perspective of activity under capitalist production (Jones, 2009).

The difference between Engeström's Activity Theory and Activity Theory that stays true to Marx's method is at the level of the unit of analysis. Activity Theory defines its unit of analysis 'in the concept of object-oriented, collective, and culturally-mediated human activity, or activity system' (Engeström, Miettinen and Punamäki-Gitai, 1999:9) which can include an analysis of any local activity or activity system. Jones (2011) takes issue with how Engeström frames the unit of analysis of Activity Theory, which is posited as a broad and abstract local activity or activity system. This would mean that any activity can be taken as a unit of analysis, thereby treating every activity as having equal significance. The problem that arises from Engeström's use of the local activity system as a starting point for analysis is that it tends to

equalise all forms of activity into an activity system model that cannot tell us the types of activities that are specific to capitalist production. Jones (2011) shows how Marx argued that a historically specific social formation like the capitalist mode of production could not be properly understood by approaching it armed with general concepts and notions (i.e., abstract local activity or activity system) that can be applied to any and all social formations throughout history, whatever similarities or commonalities they might appear to have. Instead, drawing from Marx's method, Jones (2011) posits that we should begin with the specific economic object that distinguishes capitalist production from other social formations. Karl Marx started *Capital* by analysing the commodity as the cell form of the organism that is capitalism. From this simplest economic object (cell form), Marx systematically uncovered the logic of development of the whole economic structure of capitalism (organism). As Jones states:

> Marx's method does not involve reducing each and every activity in society to the same "model" but in understanding how these activities are related on the basis of capitalist production. (2011:201)

This means that, in order to understand an activity under capitalist production, Activity Theory should have the transformation of an object as its unit of analysis, because capitalist production involves the transformation of objects into commodities, such as through the valorisation process. Moreover, Jones (2011) points out that while capitalist production involves making commodities, commodity production does not make capitalism. The main contradiction or relationship that distinguishes capitalist production from all other modes of production, in Marx's view, is that between wage labour (i.e., the agents of productive activity) and capital (i.e., those who extract surplus value from these agents) (Jones, 2011:203).

Therefore, to adequately link an activity system to the broader capitalist social relations, Jones (2016) makes a distinction between the labour process and the valorisation process. The labour process is an activity that may take place in any given situation, while the valorisation process (the creation of value attached to a commodity) refers to the process that links an activity to capitalist social relations. Marx described the simple elements of the labour process as:

1. Purposeful activity, that is, work itself.
2. The object on which that work is performed.
3. The instruments of that work.

This is clearly seen within Level 1 of Activity Theory (see Figure 3.1), where the activity of an individual is mediated by an instrument. However, although this simple labour process is universal and can apply to any form of activity humans engage in and exists in every mode of production (for instance, slavery, feudalism, capitalism), Jones (2016) argues that these simple features do not pertain to specific features of work activity under capitalist production at all. The process that distinguishes capitalist production is the process of valorisation, which is the production of value attached to commodities. According to Jones, 'Human activity is clearly there within the process of capitalist production, but it is subordinated to, appropriated, subjugated and exploited by the 'activity' of valorization' (2016:5). Human activity and reclaiming have become increasingly entangled in the capitalist valorisation process. Therefore, by conflating the labour process (human activity) and the process of valorisation (creation of value) we lose touch with a larger process of capitalist production, exploitation and subjugation. Jones (2011) states the following: 'By this procedure the labour process is immediately robbed of its revolutionary character and implications and the forms of "activity" under capitalist society are naturalized' (208).

However, to get a grasp of the intricacies of the value-adding activities from various and specific agents of productive activity, I find Engeström's version of Activity Theory useful for getting closer to the role of the bakkie brigade and the process of the movement, management and valorisation of waste. The activities of the actors are therefore not as simple as the Level 1 Activity theory diagram as seen above. As Engeström (1999) states, Activity Theory aims to expose the dialectic between individual actions and the social structure. Activities are further mediated by the rules, community and division of labour that the individual actor is embedded in (see Figure 3.3 below). These activities involve both individual and social transformation (Engeström, 1999). The significance of Activity Theory stems from the analysis of the individual, in pursuance of their activity and objective through an examination of their tools and its mediation through rules, community and history (Hashim and Jones, 2007). The elements of Level 2 of Activity Theory are described below:
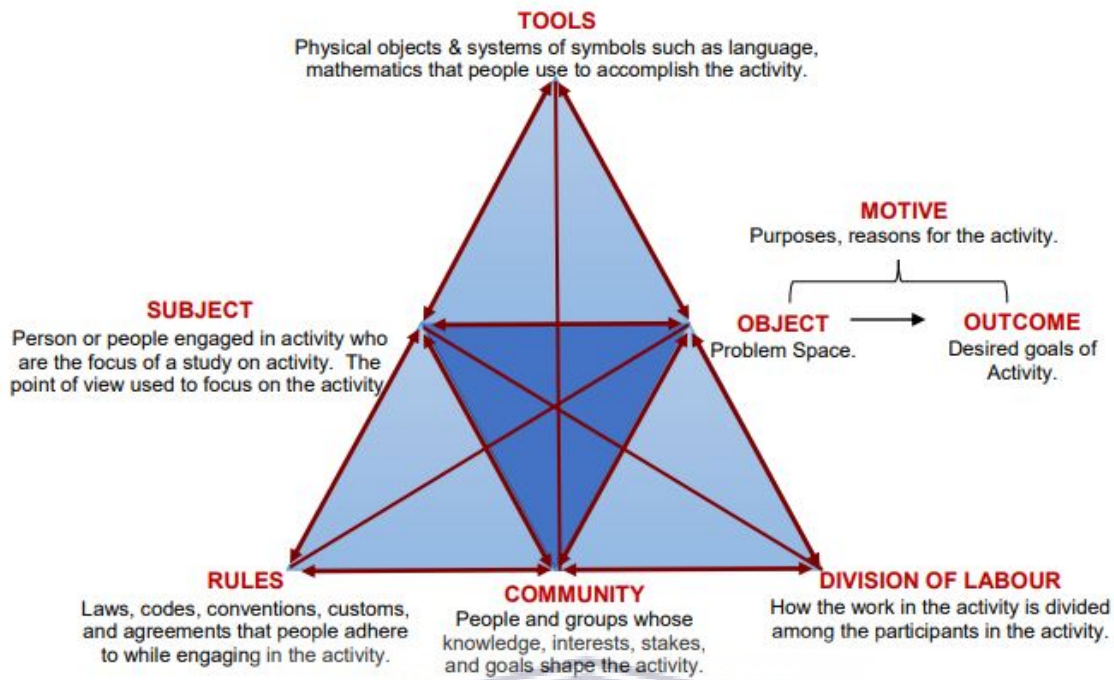
Figure 3.3.: Vahed et al.'s (2018) adaptation of Engeström's (2015) model of Activity Theory

- The subject: 'the individual or sub-group whose agency is chosen as the point of view in the analysis'.

- The object: 'the "raw material" or "problem space" at which the activity is directed'.

- The tools: 'mediating instruments and signs'.

- The community: 'multiple individuals and/or sub-groups who share the same object'.

- The division of labour: 'both the horizontal division of tasks between the members of the community' and 'the vertical division of power and status'.

- The rules: 'the explicit and implicit regulations, norms and conventions that constrain actions and interactions within the activity system'. (Engeström, 1999 cited in Jones, 2011:198)

3.3. The activities of the bakkie brigade and the mobilities of waste

Drawing from Timm's (2015) framework of Cape Town's informal waste economy, we can clearly see how individuals utilise instruments/tools to move waste within the urban, in line with what Timm's findings 'that non-humans acted as mediators' (2015:173) suggest.

SUBJECT	TECHNOLOGY	OBJECT
Skarrelaars	**Trolley/carts**	**Waste**
Carties	**Horse-carts**	**Waste**
Bakkie brigade	**Bakkie**	**Waste**

Table 3.1: Table showing tools mediation between subject and object

Timm states the following:

> Informal waste collectors are mobile and move around the city, often crossing boundaries in this polarised city [Cape Town]. One of the main reasons for crossing the boundaries is that most of the valuable waste is found in the waste bins of affluent and middle class suburbs in the city. (2015:18)

I therefore want to build on Timm's (2015) framework to highlight the mobilities of waste, in particular the waste mobilities that move, manage and transform waste into commodities that feed formal recycling companies. As Millington and Lawhon have pointed out, 'Waste materialities cut across the formal and informal, drawing attention to the interrelated dynamics of governing the surplus materialities of contemporary life' (2019:1057). We have seen, to a certain extent, actors described as the bakkie brigade performing this role by using a sophisticated technology, namely motorised transport (bakkies), to move, manage and transform waste into commodities. It is from this perspective that Millington and Lawhon (2019) call for increased research on the technologies (mediating instruments) that enable the mobility and transformation of waste as well as their implications for livelihoods and how these technologies and material infrastructures create new layers of hierarchy, profit allocation and labour relations. Therefore, building on Timm's (2015) research on the bakkie brigade and on Jones's (2016) interpretation of Activity Theory which emphasises the valorisation process as central to capitalist production, I aim to explore urban waste mobilities from the perspective of Cape Town' bakkie brigade to uncover the process of transforming waste (problem space) into commodities (desired outcome).

3.4. Research methodology and methods

3.4.1. Narrative ethnography: a bricoleur of stories

Ethnographic research locates itself within the context of natural learning environments (Collins, Joseph and Bielaczyc, 2004). Also known as the art and science of describing a group

or culture (Fetterman, 2004), ethnographic research provides rich descriptions that make it possible to understand what is happening and why. The characteristics of ethnographic research include participant and non-participant observation, the focus on natural settings, the use of participants' constructs to structure research (LeCompte and Goetz, 1982). Ethnography's strength lies in description (Fetterman, 2004) and the immersion of the ethnographer in a culture in order to observe and record people's behaviour in their natural setting.

I was inspired by Brigitte Bönisch-Brednich's paper titled 'Writing the Ethnographic Story: Constructing Narrative out of Narratives' (2018) in developing this study and becoming comfortable as a 'co-creator of narratives'. What makes ethnography special is that I (as a researcher) am immersed in two worlds, in the messy space between the research participant and researcher where a co-production of knowledge is created. As such, for this thesis I have developed ethnographic stories or vignettes that are co-composed between my own embodied experiences (as an outsider) and the interaction and worldview of the research participants. This process is what makes ethnography (and more broadly anthropology) unique; as Bönisch-Brednich argues: 'by neglecting continuously to review this space, anthropology and its related disciplines will continue to struggle to define their place in the canon of the social sciences and humanities' (2018). The methodology of ethnography is open and fluid, and hence comes into conflict with adherents of scientific methodologies and data refinement that accord with seemingly more palatable and 'scientifically' accepted research practices that discredit the intuitive storytelling in ethnography. As Bönisch-Brednich states:

> The ever-evolving refinement of our methods towards narrative ethnography is in constant tension with our need and desire to be taken seriously as a social science; hence the production of ethnography is still overshadowed by the demand – imagined or real – to adhere to approved methods of production defined by methodologies of accountability. (2018)

The fluid method of ethnography created a deep unease and anxiety within me, as I was trained to privilege strict methods of recording and data analysis. I found the narrative form of writing challenging, as I wanted to get an accurate representation of the research participants. However, this space of unease was mainly caused by my own perceived need for control and certainty. I have therefore opted to use a narrative form of presentation of my data, to tell the story not only of the research participants, but also of my own journey, which plays a fundamental part in how I interacted with the research participants and how the data emerged. This process takes

into account my own initial limited understanding of what I was researching, but also my own ingenuity and creativity in navigating the wilderness, that is, the field. The data that emerged includes my own embodied experience, the worldviews and perceptions of the research participants and the unforeseen obstacles that emerged in between. I have therefore allowed myself to be led by my own subjective impulses and developed the narrative analysis as an intuition-guided process of inquiry, as Bönisch-Brednich suggests:

> Stories have a life of their own; as an ethnographer you are part of that life: they are inside you and then they come out again and they are mixed up with you, your academic knowledge, your readings and your personality. And we do re-tell and shape new stories we find interesting and telling; others get discarded and forgotten, or only hinted at. (2018:23)

The thesis therefore provides a 'thick description' (see Gregory et al., 2009:753) that explores the meaning systems of the two actors which offered the bulk of the data collected. I therefore built the findings of the research around the worldviews of the research participants and related it to relevant literature, exposing similarities, incongruencies and contradictions. The term 'thick description' originated from Gilbert Ryle but is most associated with Clifford Geertz's *Interpretation of Cultures* (1973). Ryle describes thick description as 'ascribing intentionality to one's behaviour' (Ponterotto, 2006:539), which involves understanding and absorbing the context of the situation. Geertz took thick description further and described it as going beyond describing what a person is doing, beyond mere fact and beyond surface appearances:

> In finished anthropological writings … this fact-that what we call our data are really our own constructions of other people's constructions of what they and their compatriots are up to-is obscured because most of what we need to comprehend a particular event, ritual, custom, idea, or whatever is insinuated as background information before the thing itself is directly examined. (1973:9)

Drawing from Geertz, and in order to make sense of the bakkie brigade as reclaimers within a complex global system of waste, mobilities and valorisation, I have become what Yardley (2008) calls a 'bricoleur',[9] one who develops a theoretical montage where meaning is constructed and conveyed according to a narrative ethic. It attempts to synthesise transdisciplinary tensions and navigate the messiness of field data in a coherent manner. I have

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[9] From the French verb 'bricoler', which means to tinker, to patch together or to do DIY.

therefore attempted to do this with the bakkie brigade, where I offer sparks of fiction that lustre around the real embodied experiences of the research participants and respondents.

3.4.2. Unstructured/conversational interviews

In co-constructing meaning alongside the bakkie brigade, I utilised an unstructured interview method, which, as Given states, 'can be particularly useful for ethnographic research' (2008:907). Given continues:

> Living among a group of individuals, learning their culture and perspectives lends itself naturally to having conversations with participants more so than asking them a set of prescribed questions. (2008:907)

As I will explain below, the questions asked during my conversations are not without method, but are linked to the central research question: what is the role of the bakkie brigade in Cape Town's urban waste economy? The conversations were structured around gaining insight into the research participants' understanding of the bakkie brigade in order to enhance my own understanding of the role of the bakkie brigade.

3.4.3. Mobile ethnography

I made particular use of the mobile ethnographic method defined as '"walking with", or travelling with people, as a form of sustained engagement within their worldview' (Urry, 2007:40). It is otherwise defined as 'mobile participant-observation with a particular focus on mobile phenomena' (Novoa, 2015). The bakkie brigade operate with bakkies (pick-up trucks) and move within the urban, making mobility central to their operation of waste collection. I therefore 'shadowed' (Novoa, 2015) the research participants on their daily routines and participated in the activities of reclaiming. I found inspiration in the growing body of waste mobilities literature and methodologies that stress the usefulness of 'following the thing' (Swanton, 2014) and that expose the global flows of commodities (Gregson et al., 2010) through attending to waste, their materialities, where they go and how they evolve (Davies, 2012).

3.5. Setting the scene: following my intuitive voice

The fieldnotes and stories that I co-constructed in the field were already to a certain extent influenced by the choices I made before I left for 'official' fieldwork. This created an inevitable

unconscious bias and what has ended up as data has gone through an elimination process that fit my supposed needs, practicalities and subjectivity:

> By taking fieldnotes, we agreed, we are eliminating reality that we are not seeing or comprehending at the time and that we are not interested in. We are working within our own narrative habitus.

The concept 'bakkie brigade' became a prominent conceptual feature for the study to explore during the proposal preparation stage of the thesis. This had led to some methodological challenges which influenced the way the research has been conducted. This was related to how I understood the concept 'bakkie brigade', how (potential) research participants understood 'bakkie brigade' and how Timm (2015) has framed 'bakkie brigade'. As Fetterman notes:

> The ethnographer may or may not agree with the insider's perspective or agree that it conforms to an objective perspective of reality. The aim is to be nonjudgmental, recognizing that there are real consequences for a person's perception of reality, regardless of the scientific merit of that perception. The ethnographer recognizes multiple realities or perceptions of reality based on people's roles in society. (2004)

Timm's (2015) framework depicts the bakkie brigade as being part of the informal sector and, as a result, I found it difficult to discern who would be an appropriate research participant for the study. The first challenge I encountered was trying to discern whether bakkie brigade operators were formal or informal and realising how indistinct the concepts can get. Early in 2019, at a time when I was still preparing my proposal, I attended a workshop with waste practitioners who were meeting to discuss recycling. I met some people working at a small waste management company (SME), and they told me that they also operated with bakkies and sold some of the waste to recycling companies. Given that the small business was privately owned, I questioned as to whether this was the bakkie brigade, because this waste company was part of the informal economy. The employee left me his business card, which designated the following services offered by his small business:

- Integrated waste management.
- Facilities management.
- Collection services.
- Recycling.
- Cleaning services.

Based on this interaction, I found it necessary to include some of the discussions on the contested nature of the formal-informal sector, featured quite prominently in the literature review.

Additionally, a key informant was identified and engaged with through one of the workshops hosted by the Waste and Society Chair. This key informant was willing to provide insight into the operations of his business and act as an entry into the bakkie brigade community. He managed a small to medium enterprise (SME) that uses bakkies and trucks that operate within townships in Cape Town to collect recyclable waste from households that stored waste in bulk. He explained how dangerous it could be operating within the townships, sharing some accounts where operators were shot and robbed. At the time (early 2019), I thought this potential participant was going to be a key informant for the study. However, I eventually did not do in-depth research with this potential participant. By the time I was ready to do fieldwork, I messaged him regarding the research, and this was his reply:
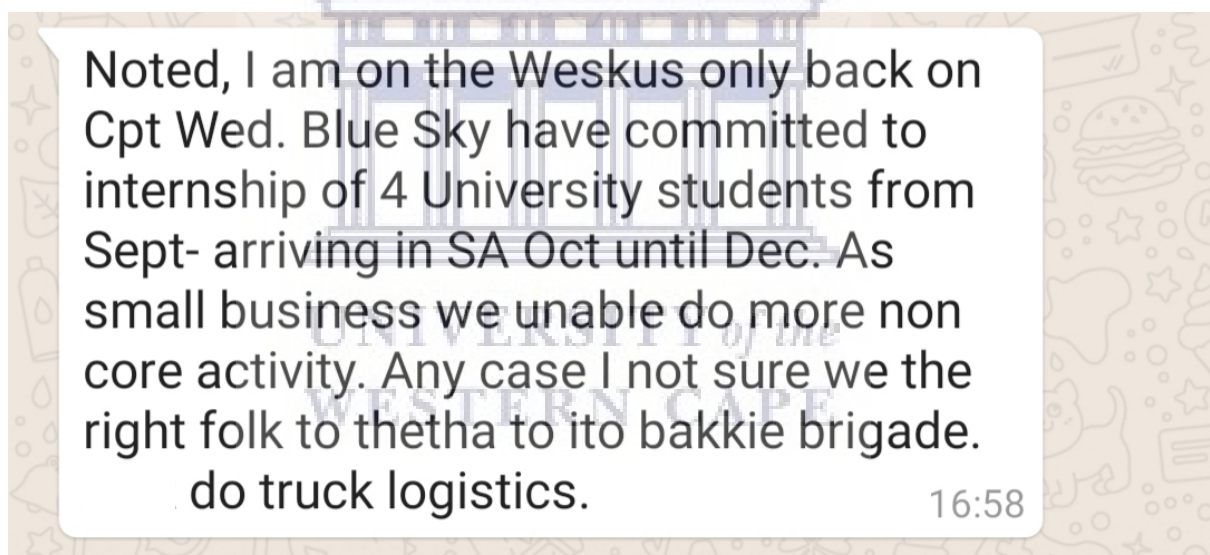
Image 3.1: WhatsApp conversation with a respondent

He was unfortunately unavailable to do research for the remainder of the year (2019). Although disappointed that I would not join him and gain a better understanding of his specific operations, I found this WhatsApp message remarkably interesting and of value. The potential research participant did not associate himself with the bakkie brigade. This reply could have been motivated by my insistence at the time to identify the bakkie brigade and to figure out exactly what it was and what the concept represented. This potential research participant instead associated himself as owning a small business that is involved with truck logistics.

This presented my first encounter with the different subjectivities of actors in the urban waste economy. The varying subjectivities of the research participants, revealing how they understood the notion 'bakkie brigade' and how they defined themselves in relation to it, feature quite significantly in the research findings.

At this point I suppressed my insistence on using the term bakkie brigade when looking for a research participant. The criteria I focused on was finding a participant who utilised a bakkie and recycled waste within the urban setting of Cape Town. I initially did some observations at some of the buy-back centres and recycling companies in Cape Town and witnessed plenty of actors using bakkies (sometimes with trailers) and trucks to sell or deliver waste to either buy-back centres or processing companies. I had some informal conversations with some of the actors as they were waiting to sell waste, and these conversations were more related to what they were selling. I did not pursue getting their contact details because there was not enough time to create a proper rapport.

According to Timm's (2015) framework, many bakkie brigade operators store their recyclable waste in their backyards as well. In many cases there is some form of breaching environmental laws with regards to safety and hazards that may affect neighbours. One potential research participant that operated from his backyard and with whom I engaged through text messages and phone calls was quite reluctant to share information as he was sceptical as to my intentions. This potential participant eventually stopped replying to messages and calls from me.

The other potential research participants came from conversations I had with family and friends in Cape Town regarding my research to try and get in contact with people they might know who work in the recycling industry. I received the contact details of the main participant that this study is based on from a colleague from university. His friend has been in the waste industry for a long time and the colleague suggested I contact him. When I called to find out if this recycler could be a research participant there was no reluctance at all, and I presume this was partly due to his close relationship with my colleague from university. This was the participant with whom I had the most in-depth exploration into Cape Town's urban waste economy and this thesis is mainly built around 'Eddie and Christopher's' work experiences and worldview.

The notion of the bakkie brigade played a vital role in how I conducted my observations as well as shaping the conversations I engaged in along the way, all of which play a crucial part in how I developed this thesis. My emphasis on the notion of the bakkie brigade has been best

explained by Brit Ross Winthereik and Helen Verran in their paper 'Ethnographic Stories as Generalizations that Intervene' (2012). One of the themes they explore in this paper is to grapple with the question of how to represent others and their diverse practices in good faith when doing ethnography. They explain 'good faith' as seeing the possibility of writing generalising ethnographic stories that intervene not despite but because of the partiality of research and analysis:

> Our attention to a partial perspective is a way of working around the dualism embedded in the opposition between a traditional academic perspective, which is often considered non-interventionist, and engaged research, which is often considered interventionist and therefore *good* in some general sense. In contrast, good faith analysis is about having faith in it being possible to write stories that are generative for *some of* the practices we study and for *some of* our own colleagues in social theory. (Winthereik and Verran, 2012)

I, too, have been influenced by my own bias toward thinking in an interventionist way through pondering the organising potential of the concept 'bakkie brigade'. In a previous draft I penned down the question: 'If we had to call the bakkie brigade in one room, who would show up?'. As seen in the literature review, my ideas have been influenced by writers like Guy Standing and Melanie Samson, whose work highlights the political potential of reclaimers as well as issues of work and labour, and the choice of these authors was aligned with my own biases toward Marxism.

During the research process I have overlooked many other aspects of understanding the term 'bakkie brigade' as well as ways of representing the bakkie brigade operators. In the introduction of this thesis, I posit that the term 'bakkie brigade' as an empty (or floating) signifier. This assertion came from my reading of Paul Cilliers *'Complexity and Postmodernism: Understanding Complex Systems'* (1998). In understanding Complex Systems through the lens of postmodernism, Cilliers draws from post-modern thinkers like Jacques Derrida that analyses language, signs and meanings produced within dynamic systems. The term 'bakkie brigade' is an example of a sign that exists within a complex system of the subjectivities of actors in Cape Town's urban waste economy and the language they use to ascribe meaning. In this way, "Words, or signs, do not have fixed positions. The relationships between signs are not stable enough for each sign to be determined exactly" (Cilliers, 1998:42), similarly the term bakkie brigade does not describe a set of actors with exact precision, it is

merely an informal signifier used within Cape Town's urban waste economy. Unfortunately, this thesis does not give a final verdict on the meaning of the bakkie brigade, as meaning is never produced finally, rather it uses the term 'bakkie brigade' as an entry point to uncover how actors are organised and stratified along the value chain (as reclaimers that operate at larger scales and capacities). The bakkie brigade is thus a signifier that points toward and gives us clues of the operations of a set of actors in Cape Town's urban waste economy, my ethnographic approach merely uncovers the social stratification and power relationships among reclaimers in the value chain that lies behind the 'bakkie brigade' signifier.

Moreover, the method I employ of telling ethnographic stories and its potential to be interventionist relies on acknowledging this partiality of vision, that I do not claim to be telling the story of the bakkie brigade nor the respondents in this study, rather the story is my own journey of making sense of what I am researching, as Winthereik and Verran explain:

> The interventionist potential of ethnographic stories that are explicit about the double vision through foregrounding within the story a figure that enables switching, is realised through valorising the partiality of our stories. (2012)

They ultimately explain ethnography as a surprising science, in that the stories created will never intervene in the way we expect them to or in the way we imagined them to before the study was carried out. I view my own initial misunderstandings of the 'bakkie brigade' not as a disadvantage, but through the research process it became highly generative in delving deeper into Cape Town's urban waste economy. This is what I see as the surprise element in ethnography, however, the fact that our descriptions are just a partial aspect of a more complex story should be acknowledged: A description is always a part of a whole - which can never be known as a totality; and it is political (biased) – it wants to achieve something in a particular context (Winthereik and Verran, 2012). In this study I seek to use analogy for explanation of how reclaimers behind the signifier of the 'bakkie brigade' are organised and stratified according to how they are equipped with mediating technologies (bakkie, buy-back centres, baling machines). Over here I borrow the word 'soteriology' from systematic theology for this analogy, however, the aim here is not to impose a religious ordering onto reclaimers, that would be inaccurate, the aim here is to explain how the *stratifications* and *power relations* within a religious society are similar to how reclaimers valorise and manage waste/recyclable commodity through their mediating instruments and how this shapes power relation among reclaimers.

I hope that my ethnographic story and experience cater to academic audiences and that it yields some positive influence in future understandings and practices of reclaimers, in particular, that of the bakkie brigade. In the words of Winthereik and Verran:

> We never know precisely what the effects our stories will be, but we do know that bringing them to life as generalizations is infra-ontological as well as epistemological work. (2012:49)

3.6. Introducing the concept 'itinerant soteriology'

> The concept of culture I espouse, … is essentially a semiotic one. Believing, with Max Weber, that man is an animal suspended in webs of significance he himself has spun, I take culture to be those webs, and the analysis of it to be therefore not an experimental science in search of law but an interpretive one in search of meaning. (Geertz, 1973:5)

How am I to approach a deep dive into the web of significance of the bakkie brigade's culture? Geertz contends it starts as an elaborate adventure and intellectual effort that requires thick description. The analysis of this study begins by drawing from key conversations from Eddie and Christopher, anonymised respondents, in the form of vignettes and by sorting out the structures of signification that emerge from them. However, this is not an analysis of Christopher and Eddie, neither is it intended to speak *for* actors found within the linkage of Cape Town's urban waste economy. Rather, the analysis speaks *with* the insights garnered from the conversations with Eddie and Christopher. Geertz reminds us that although one starts an ethnographic journey with bewilderment as to what is going on in the field trying to find one's feet, he reminds us that one does not have to start intellectually empty-handed (1974:27). The role of theory here is a double one, that of describing *and* explaining the phenomena at hand. Moreover, this does not mean that this approach is strictly predictive, rather it aims to generalize within-case rather than across cases, similar to the method of clinical inference. Rather than beginning with a set of observations and subsuming them under a governing law, this form of inference begins with a set of presumptive signifiers and attempts to place the data in an intelligible frame. As I will expand on in the next chapter, I develop 'itinerant soteriology' as the frame (lens), and through this framing I do anticipate and assume neoliberalism's as the motive force that shapes the mobilities of reclaimers and their acts of reclaiming waste. I use 'itinerant soteriology' as an interpretive tool to go over the data and scan for the peculiarities that emerge from the case of Eddie and Christopher. Theory functions here to meticulously search for the unapparent and often unseen significance of things. The claim that prediction is

an inevitable outcome of the use of theory in interpretive analysis is to be denied (Geertz, 1974:26).

Noting my positioning of reclaimers through the Marxian lens of the commodity production process and the labour process, the Marxian strand of Activity Theory sketched out in the beginning of this chapter is fundamental. The framing situates waste as the object that action is directed at, as well as its transformation and valorisation into a commodity. Through using analogy and explaining this process of valorisation, I borrowed the word 'soteriology', a concept most commonly used in systematic theology. Soteriology refers to the religious doctrine of salvation. Salvation refers to the state of being saved or protected from harm; its synonym is 'reclamation', which refers to the process of claiming something back. I found it instructive to frame the process of recycling waste as a process of salvation, not for humans, but for waste to be saved and brought back into a 'neoliberal order'. However, something was still missing. How could I also incorporate the influence of mobilities, since the bakkie brigade operators are mobile in the urban setting? I opted to use the word 'itinerant', which means to travel from place to place. Bringing the two words together as 'itinerant soteriology' provided a somewhat enchanting concept that could encapsulate multiple dimensions around which to build a story and explain the activities, stratifications and organisation of reclaimers (behind the signifier of the bakkie brigade) within the broader system of neoliberal globalisation. Drawing from the theoretical framework of Activity theory, the concept 'itinerant soteriology' covers four important dimensions: the subject (bakkie brigade operator) object (waste/commodity); mediating instrument (bakkie, buy-back centre and baling machine); and the global-local relations (global neoliberalism's market influence at the level of the street). I rigorously expand on this sketched outline in the next chapter, which spins the web of meanings around Christopher and Eddie, explaining reclaimers organisation and stratification along the value chain.

3.7. Time spent in field and presenting study area

Of the 120 hours scheduled for fieldwork in the proposal of this thesis, 45 hours over a period of two weeks were spent with Eddie and Christopher specifically. I spent my time travelling with Eddie and Christopher respectively throughout the broader metropolitan of Cape Town. Some key areas where we operated include Mannenberg, Bellville, Kenilworth, Constantia, Bergvliet, Elsies River, Mobray, Pinelands, Rondebosch and the Central Business District (CBD) of Cape Town, as highlighted on the map below.

Map 3.1: Map of Cape Town Metropolitan depicting key sites of fieldwork

3.8. Ethical considerations

The research methodology and ethics for this study were approved by the Humanities and Social Science Research Ethics Committee (HSSREC) of the University of the Western Cape (Ethics Reference Number HS19/7/9). A thorough reflection on the ethical considerations is pertinent to any research. Qualitative research focuses on exploring, examining and describing people in their natural environments. Embedded in qualitative research are the concepts of relationships and power between the participant and researcher (Orb, Eisenhauer and Wynaden, 2001). The basic ethical principles to be maintained include doing good, not doing harm and protecting the autonomy, well-being and safety of all research participants (Iphophen, 2013). As such, the study has been guided by the following principles.

1. Confidentiality and protecting participants' identity.

The consideration of mechanisms to protect the identity of participants has become central to the design and practice of ethical research (Grinyer, 2002). It is the researcher's responsibility to protect participants' identities. The participants' identities can be hidden through pseudonyms or codes on data documents, also by securely storing data documents within locked locations and assigning security codes to computerised records. The participants should also know how far they will be afforded anonymity and confidentiality and should be able to

reject the use of data-gathering devices such as tape recorders and video cameras (British Sociological Association, 2017).

2. Caution of distress to the participants.

The researcher should take care with regards to the questions asked during the research process. Interview questions should be carefully formulated and framed so as to avoid showing any form of disrespect to the respondents (Iphophen, 2013). To seek someone's opinions in a community merely because they fit the category of marginalised person or in this case precariat could lead to their lowered self-esteem (Iphophen, 2013). Caution was taken when approaching and interacting with the bakkie brigade at buy-back centres through not taking too much of their time and by not bribing potential participants as a motivation to interact with me. I needed to be cognisant of the power dynamics in the field between myself and the research participants as well as the secondary participants in the field. Instead of imposing my own preconceived ideas, I tried to position myself so as to learn from the research participants and to understand their point of view.

3. Giving information and seeking consent.

One of the most important ethical rules governing qualitative research is that participants must voluntarily give their informed consent (Labaree, 2009). Informed consent is a voluntary agreement to participate in research; it is not merely a form to be signed but rather a process by which the participant gains an understanding of the research and its risks (University of Southern California, 2017). Furthermore, the researcher will allow participants to withdraw from the study without giving any reason or explanation and such a decision will be respected by the researcher. Samples of the Research Information Sheet and Consent Form used in this study can be found in Appendix A and B.

4. Monitoring safety.

The monitoring of physical safety should not be separated from ethical concerns (Iphophen, 2013). An ethnography requires the researcher to become part of the participants' environments and the mobile method requires that the researcher move and travel with participants. There are both physical and emotional threats that can pose a danger during the research process. Dangers might arise through observing and interviewing in potentially threatening locations such as areas in and around the Cape Flats. The researcher will also need to take proper care of himself through proper conduct, which will also protect the participant. It is the nature of

ethnography that it probably poses the most danger primarily to the researcher, but also potentially to the participants being studied (Iphophen, 2013).

3.9. Limitations of the study
3.9.1. COVID-19 pandemic and lockdown regulations

Due to the COVID-19 pandemic and lockdown regulations there was consequently limited time spent in the field, which shortened the data-collection process. This has an influence on the depth of research and as well as on the potential time spent in the field.

3.9.2. Scope of literature

While any literature review attempts to be exhaustive, there might be literature that has been overlooked that could have aided in understanding the central research question and the bakkie brigade in particular. Previous studies on the bakkie brigade specifically as well as on middlemen or intermediaries in the urban waste economy are limited in number and scope.

3.9.3. Partiality of research

Due to the ethnographic research design that privileged an in-depth single-case exploration of two actors, this research does not tell the full story of the bakkie brigade, only a partial one. The interpretation of the bakkie brigade from this study cannot be generalised to describe the full set of bakkie brigade operators in Cape Town's urban waste economy.

3.9.4. Contextual bias

At the outset of this research I have aimed to position the bakkie brigade within the context of capitalist social and economic relations. This influenced the choice of analytical framework (Guy Standing – precariat) and theoretical framework (Activity Theory). The results of this study should be understood within this context, as I acknowledge that there could be myriad interpretations from other researchers from different academic backgrounds and specialisations. Although transferability remains possible, the results of this study remain unique and circumstantial.

Chapter 4: Narrating waste's initiation into the global neoliberal order: an exploration into the itinerant soteriology of the bakkie brigade in Cape Town's waste-scape

4.1. Introduction

This chapter narrates a story of the bakkie brigade's culture, organisation and their 'doctrine of salvation/reclamation', known as soteriology (Estes, 2019). This doctrine, as the central mission of the bakkie brigade's culture and organisation, is concerned with saving and delivering waste from an impure condition and the eventual restoration of the current state of the polluted world (waste) to a higher realm (commodity production and valorisation). This chapter therefore sketches out a story centred around Eddie and Christopher, anonymised respondents that are part of the bakkie brigade in Cape Town's waste-scape. Through utilising ethnographic vignettes, I situate Eddie and Christopher in a global neoliberal 'occultic' order which represent the global recyclable waste industry, that is 'crusading' the world's waste-scape to explore the story of circulation (Swanton, 2014) and transformation of waste through its movement (Gregson et al., 2010). In this way, the waste mobilities paradigm is weaved into the salvation or soteriological narrative through tracing the 'ills' (waste) of the present environmental condition and the rituals (techniques) that ensure wastes' deliverance and salvation from its impure state and, in turn, the purification of the world. To this end, I utilise Activity Theory as a theoretical framework to explore 'ordained' subjects of the bakkie brigade (Eddie and Christopher), and their mediating technologies (bakkie, buy-back centres and baling machine) that mediate their reclamation and restoration practices in rehabilitating waste (problem space) to the purity of the commodity (desired outcome).

The main goal of this chapter is to elucidate the differential scales of waste mobilities that are produced by a range of heterogeneous reclaimers in the waste-scape. I begin by bringing Activity theory in conversation with the new mobilities paradigm to centre the reclaimer as part of the labour process (commodity production). Moreover, the analysis moves to utilize the theological concepts (soteriology) to explain how the market induces the movement and management of recyclable commodities in the waste-scape.

4.2. Activity Theory and the production of mobilities in the waste-scape

Mobilities research and Activity Theory coincide at the level of terminology with regards to motive force (see Hashim and Jones, 2007; Jones, 2009; Cresswell, 2011a). Hashim and Jones (2007) explain that motive force refers to the activities that are directed toward an object, while Cresswell (2011a) argues that motive force refers to the reasons that compel someone or something to move. Millington and Lawhon bring this into context within the waste-scape when they note, 'as waste gains value, actors are more incentivised to get it' (2019:1055). Within waste mobilities literature, the focus on waste is object oriented, which emphasises waste's materiality and its capacity to assert itself (Davies, 2012) as well as the 'force of wasted things' (Swanton, 2014:289). However, I am more concerned with what creates this motive force. Is it the materiality and force of waste as an object? Do the reclaimers (as a subject) themselves produce value as 'something akin to alchemy' (Samson, 2009:14)? Or is it that the activities of reclaimers are embedded in a social system of valorisation? Part of my argument is for the latter. Materialist politics, as Swanton (2014: 296) states, are interested in how waste gets caught up in and reproduces the material orderings of the world. However, the type of waste that ultimately gets valued is, by and large, part of a larger system of demand and supply induced by local and global markets of recyclable commodities. The mobilities of waste, as argued by Swanton (2014), might indeed open up an object-oriented gaze toward the stories of waste as things that have material force to shape the world around it. But this framing leaves out a significant part of the movements of waste, that is, the labour (reclaimers) compelled to capture and transform waste into commodities. Synthesising the subject-oriented perspectives which have been explored by Samson (2009) and object-oriented perspectives that focus on waste's materiality (Davies, 2012; Swanton, 2014) would allow for a much more instructive understanding of waste's movement, management, valorisation and transformation within a broader neoliberal system. The value latent in recyclable waste that compels the mobilities of reclaimers is productively understood through David Harvey's explanation of value as an "immaterial, but objective force" (Harvey, 2017:5). The value latent in recyclable waste is not tangible, yet it has material consequences among reclaimers. Reclaimers are compelled to valorise the embedded value in waste through their labour, however, this only happens because there is a market for specific types of recyclable waste. This represents the markets influence that mediates reclaimers activities in the waste-scape.

According to Activity Theory, it is the subject (reclaimer) and object (waste/commodities) that form the core of the *activity*. The subject and object have a dialectical relationship and it is therefore the combination of technological capacities and capabilities of the actors that coincides with the demand of recyclable waste that determines the production of value (activity) in the waste-scape and in turn the mobilities of waste. Synthesising the subject and the object by taking into account the varied set of technologies (Lawhon, Millington and Stokes, 2017; Millington and Lawhon, 2019) opens up thinking about the knowledge and value produced through the way mobilities is enacted and performed – the activity itself.

To make my claim clearer, I draw from an influential scholar within the Activity Theory tradition, Evald Ilhenkov. In a paper titled 'A Contribution on the Question of the Concept of "Activity" and its Significance for Pedagogy' (2007), Ilyenkov posits that the starting point of knowledge is real action with an object. This critical encounter of knowledge production occurred to me while operating in Cape Town's CBD with Christopher and comes from my own reflections on my fieldwork:

There was one significant stop we made at a block of flats within the CBD of Cape Town. Christopher has an agreement with one of the domestic workers that works at the block of flats. Christopher requires the recycled materials sorted from the waste so that he does not waste time when he arrives at the pick-up point. We arrived today at the block of flats and the 'waste' was not correctly sorted from the recycled material. Christopher was frustrated because we had to waste time sorting through the waste ourselves, which costed him time. There was lots of glass bottles, cardboard, PET plastics and cartons. I was also involved in sorting the material at the time because I had gloves I could wear. As I was sorting through cartons and cardboard, I was also packing in pulp fibred egg trays, confusing this for cardboard. Christopher told me to take the pulp fibred egg trays out from the recyclable material because the pulp fibred egg trays were 'waste'… This was the moment I realised that I was not dealing with 'waste' that we were collecting; instead, these were commodities that we were mobilising and moving through the urban setting.

Vignette 4.1: 15 November 2019, operating in Cape Town's CBD

While operating with Christopher, knowledge appears to me precisely as knowledge of the thing (commodity) and not as a special structure situated outside the thing (waste). This process of reclamation negated wastes' identity, transcending it to a commodity and thereby also confirming the identity of the reclaimer. This draws parallels to how Swanton (2014) finds that waste can be a misleading category that obscures the potential for waste matter to be transformed and its value rekindled. The value embedded in waste compels the continued mobility of the object. Swanton brilliantly articulates this as follows:

> Waste is a category that things move in and out of. And following wasted things exposes processes of categorisation and re-valuing where things that are discarded in one place turn up elsewhere as valuable. (2014:292)

The subject in this case encounters the object and from that very moment merges with the object (subject-object) through its activity. Through this interaction, a person emerges as a subject of action with the object, as personified knowledge, as knowledge that has direct mutual relation with things, as knowledge of things (Ilyenkov, 2007). Theorising in this way provides an avenue for thinking about the production of mobilities of waste more generally. An activity is the result of a dialectic between the subjectivities and capabilities of actors (subject) and the interaction with an object (which is waste/commodity). However, what I will attempt to show is that this interaction is contingent upon and mediated by the heterogenous set of tools and instruments that are distributed unevenly among bakkie brigade operators within the waste-scape. The mobilities of waste can then be understood as knowledge production, which is a synthesis of the subject-tool-object triad which makes up an activity of valorisation, mobilities and reclaiming:
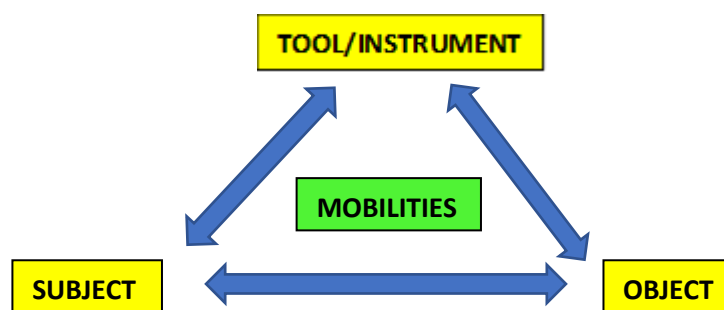

Figure 4.1: Subject-object-tool triad

The knowledge produced by the activities through the subject-tool-object triad of Activity Theory is an open-ended relation that produces multiple pathways to thinking about waste mobilities. These are contingent on multiple and mediating technologies among reclaimers and the changing demand and supply of commodities in different spaces and locations that compel the interaction, mobilisation and mobilities of waste. The process of reclaiming is concerned with overcoming the distance between the reclaimer (subject) and waste (object) through the labour of the reclaimer, leading to its synthesis, which is their mobilities. However, for there to be a process of synthesis that overcomes the subject-object dichotomy, we should assume a motive force that propels the mobilities of the bakkie brigade. Through the reclamation and valorisation process, the bakkie brigade operators are embedded within a larger system of commodity production and valorisation (Jones, 2016). This framework sketched out here positions mobilities within three dimensions: as a subject (reclaimer), object (waste/commodity) and mediating technologies across the waste-scape. However, I want to add a fourth dimension that connects the global and local dynamics of neoliberalism and that shapes mobilities spatially and temporally but that also takes into account the corporeal and incorporeal experiences that come with it. Not acknowledging the broader global-local interactions neutralises the broader significance of mobilities and the reclaimers that enact them under neoliberalism. In the next section I attempt to theorise and lay out a framework that can explain how neoliberalism is operationalised in the waste-scape through the mobilities of the bakkie brigade.

4.3. Scales, relationality, and power: introducing the itinerant soteriology that shapes waste mobilities among the bakkie brigade

Mobilities are produced in the 'in-between' scales, which exposes the relationality of social life, making connections across scales and spectrums. As Sheller states, mobilities research envisions the 'distributed agency that is both human and non-human and that circulates amongst people objects and environments' (2013:49). Mobilities is neither a subject nor an object in itself, it is an open-ended and constantly changing relation that bridges the dualistic characterisations of the world like subject-object and local-global dichotomies, further exposing the relational character of reality. Theorising mobilities at different scales has been highlighted by Sheller (2013) as overcoming the limitations of the micro versus macro imagination of agency and structure that goes beyond a micro-sociology of practice. This is incredibly instructive in theorising the more complex relations of power, control and resistance

that are contingent on a heterogenous set of mediating tools distributed unevenly in the waste-scape and which shapes the differential scales of waste mobilities. The global-local relationalities remain inadequately conceptualised within the waste-scape, which has serious implications for understanding how mobilities are produced in the waste-scape. From the following vignette, I introduce the concept of itinerant soteriology to explain the global hegemonic force of neoliberalism that permeates and ultimately operationalises itself within the localised mobilities of the bakkie brigade in the waste value chain. A key conversation that took place in Eddie and Christopher's office unearthed complex meanings from Eddie and Christopher's subjectivities:

A conversation on the value chain started when I asked Eddie about the bakkie brigade and whether he was part of the bakkie brigade. Eddie had heard about the notion 'bakkie brigade' before. However, he did not associate himself with the concept. He said that the bakkie brigade are buy-back centres found in the township. I was confused at this point, and asked whether these buy-back centres have bakkies of their own. Eddie replied and said that some of them do have bakkies while others do not. I asked in confusion, 'What are you guys, then?' Christopher interjected and said that they are a 'value-adding buy-back centre' and that the main difference between the so-called bakkie brigade (township buy-back centres) and their small business is that they (Christopher and Eddie) add value to waste so that processing companies can accept it. Eddie jumped in the conversation again and said that I could think of them as a 'glorified bakkie brigade'. I suppose this implied an elevated status or a higher rank/position in the value chain.

<u>*Vignette 4.2: 13 November 2019, reflections during lunchtime with Eddie and Christopher*</u>

From this conversation I came to realise how Eddie and Christopher position themselves in relation to the notion 'bakkie brigade'. The impulse of their positionality immediately elevated their status to a rank above the so-called bakkie brigade, implicitly flexing their capital and value-adding capabilities. Strikingly, Christopher's assertion stands out for me when he proposed that I could think of them as a 'value-adding buy-back centre', providing a hint of their function in the waste value chain. Moreover, Eddie's use of 'glorified' unearths a deep symbolic gesture that expresses their prestige and rank in relation to the so-called bakkie brigade, which seemingly has a reduced 'glory'. This glorification emanates from Eddie and

Christopher's proximity to processing companies (power), who play an adjudicating role with regards to whether waste is worthy of processing or not. This is strongly indicative of a complex hierarchy and power relations in the waste value chain. The processing companies represent an authoritative 'deity' in the waste-scape while Eddie and Christopher's small business represents actors that are endowed with value-adding powers through the instruments that they utilise to prepare and add value to waste for the processing companies. Eddie and Christopher's superior positioning relegated what they thought was the bakkie brigade (township buy-back centres) to a 'laity' class representing ordinary laymen of actors in the waste-scape that have not been 'ordained' with powers or knowledge of value-adding. In this way, extending the application of soteriology and its related theological concepts, Eddie and Christopher assume a higher-ranking class similar to the clergy in a religious organisation, ordained through their proximity to a deity (divine power), who have received a divine 'calling' to venture into the waste-scape on an evangelical mission to salvage or provide salvation to waste. Eddie and Christopher's 'value-adding buy-back centre' represents the clergy of the religious order, ordained with religious duties to seek out and reclaim impure waste, to reinscribe and restore it with (divine) value and to give it up as an offering to processing companies (divine deity). The actors that do not have these value-adding capabilities (mobility and capital) are relegated to a laity class of ordinary members not ordained with the same value-adding powers of the clergy.

I found it meaningful to think of mobilities and capital within the waste-scape and waste value chain as representing a hierarchical establishment like a religious organisation which reveals clear social stratification and patterns of inequality within its structure. Cresswell (2001:9) has noted this to be important in thinking through mobile politics which involve uncovering systems of domination and resistance that act on who gets included and excluded within relations of symmetrically asymmetric power relations.

From this interaction, Christopher drew a flow diagram to show their position in the hierarchy of the waste-scape:

TROLLEY
BRIGADE. PD. REC.

COLLECTION OF RECYCLABLE
FROM RESTAURANTS, BOB PUBS
AND BLOCKS OF FLATS

FREE SERVICE

BUY BACK CENTRE.
BAKKIE GUYS. PD. REC.

WALKERS RECYCLING.
VALUE ADDING.
BUY-BACK CENTRE

PROCESSING COMPANIES
MPACT, CONSOL, ATLANTIC PLASTIC.
ETC. EXTRUPET

EXPORT OF PROCESSED RECYCLING.
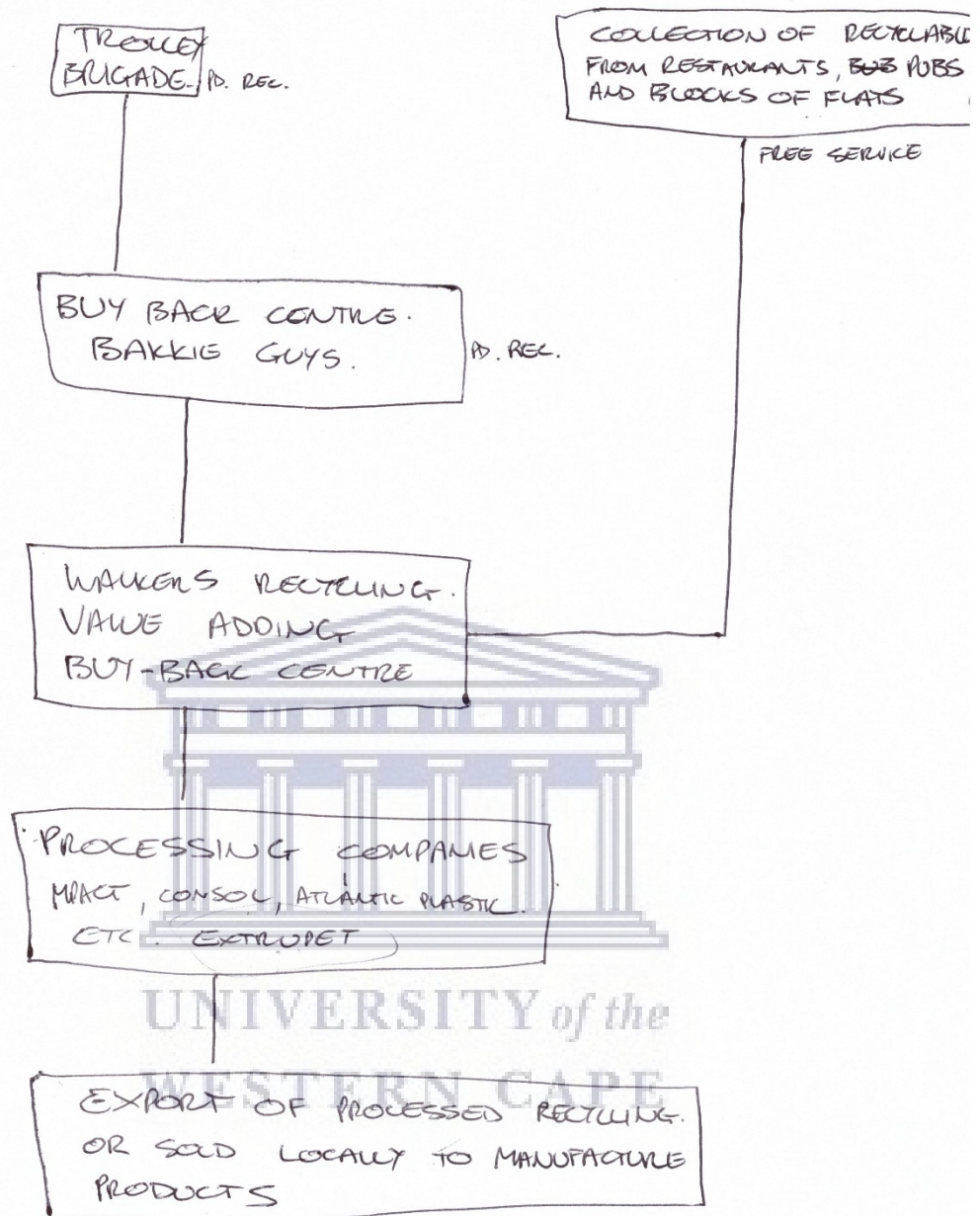OR SOLD LOCALLY TO MANUFACTURE
PRODUCTS

Diagram 4.1: Research respondent's waste flow diagram

From this diagram we can see clear degrees of scalar and power relationships within Eddie and Christopher's network. The stratification of this network is contingent on the scale that reclaimers operate and how mobile they are (whether or not they have a bakkie). The process starts from the top of the diagram with the "trolley brigade" that are equipped with a trolley that has less capacity compared to the bakkie that can hold about 2 tonnes. The trolley brigade transports waste to what Christopher understands as the "bakkie brigade" or how he termed it "bakkie guys" which are actually township buy-back centres. I found it perplexing as to why Eddie and Christopher would refer to a township buy-back centre as the 'bakkie brigade' when they explained that township buy back centres may or *may not* have bakkies of their own. This supports my contention that the term 'bakkie brigade' and its variant 'bakkie guys' is just an informal signifier with various layers of meaning contingent of the subjectivities of who is engaged and how this engagement occurs. Nonetheless, the township buy-back centre that Eddie and Christopher services does not have bakkies of their own. It is these township buy-back centres that rely on actors like Eddie and Christopher to collect and transport recyclable waste from the township and deliver it either to processing companies or it will be transported to Eddie and Christopher's buy-back centre. Eddie and Christopher's buy-back centre is referred to as a "value-adding buy-back centre", and they lie higher along the value chain, not only because they have bakkies, but also because they have a larger depot (buy-back centre) and they are equipped with a baling machine. Eddie and Christopher's buy-back centre, at the time of research, was situated in an industrial area which provided the operational space to utilize a baling machine. Baling machines add value through bulking recyclable waste, especially that of PET plastic bottles so that processing companies can accept it. The recyclable waste is then moved toward processing companies and finally exported or sold locally for manufacturing.

I want to extend the framework sketched out here by Christopher with the theological concepts of soteriology to productively extract meanings of the processes of reclaiming through their own hierarchical positioning in the waste value chain. The market-led activities are enacted through abiding to this 'doctrine of salvation', compelling the valorisation of waste and in turn determining the itinerancy of the bakkie brigade. This neoliberal doctrine compels actors to facilitate the creation of markets as the pathway that rehabilitates and salvages waste from its impure state, transforming it to the purity of the commodity. The bakkie brigade act as key regulators that modulate the conditions in favour of the market to permeate the waste-scape.

Itinerant soteriology in Eddie and Christopher's value-chain is understood through the engagement between the corporeal and incorporeal understandings of seeking salvation for waste (reclaiming) through varying and heterogenous distributions of power across multiple scales.

The itinerant soteriology of the reclaimers manifests as politics in the waste-scape, which includes the movement, management and valorisation of waste at a localised scale while being governed from a distance by a global neoliberal force. The concept of soteriology comes from the field of systematic theology, which explains how people can know and relate to God or a deity; soteriology is 'critical for theology in that salvation is a basic and fundamental need of all people' (Estes, 2011:2215). However, instead of a conventional religion that provides salvation for people, neoliberalism is operationalised as a religion that has infiltrated the waste-scape and has recruited the bakkie brigade to play the role of ordained subjects to provide salvation to waste. Soteriology includes several facets that comprise the *ordo salutis,* the experience of salvation (Estes, 2011) as the experience of mobilities. Itinerant soteriology in the waste-scape is understood corporeally and incorporeally through the election, redemption, reconciliation and sanctification of waste to the 'holiness' of a commodity, completing wastes initiation back into the neoliberal order.

 4.4. Ceremonial procession of the brigade: buy-back centres as congregational sites of rehabilitation and restoration

Our journey begins with meeting Eddie and Christopher:

> ***Today was the first day of 'official' fieldwork where I was going to be mobile with a research participant. I arrived quite early in the morning at Eddie's office. It was around 07:45, and not as quiet as a person would expect it to be, as you could hear the traffic bustling as well the factories alongside Eddie's work depot getting ready for their daily operations. Eddie was in a mellow mood, frustrated because he was met with a couple of challenges he had to deal with on the Monday morning. Eddie had just come back from a weekend break with his family, wife and two kids, he said he utterly enjoyed his time, and he also made reference to how good it did his back pain from all the years he'd been working so hard.***

Vignette 4.3: 11 November 2019, on arrival at Eddie's depot

From my first day with Eddie, I could already get a picture of the intense physical labour of moving waste that comes with working in the recycling industry. The labour in the recycling industry requires hands-on work by incorporating the muscles and bones of the body, a corporeal embodiment of the drudgery required from those engaged in recycling. More than being a skilled driver of a bakkie, the recycling industry requires workers that are physically fit to handle, lift and move volumes of recyclable material, exemplifying what Cresswell aptly points out: 'moving is an energy-consuming business' (2011a:166). Loading and unloading recyclable waste into the bakkie and out again at their respective depots illustrates the daily rhythms of Eddie's operations, a reverberation of the temporality of urban life.

> *Eddie told me the story of how he started his recycling business. Eddie was working as a florist at a florist shop close to the CBD of Cape Town. Above the florist shop was a restaurant pub/bar, and Eddie noticed that there were always lots of glass bottles lying on the pavement every day. This led him to do more research on glass bottles to identify if there was a market for these glass bottles. Once he found a market, he collected these bottles as a part-time activity with his car at the time and sold them off to a recycling company. Eddie later expanded to collecting recyclable glass bottles and eventually also diversified to aluminium cans and paper. As he expanded the collection services, he bought a bakkie and sorted the recyclable material from his parents' backyard.*

Vignette 4.4: 11 November 2019, end-of-day reflections

Eddie's recruitment into itinerant soteriology is testament to how lucrative the recycling industry has become. At face value, it looks like a natural encounter between Eddie and 'waste'; however, neoliberalism lured Eddie in a very unassuming way, presenting glass bottles as a conundrum that has the potential to be solved. It is here where Eddie uncovered the value latent in what appeared as waste. After much contemplation, the market presented itself as the solution to change the situation of the glass bottles. Eddie's decision to dabble in itinerant soteriology represents the moment of successful recruitment and the beginning of a long expedition that Eddie and his brother Christopher will journey on.

Eddie has been in the recycling industry for just over sixteen years. While initially operating from their parents' backyard, Eddie and Christopher have diversified to recycling aluminium cans, cardboard and PET plastics. They have increased their capabilities, now operating a buy-back centre in an industrial area with two bakkies and a hydraulic baler. Currently, Eddie does

not employ drivers, even though he has in the past. At the time of research Eddie and Christopher took over the driving of the bakkies themselves, and I could thus get a feel of their experiences in the waste-scape.

> ***Christopher received a phone call for a pick-up he needed to do in Mannenberg at one of his clients that has a household buy-back centre. This household buy-back centre is just around the corner from the one I was with when doing collection with Eddie on Monday. Apparently, these two households are competing, and they are not necessarily fond of each other. They are competing for the 'trolley brigade' or waste reclaimers.***

Vignette 4.5: 13 November 2019, going for collections with Christopher in Mannenberg

With only a moment's notice we heard the clarion call compelling us to proceed to the township buy-back centre. The ringtone of the cellular phone represents the siren signalling our cue to attend the ceremony. Rerouting immediately, we switched our geographical trajectory toward Mannenberg – the procession has begun! Upon arrival, there was not much to see as the other trolley brigadiers had already left, only the last of them still dropping off the contaminated objects that we often mistake for waste. We just missed the full proceedings of the trolley brigade; however, we were right on cue for our role in the purification ritual.

Image 4.1: Township backyard buy-back centre

It might not look significant, but these township household buy-back centres are where the commencement of wastes' rites of passage into the neoliberal order begins. These sites represent congregational centres creating an interface between the trolley brigade and the bakkie brigade. Buy-back centres are sites where scale is transcended, and the ceremonial object is passed on as a baton to recommence the process of wastes' initiation. Household buy-back centres facilitate the sorting, organising and evaluation of waste. The contaminated objects are sorted according to their characteristics; cardboard, glass, PET plastic and scrap metal are separated accordingly, with their trajectorial signature imprinted onto their being symbolising the objects' allegiance and recommitment to the global neoliberal order.

> *The two buy-back centres I visited with Eddie and Christopher respectively operated on the same block. I was told by Eddie that the two buy-back centres are in competition with each other, competing on how many waste reclaimers they could attract to sell their recyclable waste to. However, the buy-back centre I went to with Eddie was relatively successful in attracting waste reclaimers to sell their waste to*

them. In a discussion with one of the sorters, he explained that their buy-back centre attracted more waste pickers because they treated them with more respect than the other buy-back centres in the vicinity. Many times, he explained, the waste pickers are treated with no respect and are looked down upon. They are perceived as 'drunkards' or 'druggies', 'dirty' and 'filthy' and often as a nuisance. The sorter was explaining that his experience in a previous job working as a sales representative he learned the skill to value customers and this, he says, makes his buy-back centre successful, because the waste pickers choose to sell waste to his buy-back centre.

Vignette 4.6: 11 November 2019, end-of-day reflections

From this excerpt one gets a feel of the micro-politics among buy-back centres, an exposé of the differentiated and heterogenous power relations in the waste-scape. Different strategies are utilised by different buy-back centres to attract reclaimers and increase the volumes of waste they can accumulate. The two buy-back centres mentioned in the excerpt have each utilised unique and somewhat paradoxical mechanisms of accumulating power and mobilisation of waste, highlighting the agency of waste reclaimers on the lower end of the waste value chain. Treating waste reclaimers with respect gave this specific buy-back centre a competitive advantage over their rivals. However, on the other side of the spectrum or 'block', many waste reclaimers that sell their waste to buy-back centres are still stigmatised and looked down upon. Moreover, competition remains the hidden force that mediates the micro-politics of the waste-scape. The contestation among buy-back centres for limited resources (waste and reclaimers/followers) commodifies actors through making buy-back centres more competitive to other buy-back centres, simultaneously exposing neoliberalism's essence of reinforcing competition to induce productive potential. While the one buy-back centre from the excerpt was slightly more successful through utilising a mechanism (respect and value), and the rival buy-back centre relegated its members to 'filth', 'druggies' and 'drunkards', both still performed an embodiment of sectarian customs dictating behaviour at a micro level, in turn providing paradoxical notions of belonging and continuity in the waste-scape. Furthermore, buy-back centres act as agents of the broader neoliberal commodity production as well as facilitating the shepherding of waste's salvation from its 'impure' state. These sites are the initial points of departure for the 'pilgrimage' of waste on its journey of transformation.

The profitability from accumulating quantities of waste to be 'rehabilitated' acts as a guise for reclaimers to appear successful in the eyes of the omnipresent market force. Neoliberalism

transforms reclaimers into objects of trade and their reclaiming activities are transformed for exchange purposes to satisfy the interests of the market. This commodification takes place through a sophisticated mechanism of social engineering, by rewarding certain ritual acts and instituting traditions among buy-back centres and waste reclaimers at the lower end of the waste value chain. Global capital governs from a distance, imparting authority to buy-back centres to shape the rituals of reclaimers toward a liturgy that is culturally acceptable. Buy-back centres' spatial fixity facilitates social cohesion and maintains social solidarity among bakkie and trolley brigades through shared rituals and ceremonial objects. All the while, capital dictates the types of waste that are worthy enough to be accepted for the proceedings. In this way, the township buy-back centres represent localised denominations of neoliberalism that perform an important social function for the broader continuity of the order. These sites impart the norms to new recruits (reclaimers), monitor and evaluate waste's condition and set the standards that their congregants (procession of the brigade) should comply with. Buy-back centres set the scene for a performance of the brigade – battalions of the neoliberal order congregating in formation in reverence of the ceremonial object and its transformation.

The different qualities and types of waste mobilised at buy-back centres exist in contradistinction with each other. Through the process of sorting and bulking, different types of recyclable waste at localised buy-back centres represent an inscription process that assigns a trajectorial signature to waste, which determines each type's specific mobility pathways. Once waste is prepared and sorted at buy-back centres, Eddie and Christopher (or reclaimers that are equipped with bakkies) are called upon, signalling their performance in the purification rituals of waste. Eddie and Christopher have the duty of delivering the initiates (waste) from static buy-back centres that do not have these transport and value-adding capabilities.

> *Once we arrived at the household collection site in Mannenberg, there were two men who packed the recycling material for Eddie and packed the bakkie and trailer to the brim. Once the bakkie and trailer were loaded, Eddie would then take the recyclable material straight to the recycling company. Today it was Mpact, since the bulk of the material collected from Mannenberg was cardboard. Cardboard does not need to be bailed. However, plastics as well as aluminium cans need to be bailed for tonnage. Eddie bails plastics and aluminium cans as he has a baling machine or a hydraulic scrap bailer at the site he operates from. Eddie mentioned that value is added to*

plastics and aluminium cans as soon as they get baled, and recycling companies do not accept unbaled plastics and aluminium. This aspect regarding Eddie's role in this system is particularly important, as Eddie provides baling and transport to household waste collection sites that do not have these capabilities.

I was immediately taken along the pathway of cardboard's final stage of initiation. Cardboard's initiation and assimilation process is swift because cardboard does not need more rehabilitation to facilitate its rites of passage into the order. Cardboard's commodity status was revealed to me at the processing company (Mpact), where its rehabilitation process toward commodities was complete:

Image 4.2: Baled cardboard

The swift nature of cardboard's assimilation and mobility trajectory back into the neoliberal order is in contradistinction with other wastes' journey and purification pathways. PET (polyethylene terephthalate) plastics, for example, go through a much more rigorous process of conversion and valorisation that requires the assistance of advanced 'clergy members' that have the value-adding powers to finalise the purification ritual. I will explore this in the next sub-section.

While buy-back centres have been theorised as playing a mediating role between formal and informal systems (Viljoen, Schenck and Blaauw, 2012) and as a location where recyclable waste (post-consumer and pre-consumer) is sold and temporarily stored (Langenhoven and

Dyssel, 2007), these studies have emphasised the localised dynamics of the urban waste economy. Not much theorising has gone toward connecting global capitals' influence on the local functioning of buy-back centres. This sub-section gave an indication of buy-back centres' role within globalised neoliberalism. From a mobilities perspective, buy-back centres represent sites of 'friction' (Cresswell, 2011a) and 'stillness' (Sheller, 2013). However, relating this to itinerant soteriology, buy-back centres become sites of meditation where waste is mobilised, evaluated and screened. Buy-back centres are sites of refuge for waste, but also sites where the social values of the market are transmitted. Within the moments of stillness and meditation, the role of speed-up and levelling-up is reinforced through encouraging increased volumes and further mobilisations of waste with increased capacities, instituting the logic of market behaviour through expansion and acceleration. Furthermore, itinerant soteriology allows for uncovering the connections between localised expressions of global capital within buy-back centres. There are both corporeal and incorporeal experiences of connection to a higher purpose other than buy-back centres just being sites where waste is bought, sold and stored. These activities that may appear mundane are part of the 'sacred rituals' that create a sense of purpose and belonging to a larger community. However, there remains plenty of complexity within the waste-scape regarding the range, distribution and heterogeneity of buy-back centres' functioning across differential scales and varying sets of capabilities.

4.5. Degrees of decrees: diversified embodiment of power among the bakkie brigade

Today I arrived on site quite early, entering the premises where Eddie operates at about 07:30. Eddie was already in his office counting and evaluating the receipts from his clients. He was dealing with a backlog; he is falling behind with regard to his administrative duties. He is still busy with receipts he received from September. After some reflection on the distinctions that were puzzling me regarding buy-back centre, bakkie brigade and the operation Eddie was involved in, I decided to ask Eddie what the differences were. He began by explaining that he does baling of PET plastics because he has a baler on site. This allows himself and other operators (with bakkies) to bring their recyclable plastics to him and drop it off on Eddie's site to be baled. These operators will be paid by Eddie for the recycled material that is dropped off. These other bakkie operators do not have their own baling equipment, although they do have bakkies, and therefore sell their recyclable material to Eddie. Eddie will then bale the recyclable material and sell it to the processing companies at a higher price.

Baled recyclable plastics are valued at a higher price, and this places Eddie higher within the waste value chain as he provides a value-adding service through baling. After this explanation, the notion of the bakkie brigade became blurrier to me. However, there are interlinkages in the notions bakkie brigade, buy-back centre and Eddie's SME.

<u>Vignette 4.8: 11 November 2019, reflections at the industrial depot, on our way to purchase baling wires</u>

My confusion at the time of penning down this reflection stemmed from not grasping the different scales of the bakkie brigade (intermediaries and middlemen) in the waste-scape. The degrees of scale of operating among the bakkie brigade operators as well as the broader set of middlemen and intermediaries in the waste-scape have been explained in dualisms. For example, Tuori has explained that smaller middlemen tend to depend more on waste pickers as their primary source of income, while larger middlemen tend to buy more from other, smaller middlemen (Tuori, 2009). This is in line with Nzeadibe and Iwuoha's (2008) framing of the urban waste economy of Lagos, where they also contrast middlemen (small buyers) with large buyers (dealers/brokers). Timm (2015) follows a similar dichotomy when she distinguishes between 'big guys' (large recycling companies) and 'small guys' (bakkie brigade operators) in Cape Town's urban waste economy. Timm's (2015:181) findings suggests that the big guys often muscle out smaller guys, making it harder for the bakkie brigade operators to effectively operate. The notion 'small guys' also came through during my own fieldwork:

Christopher said that the attempt at a partnership failed because there was no trust among the members. Some operators thought that they were being played or taken advantage of or they felt like the other members were getting more out of the partnership than them. Christopher blamed what he called the 'small-guy mentality', and Christopher says it is usually the newcomers in the industry that have this attitude. Christopher says that the recycling industry is incorrectly marketed to newcomers.

<u>Vignette 4.9: 13 November 2019, trip to Consol glass</u>

The 'small guys' according to Christopher referred to new entrants into the recycling economy that have a certain attitude. Just as Eddie was lured into the recycling industry by the industry's lucrativeness, so too are newcomers captivated by the charm of neoliberalism. Sixteen years in

the recycling industry have taught Eddie and Christopher that subscribing to itinerant soteriology comes with gruesome toil and hard labour that require cooperation and collaboration to limit the strenuous effect of neoliberalism. The 'small-guy mentality' exemplifies the individualism and competitiveness that neoliberalism instils in its new recruits.

However, Eddie and Christopher's operations are not at the level of big guys that operate with waste at a larger scale either. Eddie and Christopher form part of a community of so called bakkie brigade operators. These operators operate a range of buy-back centres in Cape Town's waste-scape that all have different degrees of capabilities. The dualistic interpretations within previous studies that attempted to explain the middlemen and intermediaries in the waste-scape have overlooked the diverse spread and heterogeneity of mediating technologies among actors which are crucial to understanding the heterogeneity of actors within the waste-scape. Considering the mediating tools among the diverse sets of actors that play the role of middlemen and intermediaries overcomes these dualistic interpretations and opens up an appreciably more coherent understanding of the distribution of power across multiple scales.

My initial assumption was that the main tool/artefact was the bakkie that mediates between actors and waste. However, through my time with Eddie and Christopher, I found that there are multiple mediating instruments that assist in the transformation of waste into commodities. Lawhon, Millington and Stokes (2017) describe the complex arrangement of material infrastructures that goes beyond individual artefacts and performative discourses by introducing the concept 'heterogeneous infrastructure configurations', which is an instructive framework within which to understand the spectrum of mediating tool/instruments. The significance of assemblages and configurations in Cape Town's informal urban waste economy has to a certain extent been covered and alluded to by Timm (2015). Her findings suggest that the process of mobilising resources in the informal economy involves heterogeneous associations of human and non-humans (for instance, trolley, horse-cart, bakkie). Furthermore, she finds that the resources mobilised are determined by the type of collective (capacity and resources) necessary to achieve a goal. Through the process of enrolment of actors and non-humans, she explains the process of collaboration to achieve specific goals of mobilising waste. Timm's (2015) focus on the assemblages of human and non-humans as regulators privileges an understanding of the critical role played by non-humans in organising spaces and mobilising support networks. From this perspective, I want to go beyond Timm's (2015) framework and add an important dimension, that is, the way mobilities is contingent on a relational

interpretation of localised politics that acknowledges the range of buy-back centres, which includes households and (small to large) industrial depots and to what extent these buy-back centres are equipped with baling machines. Drawing from Lawhon, Millington and Stokes's (2017) provides a wider scope of how we can understand the activities of the reclaimers operating at this scale, who have a variety of varied mediating instruments and operate from a range of buy-back centres. Understanding the heterogeneity of technologies and infrastructures in the waste-scape produces a more relational understanding of the role of the bakkie brigade as well as of the tensions between the agency of operators and the structured patterned arrangements of mediating technologies across Cape Town's waste-scape.

From my findings I have attempted to provide such an understanding, particularly so as to open up thinking about the subjectivities, varied practices and spatial scope that influence the mobilities of waste. I have constructed a diagram that highlights the spectrum of:

1. The range of capacities of mobile technologies.
2. The range of storage capacity of the stationary infrastructures.
3. The number of baling machines.
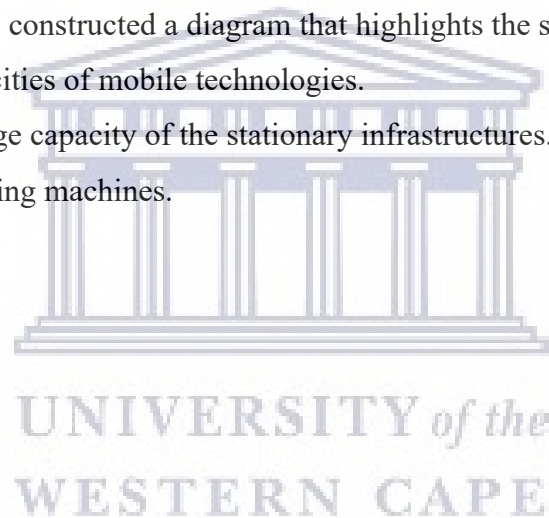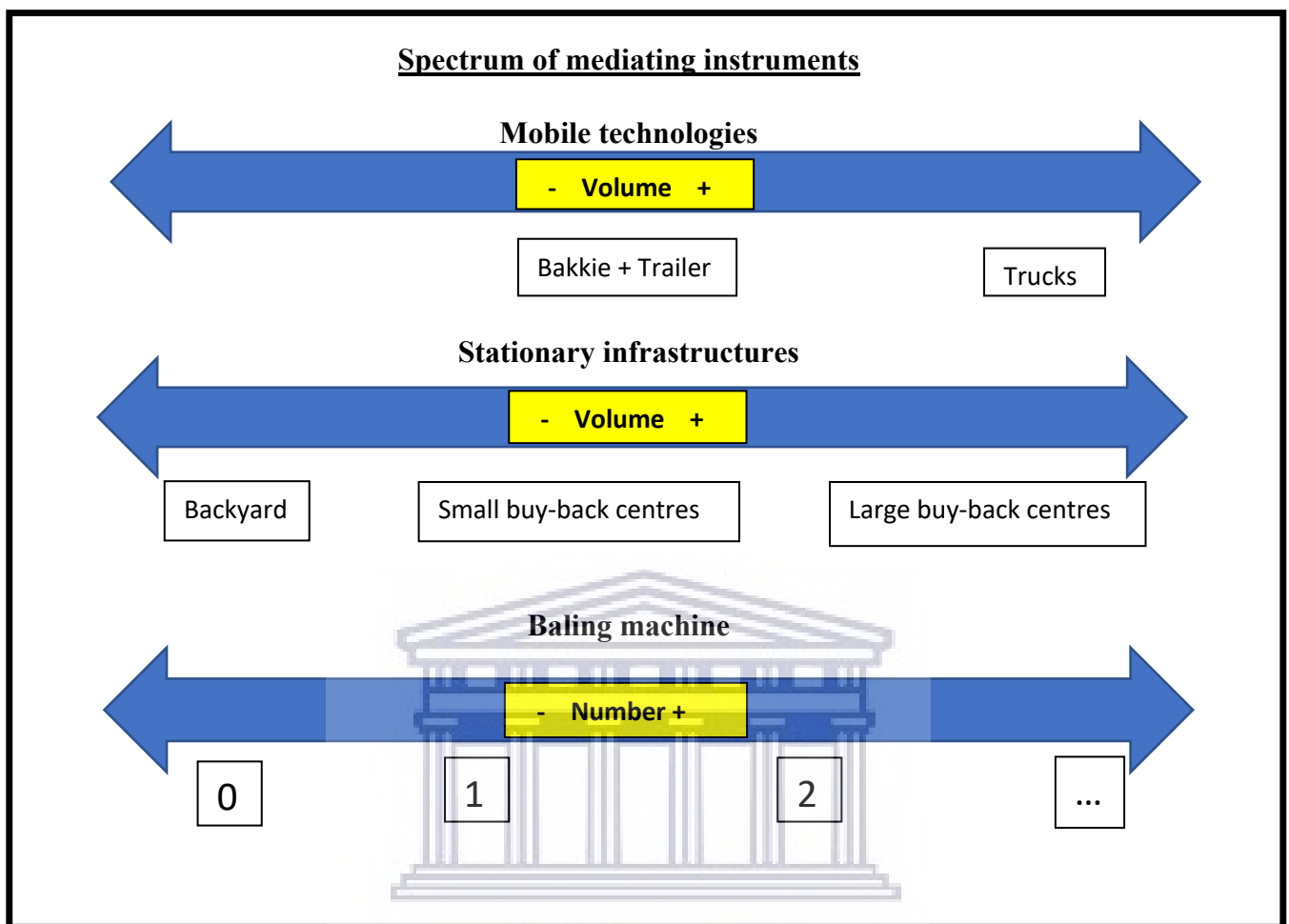
Figure 4.2: Spectrum of mediating tools/instruments

This diagram shows the spectrum of mediating tools/instruments of actors that play the role of middleman or intermediary. Different actors are uniquely equipped along the spectrums of mobile technologies, stationary infrastructures and number of baling machines, a crucial instrument for adding value to waste. Viewing the mediating technologies and infrastructures in this way allows for a wider scope of the potential assemblages and configurations that all have implications for the way and extent to which waste is moved and transformed. This aligns with how Kellerman (2012) has described potential mobilities, which is contingent on an accumulation of mobility needs, access and competences, all of which lead to an appropriation process. The capacity for mobility is inscribed in the motility (see Kellerman, 2012) of the actors, which is the capacity for movement of each individual actor. The heterogeneous infrastructure configurations (HICs) among middlemen or intermediaries include mobile technologies that vary according to volume and capacity and the storage capacity of the actor,

which includes households, buy-back centres (ranging from small to large) and whether or not they are equipped with a baler. Actors within this linkage can be equipped with a range of these mediating tools in a non-linear fashion which will affect their networks, organising patterns, division of labour and the extent to which rules and regulations affect the actors and, in turn, the mobilities of waste.

One key value-adding technology is the hydraulic baler. Balers are pieces of machinery used to compress recyclable waste, in this case PET plastics, into compact bales that are easy to handle, transport and store. Baled recyclable waste is a prerequisite in accordance with processing companies' acceptable specifications and standards. The operators in the waste-scape have varying capabilities and there seems to be a culture of social cohesion and social antagonism (ee Vignette 4.6) among bakkie brigade operators. This collaboration forms a network that is contingent on bakkie brigade operators' capabilities and capacities that either contradict or complement each other. The inter-denominational relationships among the bakkie brigade operators within Cape Town's waste-scape becomes instructive in thinking about how waste impacts across multiple scales and how diverse actors are linked within a globalised market of recyclable waste. The community of bakkie brigade operators acts as an 'ecclesial fraternity', a localised ordination of the neoliberal order with value-adding powers. They play the role of 'anointing' waste with value as a continuation of the sacred sacramental ritual in preparing the ultimate offering (commodity) to the deity that is processing companies, which front as the face of global capital.
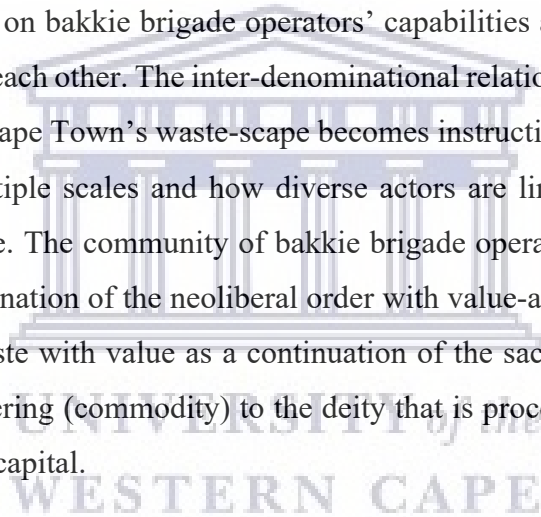
As soon as Eddie got done with his morning routine of sorting through receipts and drinking his morning coffee, we went off from the office and into the bakkie. Before we started collecting waste, we first had to get some baling wires to bale the compressed plastic bottles that needed to be sent to the recycling companies. During the trip to purchase the baling equipment, Eddie was telling me about how important space and storage capacity was for recycling. Currently, Eddie is renting a 400-square metre space at an industrial park. This includes office space, a bathroom and foyer. This leaves substantially less space for actual waste storage, sorting and baling. In the recycling industry space is a crucial aspect of operating effectively. The space that is available directly affects the logistics, planning, sorting and future operations of recycling. Eddie says that the ceiling also acts as an inhibitor, to a certain extent, because it reduces vertical space for storage. Waste recycling is about volume logistics, and plans become ineffective with limited space. Eddie says that they are planning to acquire and move to a larger 700-square metre space toward the

end of the year. The rent where they are currently situated is quite steep, and Eddie says that they will have to move from the site either way.

Hidden within this excerpt exists an esoteric soteriological code of the salvation rituals among the bakkie brigade in the waste-scape. Waste requires an input of additional value to make it mobile and complete its transformation process. From Eddie's explanation, space is a prerequisite of movement, which culminates in the expression 'volume logistics'. Increased capacity is directly proportional to increased movements. Logistical reason triumphs in the waste-scape in mobilising and preventing waste from staying in one place for too long (Cresswell, 2014). Moreover, neoliberalism remains the impetus behind Eddie's mobilities. More than simply creating the conditions for waste to become mobile, operating costs like rent keep Eddie mobile through continuous production, and if he cannot meet the requirements of the market logic, he too is prevented from operating from one place for too long.

The different levels of scale and degrees of operation among the bakkie brigade is highlighted in the following vignette.

> *On our way to Constantia, Christopher was telling me his experiences within the recycling industry and whether he would upscale his business from the level that they are operating from now. He was saying that there were challenges at each level of operations regarding recycling waste. Every level would require them to buy more equipment, which is awfully expensive. For example, to operate a baler requires electricity. A baler is an expensive piece of equipment to purchase and own. Christopher and Eddie currently have one baler at the depot that bales PET plastics. Christopher mentioned that the baler costs around R262 000 in Johannesburg. This was a special price, because usually they cost around R550 000. Therefore, to level up in the recycling industry would mean buying more equipment and that would require more input costs such as labour, a larger operating space, water and electricity.*

The most striking element from his excerpt is the different degrees of power held by different "bakkie brigade operators" in the waste-scape. Providing salvation to waste comes with progressive 'tax' as the scale of operation increases and expands. This is hidden in the fine print of the bakkie-brigade's covenant with neoliberalism and is often overlooked. These inputs represent the ingredients for the ointment that anoints waste with value and assimilates it with new character as a commodity. Operating value-adding technologies at increasing scales requires more capital-intensive inputs like electricity, water, rent and labour. Upscaling to higher levels of operation requires expanded capacities and capabilities, so while this might come across as a way to reduce anxieties related to reclaiming, it paradoxically induces more anxiety and precarity among bakkie brigade operators, as exemplified in the following vignette:

> ***Christopher mentioned that the market for recyclable commodities is going through a depression. The market is also saturated and the demand for key recyclable commodities is not high. Christopher jokingly said that a person or business that was operating at a level higher than them would have sleepless nights.***
> *Vignette 4.12: 14 November 2019, end-of-day reflections*

The more proximal bakkie brigade operators are to processing companies through operating at higher levels, the more the spectre of neoliberalism haunts them through its erratic market mechanism. Sleepless nights are the result of stress and self-exploitation, a result of the invisible tyrant of the market breathing down bakkie brigade operators' necks. However, this is a paradox of sorts, as this proximity also allows for a unique form of incorporeal experience for the bakkie brigade, a feeling of immediate connection with a higher power. The bakkie brigade is in constant pursuit of increased volumes of waste to provide for its salvation, in order to acquire a feeling of power and a connection to inspiration and salience. This experience can also be quite transformative, not only for the bakkie brigade operators and the waste itself, but also for the broader environmental condition. Itinerant soteriology comes across as a vocation and mission that give reclaimers the divine purpose of serving the broader community that extends beyond themselves. However, this power comes at a price: an allegiance to market erraticism and a belief in neoliberalism. The bakkie brigade is the mediating link between local manifestations of the market and the global neoliberal ideology, and through itinerant soteriology they embody the incorporeal experiences of neoliberalism that maintain the corporeal mobile rituals, consequently instituting the social order of reclaiming.

Eddie says that he is under a lot of pressure at these industry depot spaces because the rent is so high. The previous depot that they were renting in Epping was about 700 square metres, and he was paying about R35 000 a month. Consequently, Eddie's business had to move to the site where they are currently operating from. This depot is smaller, about 400 square metres. They are paying about R25 000 a month for the site. There are additional costs to all the operations. The wages of the workers currently amount to R50 000 a month, which puts Eddie under immense pressure to keep up and that means more collections should happen in a month.

<u>*Vignette 4.13: 11 November 2019, end-of-day reflections*</u>

Over and above mobilising, managing and valorising waste, itinerant soteriology keeps the bakkie brigade mobile, precarious and in constant flux. The increased levels of labour act as insurance for future uncertainties associated with the market. The pressures to fulfil their mission of providing salvation to waste exist in tension with the local and global dynamics of demand and supply, which is in accordance with the market logic that mediates the mobilities of the brigade. By moving from site to site, constantly constructing and deconstructing operational sites, the ambience of neoliberalism is felt through the non-stop demand for mobilities. More than the relocation and rematerialisation process for waste (Davies, 2012), adhering to market demands compels a relocation and rematerialisation process for bakkie brigade operators, analogous to that of waste. The influence of global neoliberalism within the localised mobilities of the bakkie brigade is experienced differently among individual operators. Each individual bakkie brigade operator is endowed with an assortment of mediating tools that are unevenly spread across the waste-scape. Each bakkie brigade operator's experience will be different to another, depending on how the capabilities and capacities of the individual operator are organised. This experience is dialectically shaped through the technological capabilities and capacities that coincide with the temporal erraticism of the market for recyclable commodities.

On arrival at the steel plant where the baling wires are sold, the bakkie needs to get on a weighbridge to be weighed. The increased weight of the bakkie after the baling wires are loaded onto the bakkie will determine the price of the baling wires. This also ensures that there are no other steel materials stolen from the premises. There were interesting dynamics that emerged in my conversations with Eddie. The prices

are set on a year-to-year basis, however, there are also recycling companies who will invoice new prices with no prior communication to their clients.

<u>*Vignette 4.14:11 November 2019, on my way with Eddie to purchase baling wires*</u>

The prices of recyclable waste are determined and communicated by recycling companies to the bakkie brigade, and are often quite volatile, with the prices fluctuating without a moment's notice depending on local and global demand for recyclable commodities. Global capital communicates through processing companies, rendering the bakkie brigade subordinate to the markets' volatility. Processing companies act as the critical interface between the bakkie brigade and global capital. This relationship is impersonal, however, as processing companies merely symbolise a divine countenance of the deity that is global capital. The salvation, transformation and deliverance of waste culminates in creating commodities for global capital as sacred offering – the final destination of waste and its assimilation into neoliberalism. The itinerant soteriology of the bakkie brigade compels the creation of markets through seeking, electing, redeeming, reconciling and sanctifying waste. Neoliberalism is operationalised as the motive force in the waste-scape, the bridge between the global dynamics of the market and its entanglement through the waste material, mediating tools like the bakkie and the precarious brigade that ultimately produce the localised mobile politics at street level.

4.6. Caught in the cult of neoliberalism: the significance of reclaimers in the global waste economy

They make it sound like through recycling you can get money quick and easily. Christopher says that, in reality, it does not work like that, that the recycling industry requires hard work and it is not necessarily a business that will make you money quickly. Christopher says that people have no idea of the actual processes of recycling and laments that recycling is still a 'dirty' job. He used the example of a milk carton recycled by a household or business, and the simplicity of the process for such consumers, who just need to throw the carton into the correct bin. However, no one talks about the dirty aspects of actual recycling, such as the little bit of milk still in the carton which gets old and sour, attracting germs and bacteria. This is the type of waste that a person in the recycling industry is confronted with every day, the dirty side of recycling and waste logistics. This is also the part of recycling people do not

want to get involved in. Christopher says that people are disgusted by waste. These
aspects of Christopher's job are often overlooked and disregarded.

Neoliberalism's paradox is manifested through the contradiction of its appearance and essence. This comes across through Christopher's lamentation of the recycling industry: 'The recycling industry requires hard work, and it is not necessarily a business that will make you money quickly'. This is contrasted with how the recycling industry is portrayed; its ease of entry (Lawhon, Millington and Stokes, 2017) and its entrepreneurial opportunities through running buy-back centres (Schenck and Blaauw, 2011; Viljoen, Blaauw and Schenck, 2019) are often emphasised. Neoliberalism's promise of wealth and freedom is not handed out to everyone who engages in itinerant soteriology within the waste-scape. Neoliberalism requires the Eddie and Christopher to faithfully and diligently practise and labour in accordance with the demands of the market, forming the dogmatic doctrine of itinerant soteriology and the rituals that maintain neoliberalism's hegemony. Waste's rites of passage require itinerant soteriology as a mechanism for its assimilation and in turn the operationalisation and maintenance of neoliberalism in the waste-scape. Neoliberalism, through the market-mechanism, frames waste valorisation as a central component for economic development and community upliftment, particularly in the Global South (Millington and Lawhon, 2019). More than creating reclaimers that are neoliberal citizens (Samson 2009) and detritus (Chari, 2006) as products of colonialism and capital accumulation, the virtues of freedom are propounded, with entrepreneurialism heavily promoted within South Africa's waste-scape (Lawhon, Millington and Stokes, 2018). To this end, itinerant soteriology provides an anthropological account of how neoliberalism is operationalised through the Eddie and Christopher's mobilities within Cape Town's waste-scape. Neoliberalism, through the market, acts as a cult that is gripping South Africa's waste-scape, a sacred ideology centred around rituals that provide salvation to waste. From the experiences of Eddie and Christopher, reclaimers operating at a larger scale represent an ecclesia within the waste-scape, ordained through their 'value-adding' (Viljoen, Blaauw and Schenck, 2019) prowess. However, these value-adding capabilities are heterogeneously configured (Lawhon, Millington and Stokes, 2017) at varying degrees among reclaimers operating at this level in the value-chain.

Moreover, as highlighted by Eddie in the beginning of this chapter, Christopher foregrounds the *labour* required in the recycling industry. It is the labour that synthesises the reclaimers

(subject) and waste (object) and the consequent production of their mobilities. However, more than the production of mobilities, the valorisation is centred around the creation of commodities for global capital. This exposes the exchange-value character of the reclaimers labour (Standing, 2009). Through itinerant soteriology, global capital exploits the localised labour of the reclaimers indirectly through employing price and the market as a mediating mechanism. Through valorisation, itinerant soteriology holds in tension the global dynamics of the market and local mobilities of the reclaimers through the contradiction of capital, that is, 'in Marx's view, … that between wage-labor (i.e., the agents of productive activity) and capital (i.e., those who extract surplus value from these agents)' (Jones, 2016). The reclaimers significance becomes clearer when put into a global capitalist context. Capitalist production involves the creation of commodities, and these commodities are useful, and their value is expressed in their price (Jones, 2009). The itinerant soteriology of the bakkie brigade is entangled in the capitalist valorisation process. Therefore, neoliberalism has veiled the process of valorisation (creation of value) as a doctrine that preaches the salvation of waste, placing the bakkie brigade (as reclaimers) within the heart of the larger process of capitalist production, exploitation and subjugation. As articulated by Jones:

> Their position in this system naturally makes them a constant site of political and economic contestation. In particular, they are a tempting target for appropriation by private *Capital* and the struggle to defend them must, therefore, take account of these deep and powerful motive forces of capitalist production. (2016:52)

The fundamental global-local relation and motive force within the itinerant soteriology of the bakkie brigade is manifest within the capital-labour relation. The "bakkie brigade" act as regulators, middlemen and intermediaries between waste reclaimers on the lower ends of the waste value chain and global capital and hence are targeted for appropriation by capital. Through global capitals' appropriation of their labour, the bakkie brigade configure into an ecclesia that abides by neoliberalism as its central doctrine, which shapes their localised mobilities in the waste-scape. Through itinerant soteriology the bakkie brigade scout the waste-scape to seek out the market potential and provide reconnaissance for global capital for the creation of markets for recyclable waste's appropriation.

4.7. Conclusion

Just as Karl Polanyi depicted the nineteenth century as an attempt to create a market society in which everything was turned into a commodity, so too the South African waste-scape is transforming into a topographical retail outlet where valorised waste is traded and distributed. Moreover, by using Kircherr, Reike and Hekkert's definition of the circular economy as 'an economic system that replaces "end of life" concept with reducing, alternatively reusing, recycling and recovering materials in production/distributions and consumption processes' (2017), this chapter has shown how neoliberalism, through the market, is the motive force that breathes life back into waste and revives its value for its assimilation back into the market society. Waste's end-of-life verdict is consequently negated, and the commodity-status is reinscribed, affirming neoliberalism's hegemony and conquest into the waste-scape. This chapter's application of itinerant soteriology exposed how the waste-scape is regulated by the market logic and how the bakkie brigade's (as reclaimers) labour is commodified in the process of 'salvation'.

The bakkie brigade form part of actors who are called intermediaries or middlemen and their roles are to a certain extent similar to buy-back centres, who are a key linkage between formal and informal systems of the urban waste economy. While waste pickers are the first actors to uncover value of recyclable materials by separating it from the streets and landfills, small recycling businesses act as key intermediaries between waste pickers and the recycling industry (Guibrunet et al., 2017). The bakkie brigade operators range from operating from their backyards, operating small businesses (as is the case explored in this dissertation) and a range of buy-back centres that operate from small to large scale depending on the size of their operational space and whether or not they are equipped with a wide range of mediating tools. The bakkie brigade operators, middlemen and intermediaries are beneficial to the value chain and their role should not necessarily be underestimated as only being exploitative, although there are and can be exploitative practices among the broader set of middlemen (Birbeck 1978; Medina, 2000; Nzeadibe and Iwuoha, 2008). Nonetheless, these findings agree with Tuori (2009) in acknowledging the positive influence of middlemen in the waste supply chain. Furthermore, my findings have suggested the heterogeneity of the bakkie brigade, which have complex stages of waste mobilities that are not specially accounted for in waste management systems. In this respect, these findings agree with Guibrunet et al. (2017) in viewing intermediaries as being involved in a heterogeneous array of waste management activities

which can be categorised alongside a continuous spectrum of formal and informal practices. These findings and assertions suggest possibilities and potential complexity yet to be explored among actors characterised as middlemen or intermediaries within the urban waste economy. The heterogeneity of reclaimers are contingent on their varied set of mediating tools (bakkie, buy-back centre and baling machine) that transform and move waste in the urban setting.

However, the story I have sketched of the bakkie brigade is only 'partial' (Winthereik and Verran, 2012) and 'factional' (Geertz, 1973), and it plays on fact and fiction for the purpose of highlighting the social stratification and power relationships among reclaimers operating at this level. This story is only one small part of a larger, much more complex totality of the "bakkie brigade", yet it is immensely instructive in understanding how neoliberalism is operationalised as the motive force that valorises waste in the waste-scape. This story is an infra-ontological generalisation (Winthereik and Verran, 2012) by virtue of the in-depth single-case exploration into Christopher and Eddie's lives as bakkie brigade operators.
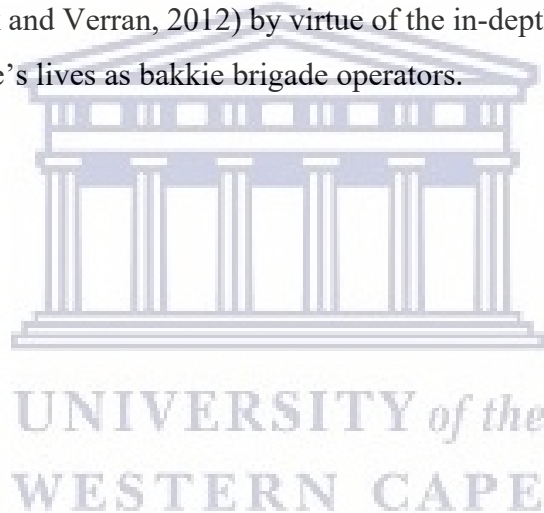
Chapter 5: Labour flexibility, precariousness and mobilities: understanding the 'workplace' of the bakkie brigade

5.1. Introduction

This chapter sketches out how to understand the 'workplace' of the bakkie brigade. However, what is the 'twentieth century workplace' (Standing, 2009:273) where the boundaries of work and social life are becoming ever more intertwined. At the heart of the industrial labour imaginary was the physical workplace, the factory, farm, mine or office (Standing, 2009). As we have seen, the workplace of reclaimers does not conform to the industrial imaginary. The labour of reclaimers is embedded within a 'social factory' weaved through the urban fabric. This chapter draws from the subject-object-tool framework presented in the previous chapter to further elucidate how the bakkie brigade's mobilities are produced, how waste is valorised and how flexible labour is produced through the interplay of the subject-object-tool triad.

5.2. The 'workplace' of the bakkie brigade

I ended the literature review by arguing that using the formal-informal dualism is inadequate for understanding the role of reclaimers and the bakkie brigade more specifically. Instead, I have argued that the actors (that is, the bakkie brigade) should be framed within the labour process. I have drawn much of the analytical tools from Guy Standing (2009), discussing the shift from manufacturing jobs shaped by an industrial imagery to a society and economy based on services, a process which has been termed the 'tertiarization of society' (Standing, 2009). Additionally, I concluded the literature review by interrogating the image of bakkie brigade operators (and the broader set of reclaimers), arguing that they do not conform to the industrial imagery of factory workers in fixed workplaces. The workplace of the bakkie brigade is in constant flux and movement, as seen in the previous chapter where mobilities take precedence over the work activities of the bakkie brigade. The bakkie brigade do not assume an overtly industrial character of factory workers. Instead, their labour facilitates the movement not only of waste/commodities (objects), but also of themselves (subject). As I have demonstrated through empirical data from the bakkie brigade, their mediating technologies (means of production) are mobile and privatised, while their infrastructures (buy-back centres) are spatially fixed. The conceptual difficulties regarding actors framed as middlemen, intermediaries, buy-back centres and the bakkie brigade emerge as a result of the tension between the flexibility of bakkie brigade operators and the spatial fixity of buy-back centres.

However, this is overcome by understanding the relationality and heterogeneity of bakkie brigade operators as reclaimers that labour through their mediating technologies (in this study it includes the bakkie, buy-back centre and the baling machine) to valorise waste into a commodity. The subject-object-tool triad presented in the previous chapter is instructive in this respect.

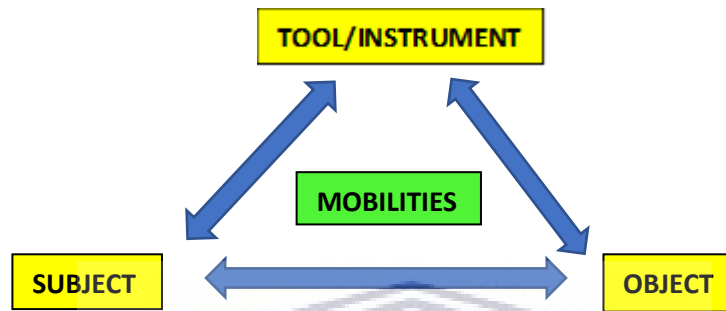*5.3. The production of mobilities/labour of the bakkie brigade*

Figure 5.1: Subject-object-tool triad

From the empirical data gathered from the field, I have highlighted three key mediating instruments that shape the production of mobilities of the bakkie brigade. That is, the bakkie, the baling machine and the buy-back centre. These mediating instruments exist on a spectrum of scalar and vector quantities that gives an indication of the range of volumes, densities and trajectories of waste that the bakkie brigade (as reclaimers) handle and operate. The model highlighted here represents the labour process of reclaimers articulated by Marx (1867:127):

> "Labour is, in the first place, a process in which both man and Nature participate, and in which man of his own accord starts, regulates, and controls the material re-actions between himself and Nature."

The labour of the reclaimer (subjects) is enacted through engaging with waste (object) and transforming it into a commodity. The mediating technologies only provide an interface and the mechanisms to reach and transform waste into a commodity. The value latent in waste is immaterial, yet objective, compelling the mobilities of reclaimers through the labour process. Among bakkie brigade operators there are three key mediating technologies that shape this process, that is, the bakkie, buy-back centre and baling machine. I view these as the means of production of the bakkie brigade (as reclaimers).

http://etd.uwc.ac.za/

5.3.1. The bakkie

The bakkie itself is one of the most important tools for the bakkie brigade, because of its size, relative affordability and agility. The bakkie can be augmented with a trailer to increase carrying capacity, increasing the volume of waste mobilised. The bakkie has an open-top storage compartment that allows waste (stored in the bale bags) to be stacked onto the bakkie. The bakkie is a key instrument for the mobilities of waste. The bakkie is the instrument that joins the bakkie brigade operator (subject) and the waste (object) and makes them synthesise, producing mobilities of both bakkie brigade operator and waste. The bakkie is the central instrument for the labour practices of the bakkie brigade. The bakkie requires a skilled driver. Driving the bakkie is a skill that is central to being a bakkie brigade operator. Through manoeuvring the streets of the urban, the bakkie brigade negotiate with the rhythms of urban life. The bakkie brigade are engulfed in the micro-politics of everyday life in Cape Town and are entangled in the routine schedules of others, the weather and the traffic, all by virtue of the mobility of the bakkie. The bakkie provides the bakkie brigade with a high degree of power. More than simply providing a means for moving and mobilising waste, utilising a bakkie also

provides access to processing companies and, in turn, access to an economy based on recyclable waste. When the bakkie brigade sells waste to a processing company, the bakkie needs to be weighed on a weighbridge, and the difference in weight before and after the waste gets dropped off will determine the price of the waste. The bakkie is a key mediator between bakkie brigade operators and the urban waste economy. In addition to granting bakkie brigade operators access to processing companies, the bakkie also grants them access to recyclable material in townships in Cape Town. Many of the buy-back centres in townships like Mannenberg do not have mobile capabilities like bakkies. Operating a bakkie gives bakkie brigade operators access to recyclable waste mobilised by waste reclaimers and buy-back centres in townships. By virtue of the mobility capability of the bakkie, the bakkie brigade are key intermediaries in Cape Town's urban waste economy. The bakkie also gives access to waste from a range of restaurants, pubs, schools, community non-profit organisations (NGOs) and one-time service callers.

5.3.2. The buy-back centre

Image 5.2: Buy-back centre/warehouse

Buy-back centres have been defined as a key linkage between formal and informal systems (Viljoen, Schenck and Blaauw, 2012), a location where recyclable material is bought, sold and temporarily stored (Langenhoven and Dyssel, 2007). They are facilities where value is added to recyclable waste according to the specification of the recycling industry (Viljoen, Blaauw and Schenck, 2019). However, buy-back centres are also mediators between bakkie brigade operators and waste, a key instrument that enables the mobilities of waste. Having sufficient storage capacity is crucial for bakkie brigade operators, as it directly affects planning, sorting and the eventual mobilities of waste. The buy-back centre allows for the different degrees of scalar qualities of waste mobilities through the volumes it can store. Buy-back centres' volume capacity gives an indication of the potential of mobilities of the bakkie brigade; the more waste that can be accumulated and stored, the more waste needs to be moved and circulated. The relative capacities of buy-back centres exist on a spectrum, affecting bakkie brigade operator mobilities in heterogeneous ways. Buy-back centres can be located in industrial zones and within backyards in townships, giving them a range of expressions. Within industrial areas, buy-back centres are usually in the form of warehouses or depots, while in townships, backyards are often used for the storage of recyclable materials. bakkie brigade operators operating within industrial areas are burdened by the rent of the warehouses, while operators that operate from their backyards are exempt from this. By virtue of the heterogeneity of backyard and warehouse capacities, buy-back centres exist on a broad spectrum of storage capacities, making the bakkie brigade a disparate group of actors in Cape Town's urban waste economy.

5.3.3. The baling machine

Image 5.3: Baled plastics stacked

Baling machines are compression machines that compact recyclable waste such as paper, cardboard and plastics into manageable bales. Baling machines are an important mediating instrument for the bakkie brigade to cut down on transport costs and minimise storage space. However, baling machines are expensive and are not accessible to every bakkie brigade operator. The use of a baling machine also assumes that bakkie brigade operators have sufficient storage, electricity and labour to operate it. Baling machines facilitate the efficient mobilities of waste through compressing waste into a form that can be transported easily and fulfilling the requirements of processing companies. Some bakkie brigade operators who do not have baling machines will collaborate with bakkie brigade operators who do have them. Usually, backyard buy-back centres do not operate baling machines because of insufficient space. Space is required for the baling machine as well as for storing of the baled recyclable waste. Warehouses in industrial areas are more suitable for operating baling machines. Baling machines are therefore a key instrument for adding value to waste.

5.4. Understanding reclaimers labour through Guy Standing's precariat

The foundation of Guy Standing's development of the notion of precariat is informed through contrasting it with the 'industrial imaginary' of labour performed through the welfare state that presupposes wage-labour, static factories, and employer-employee relationships. However, he states that 'labour is a commodity' countering Polanyi's stance that labour is a fiction. Standing's notion of the precariat encourages us to think about labour outside of the wage-labour relation and in my view, we can productively apply this to the labour process of reclaimers in a Marxian sense. This labour process entails the valorisation of value laden in recyclable waste. The understanding within the old industrial imaginary was that capital owned the means of production (fixed factories and machinery), this is taken to be the fundamental property relation of capital and labour. However, among reclaimers there are mediating technologies that act as the means of production to produce commodities that are controlled by the reclaimers themselves. The gives the perception that reclaimers are in control of their labour, however, this only produces the flexibility of the reclaimer. This is another aspect where the precariat becomes instructive in understanding the flexible labour process of reclaimers.

My claim is that unlike within the 'industrial imagery' where the means of production are owned by capital, which gave capital immense power over labour, it is now the market that controls/mediates the labour of reclaimers. The value laden within the recyclable commodity through the market is, to borrow the analogy of David Harvey, "immaterial, but objective", in that, while we cannot tangibly grasp the value in recyclable waste, there are material consequences of the market that shapes the mobilities and labour of reclaimers that are compelled to valorise it. Reclaimers still perform the labour for commercial capital and the production of commodities. The market mediates reclaimers movement and labour pattens through the market and the latent value embedded in recyclable waste.

The reclaimer (and more specifically, bakkie brigade operators) who are equipped with bakkies, buy-back centres and baling machines, are currently categorised as providing entrepreneurial services and might not be perceived as *labour* in the traditional sense. It makes it harder to see how the how labour, in a Marxian sense, is performed where entrepreneurialism' is increasingly becoming the new and commonly used jargon to describe actors in the waste-scape (Lawhon, Millington and Stokes, 2017). While I agree that reclaimers have entrepreneurial capabilities, it is understanding them through their *labour* that connects the

reclaimers with the global industry of recyclable commodities. Standing attempts to reach this point through this next assertion, stating that,

> More and more workers are labouring for corporations are 'informalized', in having weak or non-existent labour contracts, no 'rights', no protection, and low or volatile earnings. They are thus loosely attached to a very formal 'sector', but they hardly accord with the image of formal workers. (2014:973)

Similarly, reclaimers are labouring for a global industry of recyclable commodities. Standing's use of the precariat as a class should not be seen as a stable class formulation like the working class was. The flexibility of labour that comes with reclaimers controlling the means of production (bakkie, buy-back centres and baling machines) makes an understanding of class identity less stable and much more distributed. Jørgensen's explanation of precarity to be most instructive in this context:

> …precarity does refer to a structural condition but one that characterizes the economic condition and workplace as well as the social space. It characterizes not only employment conditions but the social system as such. Precarity is hence understood as a mode for analysing economy and for rethinking heterogeneous identities and group formations under neoliberal capitalism. (2016:960)

The heterogeneity of reclaimers, in the context of globalised neoliberalism, emerges as a result of unevenly distributed the means of production (bakkie, buy-back centre, baling machine) in the waste-scape. The property relation of the capital-labour dichotomy takes a different form in the waste-scape. Capital no longer owns the means of production; it is now unevenly dispersed among reclaimers (labour). In this way, more of the risks associated with the commodity production process has been transferred to reclaimers. This has given reclaimers the impression of autonomy through the ownership of the means of production, but this freedom comes at the cost of being disciplined by market volatility. While the agency of reclaimers exists, they are still embedded in a market economy structure.

Guy Standing notion of the precariat, I claim, is instructive in understanding reclaimers position as labour within the global production process of commodity production. Although reclaimers brigade *asserts* their distributed agency through the means of production (bakkie, buy-back centre and baling machine), their labour remains embedded within a global recycling economy. As a result, the so called 'bakkie brigade' and reclaimers further down the waste value chain are exposed to systemic risk through their negotiation with the volatility of the recyclable

commodity market which they have no control over. In a flexible and liberalised economy, incomes fluctuate more (Standing, 2009:101), and within an unregulated market society there are shocks, hazards and uncertainty. The impact of COVID-19 is a pertinent example. In this context, the so called bakkie brigade (middlemen and intermediaries) should not be seen as a group totally separate from reclaimers further down the spectrum, as they are all subject to the dictates *and influence* of the market. The labour process of reclaimers takes place on the streets of the urban, while being mediated by the market for recyclable waste, conforming to the central feature of neoliberalism. I have situated the

5.5. *Understanding the reclaimers' workplace*

Scale and capacity of reclaimers labour is an instructive way to think about how commodification takes place among reclaimers. This brings the 'workplace' of reclaimers into question. The new mobilities paradigm is instructive in understanding the movements of bakkie brigade operators and reclaimers more broadly. Moreover, it provides a framework to understand the distributed agency of reclaimers, power relations among practitioners and social stratification contingent on how they are equipped with mediation technologies (means of production).

Among the reclaimers there are stratifications that order the degree of inequality among them. These are contingent on how the operators are equipped with mediating technologies that determine their value-adding capabilities. The mediating tools provide an indication of the degree of commodification taking place; however, commodification depends on a variety of pressures and circumstances. Identifying these circumstances should enable a discernment of whether the overall trend is toward more or less commodification (Standing, 2009). Moreover, it must be noted that an in-depth study of the broader circumstances that affect the bakkie brigade operators, such as gender, nationality, race, and historical injustices like apartheid, remain beyond the scope of this study. Nevertheless, an understanding of the mediating tools that facilitate valorisation remains instructive in providing a picture of how bakkie brigade operators negotiate with market forces at a localised level.

The capacity for labour is contingent on the different degrees and varied capacities and competencies of the localised bakkie brigade operators. However, through the influence of the global market for recyclable commodities, the relations of exchange become volatile and

unequal, subordinating the capacity of their labour to the dictates of the market and thus generating precarity and instability among bakkie brigade operators. Commodification should be understood through their mediating technologies (differential capacities) that reclaimers operate posits that their capacity to labour is now instead subordinated to the dictates of the market. While Standing (2009) describes the workplace as 'fuzzy', with arbitrary and constantly changing boundaries between fixity and flexibility, the reclaimers' workplace should be thought of as relationally constructed at an individual level, dependent on their varied set of mediating technologies that are heterogeneously distributed among individual reclaimers. Through the varied and heterogeneous distribution of mediating technologies, the workplace of the reclaimer is constantly constructed and deconstructed through spatial and temporal dimensions.

5.9. Conclusion

This chapter has sketched a picture of the bakkie brigade's unorthodox workplace. It has shown how the bakkie brigade's labour is flexible and how their mobilities are mediated by the market. I have posited that the bakkie, the buy-back centre and the baling machine are key mediating instruments that shape the mobilities of the bakkie brigade in heterogeneous ways. This chapter has provided an understanding of the bakkie brigade's precariousness through the commodification of their labour; however, it also demonstrated the complex entanglement of mobilities that is enacted in varied ways. Finally, the chapter discussed how the idea of occupation can be applied to the bakkie brigade's labour within the context of globalised neoliberalism.

Chapter 6: Concluding reflections

6.1. The role of the bakkie brigade in Cape Town's urban waste economy

The concept 'bakkie brigade' emerged from Timm's (2015) doctoral dissertation as a descriptive term for independent individuals with motorised transport (bakkies) who collect waste from commercial and industrial outlets. Timm's (2015) thesis explores the role of the bakkie as a 'non-human' regulator of recycling activities within the informal economy of Cape Town. The bakkie brigade can be thought of as middlemen or intermediaries in Cape Town's urban waste economy. While the term bakkie brigade may point toward a group of actors, I posit that the term is an informal signifier with varying subjectivities.

However, I have found that the formal-informal dualism that frames the bakkie brigade distorts understandings of their labour practices. Drawing from Standing (2014), I have made use of an image of workers that defines labour within a much broader context of neoliberal globalisation. Instead of assuming the informal economy as the starting point for analysis, I established a foundation from where to analyse the role of the bakkie brigade, determining that they perform labour for processing companies though their localised mobilities. Through the Marxian strand of Activity Theory (Jones, 2009), I have posited that the bakkie brigade are entangled in the process of valorising waste through adding value. In this way, I linked the bakkie brigade with the globalised market economy and commodity production within the waste-scape.

My claim in this thesis was that the human that lies the behind the signifier of the bakkie brigade (which represents middlemen and intermediaries in Cape Town's urban waste economy) should be understood as reclaimers. My positioning of reclaimers within the Marxian labour process and commodity production situates the 'bakkie brigade' as part of the global recycling industry. In Chapter Four, I linked Activity Theory with the mobilities theoretical framework to formulate the subject-object-tool triad model for the purpose of facilitating an interpretation of the bakkie brigade's mobilities. I have highlighted three key mediating tools, namely the bakkie, the buy-back centre and the baling machine. These mediating tools are spread heterogeneously across the waste-scape of Cape Town and individual bakkie brigade operators are each uniquely equipped with a range of these mediating tools that position them disparately along Cape Town's waste value chain. Moreover, I have shown how the production of mobilities of the bakkie brigade is embedded within a broader neoliberal system that mediates

the valorisation of waste. The bakkie brigade are hence central to the production of commodities for capital. Additionally, due to the volatility of the demand and supply cycles of recyclable commodities, the bakkie brigade's labour requires flexibility and constant adaptation. The relationality and the heterogeneity of the bakkie brigade's production of mobilities, labour and value through the subject-object-tool triad have facilitated a broader and relational understanding of the bakkie brigade's labour practices.

In addition to being simply entrepreneurs (Timm, 2015) and key intermediaries in Cape Town's urban waste economy, the bakkie brigade represent both service workers within a tertiary economy and informalised labour within a global recycling economy. The bakkie brigade provide an intangible service through recycling, and, while not having concrete relationships with processing companies, they also perform much of the labour required to create recyclable commodities for market exchange. Although they are given the guise of entrepreneurialism, the bakkie brigade have precarious labour relationships, as there remain arbitrary boundaries on their specific role and on how their labour should be perceived. However, this is the design of labour flexibility. The bakkie brigade's labour is mediated by the market, which also acts as the middleman that facilitates the bakkie brigade's labour relationships. It is the volatility of the market that ultimately becomes the binding axiom of relations, while the price and exchange of the recyclable commodity manifest as their agreement for labour. From this perspective, the bakkie brigade are exploited and commodified labour in Cape Town's urban waste economy.

6.2. Itinerant soteriology

Filling the void concerning the basic assumptions of the values, societal structures, cultures, underlying world views and the paradigmatic potential of the circular economy (Korhonen et al., 2017), this thesis has provided an interpretation of the social stratification and organisation of the bakkie brigade through the concept of itinerant soteriology. Drawing from the new mobilities paradigm (Sheller and Urry, 2006) and the Marxian strands of Activity Theory (Avis, 2007; Jones, 2009; Jones, 2016), itinerant soteriology traverses the local-global dichotomy, highlighting how the global neoliberal ethos mediates the localised mobilities of the bakkie brigade. Moreover, itinerant soteriology has borrowed symbolic forms of the salvation of waste as the interpretation of the bakkie brigade's organisation within the waste-scape. The bakkie brigade, through following this 'doctrine of salvation', is organised as an

ecclesiastic consisting of varying 'clergy members' endowed with 'divine' value-adding instruments (the bakkie, buy-back centre and baling machine) that they use to salvage/reclaim waste. Chapter Four thus narrates a story of the bakkie brigade within a neoliberal 'occultic' order and as 'crusaders' in the waste-scape of Cape Town. While borrowed from systematic theology, the term 'soteriology' became tremendously instructive in describing how reclamation of waste takes place among the bakkie brigade through the motive force of neoliberalism. Soteriology refers to the 'doctrine of salvation' and gives the sense of a dogma that shapes the acts of salvation/reclamation of waste. In the same way, through abiding by itinerant soteriology, the market logic becomes the dogma that mediates the mobilities and reclamation practices of the bakkie brigade. Itinerant soteriology brings to light how mobilities can be understood through the reclaiming activities of the bakkie brigade operators in Cape Town's waste-scape.

Additionally, itinerant soteriology depicts the dialectic between the agency of the bakkie brigade and the global market structure in which they are embedded. The diversified embodiment of power of bakkie brigade operators is contingent on the degree to which they are uniquely endowed with value-adding mediating instruments. The different bakkie brigade operators enact their mobilities in a transcendental manner through itinerant soteriology, unearthing unique rituals, processions and liturgies that ascribe a sacredness to the process of reclamation/salvation for waste. Waste becomes the ceremonial object that organises the bakkie brigade's politics, culture and organisation. It becomes a process of ritual purification; the impurity of the waste requires purification through the bakkie brigade's ritual acts of valorisation. Itinerant soteriology exemplifies what Swanton (2014) has described as waste entangling itself with the processes of wasting and valuing and how the movements of waste are at the centre of politics, power relations and social structures.

6.3. Subject-object-tool triad and the production of mobilities

The mobilities of waste should be thought of as produced. As Cresswell (2001) indicates, just as space is produced, mobilities are also produced through myriad relations. Key relations of the mobilities of the bakkie brigade was the subject-object relation that joins the bakkie brigade operator to waste as commodity. Moreover, the mediation of tools is central to joining the subject and object and the consequent production of mobilities of the bakkie brigade. The subject-object-tool triad became a useful analytical tool for this study to understand how the bakkie brigade's mobilities are produced through mediating tools, namely the bakkie, buy-back

centre and baling machine. This framing allows for more analytical precision in understanding actors in the urban waste economy that labour within the global recycling economy. That is through understanding the subject (reclaimer); mediating technologies (bakkie, buy-back centre; and baling machine); and the object where the labour is directed at (waste/recyclable commodity). The production of mobilities by the bakkie brigade is centred around reclaiming waste in the urban waste-scape of Cape Town. The subject-object-tool framework highlighted the differential scales of mobilities, produced through the varied set of mediating tools among bakkie brigade operators. This provided an instructive framework for understanding how mobilities and labour are produced by the bakkie brigade in Cape Town's urban waste economy.

6.4. Understanding the bakkie brigade

The term bakkie brigade has turned out to be quite deceiving. While the term gives the perception that they are a homogenous group on a rogue mission, this study suggests that conceptualising the bakkie brigade is not that simple. Through utilising Activity Theory and the mobilities paradigm, this study unearthed a much more complex understanding of the bakkie brigade's labour practices, which are contingent on a varied set of mediating technologies that they operate with. As a result, there are complex levels of intermediation between formal processing companies and informal waste reclaimers who operate on the streets and landfills. The bakkie brigade are a heterogeneous group of actors in Cape Town's urban waste economy, playing complex roles of intermediation and facilitating waste mobilities at multiple scales while providing labour for commodity production through valorisation.

I posit that it is more instructive to understand the bakkie brigade operators as reclaimers first, that utilize mediation technologies, such as bakkies, buy-back centres and baling machines. These mediating technologies are heterogenous spread among individual bakkie brigade operators which position disparately along the value-chain.

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Appendices

Appendix A: Research Information Sheet

Research Information Sheet

Project Title: The Bakkie Brigade in Cape Town's urban waste economy: exploring waste mobilities and the precariat

Description of study: The study will be looking at the Bakkie Brigade and how they use their Bakkie to collect waste from households within the Cape Flats townships. These areas in the Cape Flats do not necessarily receive waste collection services. The study explores how the Bakkie Brigade and through their relationship with household waste collectors create a livelihood from waste.

Role of participants: One to two key informants will be involved in this study, the informants will be requested that the researcher travel with them day-to-day and be involved in their operations, in this way inconvenience can be avoided by not keeping them out of their job.

Confidentiality and protection of participants: In order to ensure and protect anonymity of the participants, the name and surname of participants will be changed upon request and pseudonyms will be used in all my research findings, oral presentations, the final submitted dissertation and any subsequent publication. All data will be secured digitally in a password-protected drive and/or manually in a locked drawer.

There are no physical, psychological, social, economic, legal or loss of confidentiality risks attached to the study.

Further questions?
If you have any questions about the research study itself, please contact the researcher:

Johnathan Goeiman
Department of Geography, Environmental Studies & Tourism
University of the Western Cape
Cell: 0823704008
Email: 3544606@myuwc.ac.za

Should you have any questions regarding this study and your rights as a research participant; if you wish to report any problems you have experienced related to the study; or wish to withdraw from the study, please contact the researcher's supervisor:

Dr Bradley Rink
Department of Geography, Environmental Studies & Tourism
University of the Western Cape
Tel: 021 959 2626
Email: brink@uwc.ac.za

NB: This information sheet is also available in other languages upon request

Appendix B: Research Consent Form

University of the Western Cape

Faculty of Arts

<u>**Consent Form**</u>

Research Project Title: The Bakkie Brigade in Cape Town's urban waste economy: exploring waste mobilities and the precariat

Researcher: Johnathan Goeiman

Please initial box

1. I confirm that I have read and understand the information sheet explaining the above research project and I have had the opportunity to ask questions about the project.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. If I wish to withdraw I may contact the lead researcher, supervisor or HOD at any time.

3. I understand my responses and personal data will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the reports or publications that result for the research.

4. As a participant of the discussion, I will not discuss or divulge information shared by others in the group or the researcher outside of this group.

5. I give consent to audio and video recording.

6. I agree for the data collected from me to be used in future research.

7. I agree for to take part in the above research project.

Name of Participant   Date   Signature
(or legal representative)

Name of person taking consent   Date   Signature
(If different from lead researcher)

Lead Researcher   Date   Signature
(To be signed and dated in presence of the participant)

Copies: All participants will receive a copy of the signed and dated version of the consent form and information sheet for themselves. A copy of this will be filed and kept in a secure location for research purposes only.

Researcher:	**Supervisor:**	**Head of Department:**
Johnathan Goeiman	Dr Bradley Rink	Dr Mark Boekstein
Student no.: 3544606	**E-mail address:**	**E-mail address:**
E-mail address:	brink@uwc.ac.za	mboekstein@uwc.ac.za
3544606@myuwc.ac.za		

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a place to grow, from ho