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MARX'S THEORY OF ALIENATION AND THE COMMODIFICATION OF WATER IN SOUTH AFRICA

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DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

Signature: _____ Date: _____

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ABSTRACT

This dissertation uses Marx's theory of alienation in seeking to give a fuller understanding of the commodification of domestic water. As such, it also focuses on the socio-historical process of the provision of water through privatisation in the dominant mode of production: capitalism in its neoliberal phase.

It begins by considering water as a substance and humans' historical relation to it, exploring water socio-historically. Thereafter it examines Marx's theory of alienation, including fetishism and reification. Using this theoretical framework, it then explores the process of the commodification of domestic water and the provision thereof, specifically through privatisation. In this, it investigates the centrality of alienated labour as contained in Marx's theory of alienation to clarify better the role of such labour as it relates to water provision. Focusing on South Africa, it moves into the history of water provision, the laws governing such provision and critically examines the current situation of water provision in South Africa, including the Free Basic Water policy.

Finally, two cases, Orange Farm and Phiri are examined using the theory of alienation where consistent and documented struggles against water privatisation have been waged. The explorations of domestic water commodification are undertaken in this dissertation to provide a fuller understanding of this commodification as it relates to the working class.

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INTRODUCTION

In order to sell a thing, nothing more is required than its capacity to be monopolised and alienated.

Marx (1959 p619), *Capital III*

The provision of water in South Africa is a complex issue. From water sourcing and collection to management and distribution, the water framework in South Africa operates with a complex set of restrictions, dependencies and legalities. It is difficult to get water – a scarce resource in this country – to the many millions depending on this life source.

The Constitution of the Republic of South Africa states in Article 27 (1) (b) that “everyone has the right to have access to ... sufficient food and water”. In light of this progressive legislation, many efforts have been made to realise this constitutional right. Since the change in dispensation, the provision of water has improved for many South Africans. The 2008/2009 Annual Report from the Department of Water Affairs (Department of Water Affairs and Forestry, 2009a p1) states:

Substantial progress has been made by the water sector in providing universal access to water and sanitation services in South Africa. Access to basic water services has increased from 59 percent in April 1994 to 96 percent at the end of March 2009.

Other reports also claim a positive situation around water provision. In her speech to parliament on the “water crisis” in 2008, then Minister of Water Affairs and Forestry Lindiwe Hendricks stated the following (Hendricks, 2008 p1):

We have enough water in our rivers, dams and underground to supply water for socio-economic growth and development, and we have programmes in place to ensure timely development of infrastructure to ensure future supply of water to our growing economy, whilst simultaneously addressing the imbalances of the past in regard to access to water for drinking purposes and productive use.

Recently, *Engineering News* reported the following:

Some of the challenges that the department [Department of Water and Environmental Affairs] faces include poor operation and maintenance, inefficient water use, acid mine drainage and historical backlogs, where 59% of people had access to clean water in 1994 and, at present, 93% people have access. (Ndaba, 2010)

The above statements claim a massive increase of people with access to water since 1994. These increases to water access are claimed along with methods of water management instituted to manage water delivery efficiently and help citizens to manage their debt. Take for instance the statement issued by Lionel Roelf (2007), which shows how the City of Cape Town is trying to better manage its water provision services. One way is to install devices controlling water provision, known as water management devices or, those similar, prepaid water meters:

The City of Cape Town is introducing a new water demand management system for its residents. It consists of a water management device, which is installed in residents' houses, and a central control team in the City administration that regulates the functioning of these devices with the help of a computer set up. This system will help our customers to save water and to manage their monthly water bills, and it will help the City to manage debt. It will also help residents to identify any leaks and have them fixed, instead of running up a huge water bill and then being unable to pay. (Roelf, 2007 ¶1-4)

However, counter to the above claims are those made by many millions of South Africans through the so-called service delivery struggles, which have recently been increasing and expressed quite vociferously. These were in fact so serious that they were one focus of the government *lekgotla* in January 2010 (*Cape Times* 19 January 2010). Their claims are ringing in the ears of the nation. The experiences of the people involved in these service delivery struggles seem to contradict the claims made about the provision of these services, including those of water provision. Many of those involved in these struggles claim not to receive potable water despite the claims by government that this service has improved. Take the following, for example:

In Orange Farm, we have been poor for many years. Many of us have not had access to clean, safe, running water for many years. When we elected a new government in 1994, we thought that we would no longer have to fight for water in Orange Farm. ...Even where some of us are now able to get water for the first time, we are not able to pay for the amount of water that we need for our daily survival. (Orange Farm Water Crisis Committee et al., 2004 p4)

... water has become a big business, with the 'ethics' of the market and profit motives being prioritised over the needs of people. (Coalition Against Water Privatisation, 2004a p3)

Various other reports support these claims. For example:

In South Africa alone, there have been 10 million water cuts since [water] commercialisation started in 1994. (afrol News, 2002 4 November 2002)

Many poor communities in South Africa continue to struggle for their constitutional right to clean, safe drinking water. (Donne, 2009 ¶1)

These struggles for water are serious struggles, speaking to the very heart of everyday life in South Africa. The denial of basic services can have deeply tragic consequences for ordinary people as the following story shows.

On 27 March 2005 a shack fire broke out in Phiri, Soweto. In the blaze Katleho and Dimpho Tamane were burnt to death. Dimpho was nine years old, Katleho just two. The shack in Vusimuzi Paki's backyard caught alight with both children inside. Try as he did, Vusimuzi could not put out the flames. His water was cut off by a prepaid water meter because he could not afford to reload it with credits. He did not have enough money. He resorted to rainwater that had collected in a nearby ditch. However, he was too late and the shack burnt to the ground. McKinley (2008), Dieltiens (2008) and Dugard (2010) all report the fact that two small children were burnt to death because of insufficient access to water. This story is but one experience.

The experiences voiced by those on the ground commonly seem to be experiences counter to the claims made by the government. Why this discord? Why the opposition of these two sets of claims – between those providing the service and those receiving it?

One answer repeatedly given by those advocating better water provision management is that water is a scarce resource in South Africa:

The accelerated urbanisation of the South African population has exacerbated the water crisis, because local authorities have not been able to keep pace with the demands that follow the rapid population growth of towns and cities. (Lang, 2008 ¶13)

It's a finite resource [water] and one that, unlike oil, has no substitute. Without it, we have no viability as a species and without it we can't hope for economic viability ... It's common knowledge that South Africa is a water-stressed country and that at current consumption rates our demand for it will outstrip supply by 2015. That overarching imperative demands action and investment. (Asmal, 2008 ¶3, 11)

The cost of bulk water will continue to rise at more than inflation, highlighting the fact that we're a water-scarce country. (Mike Muller in *Cape Times*, 2003)

What is the solution then? In line with the understanding of the water problem in South Africa being the result of water resource scarcity, the solution offered by the South African government is represented by the Free Basic Water (FBW) policy. This policy has been developed not only to increase access to domestic water, which is a constitutional right in South Africa, but to challenge the inefficiency of the water provision network whilst still managing domestic water in line with the neoliberal agenda – hence the privatisation of many water provision networks in South Africa. Moreover, with the FBW policy in operation, it is hoped that the many social problems voiced through the many “service delivery” protests, for example, will systematically be addressed.

The problem of water scarcity

It is true that water is scarcer in some places than others. It is also true that South Africa is a water scarce country. But this is not the whole story. In response to the common argument of water scarcity, it has been argued that the scarcity of water is actually socially produced (Bakker, 2003b p28). Bakker (2003b p28) asserts that the socially produced scarcity of water is not absolute but relative. Despite increasing population levels, population density, and water use per capita, water is not actually as scarce as we understand it to be (Bakker, 2003b p28; Rijsberman, 2006 p5). Water scarcity is not only defined by human needs but also by our methods of provision and use (Harvey, 1973 p178) and in fact “In most of the rest of the world water scarcity at a national scale has *as much* to do with the development of the demand as the availability of the supply” (Rijsberman, 2006 pg, my emphasis). Again, the socially produced scarcity of water is not *absolute* but *relative* (Bakker, 2003b p28).

This is a very important argument. One common reason given by advocates for the privatisation of water provision is that water is a universally scarce resource and must be managed efficiently and effectively (Bakker, 2003b p28; and see Winpenny, 1994). The only way the capitalist system can effectively protect this scarce resource is to make water something it controls. To do this, water needs to be commodified – brought into the market economy.

The above argument has been understood on the back of the hypothesis of capitalist accumulation arguments. Some Marxists argue that a contradiction exists within the

capitalistic production of nature as a commodity, especially under neoliberalism (Foster, 2004 p10; Roberts, 2008 p555). This contradiction is based on the “primitive accumulation of capital”, a key thesis in Marxist economics (see Luxemburg, 2003; Marx, 1976). Basically, capitalism’s driving force is to accumulate more and more capital which leads to too much capital and the system busts itself, descending into a “crash”, much like we have just witnessed in the recent so-called “market recession”. Capitalism’s expansion is claimed as the root of the current ecological crisis (Foster, 2004). Roberts (2008 p555) reports that one area where the accumulation contradiction shows its face is the (primitive) accumulation of water. The neoliberal agenda is transforming this sector of production, as well as others, and we seem to be heading for a “water crisis” (see Swyngedouw, 2006).

According to Harvey (2003a; 2003b; 2005), in response to the inevitable crisis of over-accumulation, capitalists have sought to find new markets for capitalism, thereby hoping to sustain the system. Water privatisation is one of these markets. The strategy is to find resources for the capitalist market to utilise in expansion through creating (or modifying) markets wherefrom it can make money and sustain itself (Roberts, 2008 p540). Some of these resources are not exactly “free for the taking” as they are considered public goods or common resources – hence Harvey (2003a) calls this strategy “accumulation by dispossession” (Roberts, 2008 p540).

An amalgam of neoliberal practices, including Harvey’s “accumulation by dispossession” thesis, has come to be known as the “Washington Consensus” (Roberts, 2008 p539). A key postulate of this is the privatisation of state assets, particularly those failing to operate in accordance with full cost-recovery – like the provision of water. These neoliberal practices, even though they may result in “incomplete commodification”, are actually seeking “to articulate the value of all social and environmental relations, including water, in economic terms” and that “we are currently witnessing the emergence of an historically specific socio-environmental relation” (Roberts, 2008 p538) leading to an everyday reality where our lives are increasingly mediated through the market, as McDonald and Ruiters (2005b p22) aver.

Particularly in relation to water, though not exclusively, the emerging “water crisis” is being dealt with by such neoliberal practices which seek to protect water but, in actual fact, reproduce water as a scarce resource and thereby solve nothing; but, instead, the problem (Swyngedouw, 2006 p201-202). More strongly than this assertion, Bakker (2005 p543) argues that the capitalist market, with its neoliberal regulatory practices which treat environmental goods as market goods, comes to be viewed as the solution to environmental problems (like the “water crisis”), when in fact it is the cause.

What emerges is that water is turned into a commodity. We can see this clearly with bottled water. But what about domestic water? We find that this too is a commodity. Not only the water itself, as we will explore below, but the provision of this water is also commodified. However, we find water to sit uncomfortably as a commodity. As Bakker (2003b p28) argues, water is “uncooperative” in its commodified form in that it acts not as other commodities generally do (e.g. cars or shoes), but somewhat bucks against full commodification. Hence the many different ways the *process* of water commodification is handled – privatisation, commercialisation and corporatisation of water provision or services (Bakker, 2005 p544). Roberts (2008 p538) adds that these processes of water commodification emerge along with neoliberal market practices, aiming to maintain the capitalist mode of production. Only an approximated 5% of the world’s water is privately controlled, the rest, generally, is controlled through publicly owned and operated entities (Public Citizen, 2010). However, this 5% has a massive impact and creates inordinate profits for private water companies, as we explore below.

Research on water provision and commodification

Patrick Bond, based in South Africa, has been tracking the neoliberal agenda and the commodification of nature (amongst other things). His work on the water sector in South Africa (and globally) is useful for it focuses on the commodification of water provision (see Bond, 2003; 2004) and social resistance to such commodification (see Bond, 2008). Bond is prolific and his work extends into the fields of health, law, geographical development and other areas of the commodification of nature like air (through carbon trading).

Eric Swyngedouw is another academic researching the field of water commodification. His 2005 article, *Dispossessing H₂O: The contested terrain of water privatization* is particularly illuminating regarding transformations of the water sector based on the “accumulation by dispossession” thesis and the role of the state. Illuminating too is his theoretical and historical research into Spain’s so-termed “waterscape”. He understands the changing production of the “waterscape” as a reproduction of what he terms “socio-nature”. This is where water is being produced, in a myriad of ways, as both a natural and social substance and comes to generate a particular geographical configuration (Swyngedouw, 1999 p445). He thus excavates the history of the development of water provision in Spain to better understand the production of “socio-nature”.

Adrienne Roberts (2008 p554) states, “the primitive accumulation of water is one example of the contradictions generated by this fundamental feature of neoliberalism.” Neoliberalism, adds Roberts (2008 p554), is increasingly advancing the production of nature as a commodity and drawing the operations of social relations and human development closer to “an economic logic”. Roberts (2008) is right in the line of her analysis but far too narrow in comprehension, focusing on neoliberalism. Despite this her work helps us along the path of understanding water commodification.

The book *The Age of Commodity: Water Privatization in Southern Africa*, edited by David McDonald and Greg Ruiters, offers a study of water commodification in Southern Africa. In particular, chapter one theorises both the commodification and privatisation of water, and other chapters offer case studies of various areas in South Africa (Pretoria, Johannesburg, Cape Town, Nelspuit, Durban, Queenstown and Fort Beaufort) and the Southern Africa region (Namibia and the cities of Harare and Lusaka). Ghana is included in this study. In chapter six Ebrahim Harvey investigates prepaid water meters, wherein he asserts that these meters express part of the dictum of water commodification and attempt to control the working class’s use of water. This book offers a compelling study of the encroaching and entrenched privatisation practices of urban domestic water provision and the process of water commodification.

These last four studies focus more on the agenda of dispossession and neoliberal methods like water privatisation. Indeed, capitalism has intensified through these means seeking more commodification. When it comes to the provision of domestic water there is something else operating not fully explained by water commodification alone. Within the ubiquitous cries of protest from millions of protestors are cries against oppression and exploitation. Cries about threatened social relations through the imposition of control mechanisms like prepaid meters. Cries about the “power” of prepaid water meters. Cries of children burning to death.

The introduction of prepaid meters is beginning to see the erosion of social relations tied to water and its communal use. While in the past neighbours shared water, today they are forced to steal it from each other. (Coalition Against Water Privatisation, 2004b p10)

Repeatedly, residents [of townships and informal settlements in Durban] cited the power of the water meter as an inhuman agent working within their homes ... Grassroots anger is frequently directed at challenging this inhuman power. (Loftus, 2007 p49)

A strange transformation in the power of water infrastructure, as it begins to regulate the rhythms of daily life. (Loftus, 2007 p49)

Instead of water being a simple life resource, many find it increasingly difficult to access and use. Working class people in particular have difficulty accessing and using urban domestic water. Municipal bills are not novel but the size of charges for services rendered is, including water provision. Prepaid water meters – many installed in line with the FBW policy – have hit the scene in South Africa and regularly obstruct the working class’s access to water, including so-called water management devices, which allocate daily amounts of water and then shut off (prepaid water meters being one of these devices). Moreover, people with such devices (and those in similar situations) are finding their everyday social relations with each other infected by the anti-social (selfish, materialistic, individualistic) principles of the market economy: some people no longer share their water with their neighbours but actually charge each other for it (see Coalition Against Water Privatisation, 2004a; Coalition Against Water Privatisation, 2004b). Social relations around water are mediated to some extent by capitalist market values.

These short observations and others like them prompt certain questions. For example, how is water commodified? Is all there is to water commodification putting water up for sale or is more behind this? What happens to water access when water is

commodified and what role is played by prepaid water meters? Are social relations influenced and if so how? How can we better understand working class struggles for water and other public goods? We come to these and other questions as the dissertation progresses.

By posing these questions I am also asserting that there is something deeper operating than commodification. The problem is not simply about what you can or cannot purchase. Nor is it simply about what is put up for sale or what is not put up for sale. We can see that the commodification of water runs deeper than this by casting our eyes to those making more than mere demands for water. The so-called service delivery protests are about more than service delivery. They are about a decent life for the working class.

The Marxist argument from which this dissertation proceeds is that underlying the problem of water scarcity, and the solution put forward through the FBW line, are the problems of commodification and privatisation. We develop the contention below that central to these essentially social processes, is the existence of alienated labour.

Alienation

Marx's theory of alienation has been through the research mill and has been used in many theoretical and empirical studies, despite the theory's apparent lack of an empirical base. Though not explicitly called a theory by Marx, his most cogent and extensive discussion of it is set down in his *Economic and Philosophic Manuscripts of 1844*.

Marx theorises that the relation between humans and nature is based on human labour. He inverts Hegel, as is well known, to reconceptualise this relation by including alienated labour, and considered the latter condition to be rooted in the material world (Cox, 1998 p1). As Mandel (1970 p16) has inferred, "alienation results from a certain form of organisation of society", and such social organisation includes alienated labour (and hence commodity production) in its operation. Marx did apply the concept of alienation to other fields (for example: religion), he mostly used this concept in the realm economics, for it was here that humans' most fundamental mode of operation was under study: labour (McLellan, 1971 p106).

The *Manuscripts* themselves have their own problems as a source of rigorous theoretical investigation. Though they contain the kernel of Marx's theory of alienation and are thus necessary to an investigation based on such a theory, they contain problems. They are fragmentary and somewhat terminologically ambiguous, and pose difficulties for translation (Mészáros, 1970 p12). Moreover, the concept of alienation is complex, having at least four interrelated parts, and the framework Marx incorporates into his *Manuscripts* can appear odd to those used to common "philosophic formalism" for Marx embeds his exegesis in a "dialectical framework of discourse" (Mészáros, 1970 p13). Hence, in this dissertation we use three additional studies of Marx's theory of alienation to bolster the use of the theory in examining the central issue of this dissertation. These three are Istvan Mészáros's *Marx's Theory of Alienation*, Bertell Ollman's *Alienation: Marx's Conception of Man in Capitalist Society* and Chris Arthur's *Dialectics of Labour: Marx and his Relation to Hegel*.

Mészáros (1970) and Ollman (1971), together, perhaps offer the best explanation and authority of Marx's theory of alienation. Mészáros's (1970) explanation explores the origin of the concept of alienation and discusses how Marx arrives at his concept of alienation, both philosophically and historically. Mészáros (1970) also unpacks the various aspects of Marx's alienation, from the economic to aesthetic aspects, including an appraisal of the (then) contemporary significance of Marx's alienation theory.

Ollman's (1971) work, published one year later than Mészáros's, minimally incorporates the latter work. Ollman (1971) takes a different stance towards Marx's theory of alienation but echoes much of what Mészáros (1970) avers. Ollman (1971) is perhaps a little easier to follow than Mészáros (1970) and offers a simpler though detailed explanation of each aspect of Marx's alienation theory. Ollman (1971) also explicates much about Marx's Labour Theory of Value, tracking the metamorphosis of value based on alienation. He also analyses lucidly class relations, religion, and the state all as value relations based on alienation.

Lastly, Arthur's (1986) work, succinct and perceptive, is more focused on the relation between the philosophies of Hegel and Marx. However, it does incorporate both

Mészáros (1970) and Ollman (1971) and supports some of their conclusions. Arthur's (1986) work is an important support for the former two works on alienation as it has had time to digest their arguments. Mandel (1970) and Cox (1998) are two other sources used in support of the major works on Marx's alienation theory.

These above works show that a central issue of Marx's theory of alienation is the relation between humans and nature. This relation is mediated by human labour, and with the capitalist mode of production this relation becomes mediated in ways which alienate humans from nature. These above works are somewhat dated but Marx's theory of alienation is still utilised by more recent works: Harvie (2000), Dickenson (2001), Yuill (2005), Brook (2009) and Archibald (2009a, 2009b).

Marxist literature on humans' relation to nature is a rich body of research. Castree (2003) offers a succinct review of this literature and Castree (2000) surveys literature around the Marx-Nature question. As Goldman and Schurman (2000) show, most new social theory on society and nature move to engage with the "environmental crisis" and the position of sociology within this debate. As this dissertation draws on Marxist theory, such a rich field indeed contains helpful sources, for example: Schmidt (1971), Benton (1989), Grundmann (1991) and Burkett (1996, 1997). However, these aforementioned studies focus more on the debates about Marx's meanings and key categories to use whilst researching the connection between Marxism and nature. Whilst taking their points into account, various "eco-Marxist" works also offer useful information though they generally get stuck between the two poles of nature and society, creating a dualism (e.g. Williams 1980; others try overcome this dualism, e.g. Murdoch, 1997a 1997b; Latour, 1993).

Focusing on another debate, Geras (1983) deals with the legend associated with the sixth thesis in Marx's *Theses on Feuerbach* – that Marx indeed rejected a universal human nature. Geras (1983) ploughs through the semantics and interpretations gleaned around this legend, concluding that Marx did not reject the idea of a human nature. Geras's exegesis is a useful engagement of Marxism and human nature, and also relating to nature in general.

Some other works, which are more particular and original are James O'Connor's "second contradiction of capitalism" – the under-production of nature (1989a; 1989b; 1989c and 1998) and John Bellamy Foster's investigations of Marx's "metabolic rift" theory (see Foster, 1999,2000 and Dickens, 2000). Neil Smith (1984, 1986) and David Harvey (1996) are two others, postulating "the production of nature" thesis, which also contributes originally to eco-Marxist research. These works are specifically focused on geographical developments under capitalism through uneven development. Smith and Harvey's research is of particular importance to the capitalist accumulation hypothesis.

All these works are interesting and original but do not focus on the issue this dissertation aims to investigate: Marx's theory of alienation and the commodification of water.

Commodification is the concretisation of alienation in reality. Central to our investigation of this we draw on Marx's theory of alienation, particularly the concepts of reification and fetishism. It must be noted that "alienation" and "commodification" are both concepts which try and explain realities – those of the alienated labour process and the creation of things from this labour called "commodities", used for exchange in everyday capitalist life. In this dissertation we note the existence of them, but also use them as concepts to aid a better understanding of the reality around water privatisation in South Africa.

This dissertation contends that alienated labour is at the heart of commodification in the capitalist mode of production. Thus alienated labour is at the heart of the commodification of water. It has been argued that the solution to the current situation of domestic water provision in a water scarce country like South Africa is the decommodification of domestic water. At its core this argument advocates a change in the manner of water provision – from commodified to decommodified provision. In this dissertation we challenge this argument as being spurious. Alienated labour, and not the manner of provision, is the real problem. Therefore, whether the provision of water is free or not (e.g. argued to be provided for free through the FBW policy), alienated labour forms the warp and weft not only of such provision but also of the process of the commodification of domestic water.

Aim

This dissertation is a theoretical investigation of the commodification of urban domestic water in South Africa through the lens of Marx's theory of alienation. The aim is to see whether Marx's theory of alienation helps us better understand this situation.

Structure of the dissertation

Chapter one considers the question: what is water? In so doing, it shows water to be a social product and its provision a social process, which is grounded in the social relations of the mode of production: capitalism in its neoliberal phase.

Chapter two proceeds from the grounding of that historical materialist understanding. It elaborates and critically examines Marx's theory of alienation. It identifies and explores the four key aspects to this theory and the associated concepts of fetishism and reification.

Chapter three draws on the elaborated understanding of this theory to be used in deepening and extending our understanding of the provision of water. This also requires a theoretical focus on the commodification of domestic water, intensified and extended through current social processes of privatisation. The centrality of alienated labour in the different aspects of the full process of water provision is highlighted.

Chapter four examines the history of water provision. In focusing on legislation and changing regulations of ownership and control, an apparent conflict emerges. This is a conflict between the declared right to water of the ordinary person and a socio-historically developed social reality of water provision reflecting and serving the dominant interests of capital in the current mode of production. We use the theoretical elaboration and development of the preceding chapters to clarify this conflict. In particular, we see more clearly reflected the process of water commodification where the use-value of water as a social necessity has been subsumed and subordinated beneath its exchange-value as a commodity in the capitalist market. The continuity of alienated labour is illuminated through historically changing regulations and arrangements relating to ownership and control.

Chapter five examines two instances of struggle around water provision. In following these cases we focus on the prepaid water meter as a manifestation of the logic of commodification, and both clarify and elaborate the different underlying aspects of the issues posed. We explore the different aspects of alienation and reification and fetishism as these relate to water commodification and struggles. We also expose the centrality of alienated labour. The central contention of this study is that while different pieces of this have been done in existing analyses, it is only by examining these cases through the elaborated lens of alienation developed in this thesis that a deeper and more extended understanding of the struggle by ordinary people against water commodification can be achieved.

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CHAPTER ONE: WATER

Water spurs life. All living creatures need it. The earth itself is in a constant cycle with it. Indeed, water is a basic element that sustains life like air. But what is water for human society? Is it more to us than simply an element by which we live? How do we utilise it? Is the manner in which we use water threatening our supply of water? Even though water is “from nature”, we incorporate it into contemporary human society – we dam, capture water’s energy, cleanse and treat it, and eventually produce it for general human consumption, particularly in the urban environment.

This chapter begins by exploring what water is in human society. We explore the compound of water, humans’ varied need for water, possible threats to our provision of water and examine some of the meanings we as humans have ascribed to water. This thesis focuses on urban domestic water and thus we turn to consider a very brief history of such water use. This allows us to ground water privatisation, a ubiquitous and prevalent manner of water provision.

1.1 What is water?

Water is a chemical compound of oxygen and hydrogen but both the physical and chemical properties of water are not fully understood (Witcombe and Hwang, 1999). What we do know is that of all water on the planet, 97.5% is salt water and 2.5% is fresh water (Clarke and King, 2004 p20). Of this latter amount, only 30.5% is available for use (Clarke and King, 2004 p20). The other 69.5% is locked up in glaciers, ice, snow and permafrost and, as such, is unavailable for use (Clarke and King, 2004 p20). Moreover, only 0.4% of the total 2.5% of fresh water on earth is actually on the surface of the earth; contained in lakes, rivers, marshes and wetlands, soil, air humidity, plants and animals (Clarke and King, 2004 p20). The volume of water on earth is approximately 1,386 million km³ (Clarke and King, 2004 p20).

As is widely reported, the world water supply is in a state of crisis and is getting worse (Clarke and King, 2004 p19). Water made life on earth possible and without water life is surely impossible (Clarke and King, 2004 p11). As we know water is

both cleverly utilised and badly abused. Though our ability to utilise water in ingenious ways is impressive, from the steam engine to hydroelectric power and technologies of desalination, human expansion throughout the world is also destroying the environment. So what is the current state of our fresh water?

Aquifers (natural underground water storage pockets, often steeped with sand or gravel) are one of the most important sources of our fresh water, with 100 times more water contained within them than on the surface of the earth (Clarke and King, 2004 p19). However, these aquifers are being vastly depleted just like our mineral deposits of gold, diamonds and oil are similarly being emptied. Yet, unlike these mineral and fossil deposits, some aquifers can be replenished.¹ Despite this, most aquifers drawn on are being used faster than their rate of replenishment (Clarke and King, 2004 p20).

The key process to all regeneration of water is the hydrological cycle. Water is evaporated mainly from the oceans and then condenses into clouds, which are basically water vapour. These clouds rain (precipitate), back into the sea and on land. The oceans get the most rain but also more water is evaporated from them whereas on land, most of the rain water is stored in some way (Clarke and King, 2004 p20-21). Once on land, this rain water turns into surface runoff which either collects into lakes or rivers or percolates through rock into groundwater and replenishes aquifers (Clarke and King, 2004 p20-21). This cycle continues to operate but under increasing pressure from human activity, like continual pollution and a growing population.

Water is unique. It is different from other resources like land, gold, oil, diamonds and wood. Like air, it is something that finds itself incorporated as an ingredient in almost everything. But water is liquid and air is gas. As such, water is therefore easier to contain than air – hence we have dams, water tanks, and other water containers or conduits, like aqueducts. Water is needed to grow plants, quench animals and is drawn on by all living things. As a species we continually have to meet our need for water. It is to humans' need for water that we now turn.

¹ According to Clarke and King (2004: 19-20), the rate of regeneration for aquifers varies widely. Some are argued to take millennia to regenerate whilst others regenerate after just one rainy season. The size, location, sedimentation and other environmental factors influence aquifer regeneration.

1.2 Human need for water

According to Gleick (1996 p83), there are four requirements in terms of basic human needs regarding water: drinking water for survival; water for hygiene; water for sanitation and water for food preparation. Gleick (1996 p83) recommends 50 litres of water per person per day (l/p/d) and a guarantee of access to such an amount regardless of political, economic or social status. Rudin (2008 p9) makes a case for a 94.5 l/p/d minimum for those in South Africa. Rudin (2008 p10) quantifies the uses of water ranging from washing hands, clothes and teeth to growing food. As such, Rudin (2008) goes further than Gleick (1996) in including these latter categories. The importance of this 94.5 l/p/d as Rudin (2008 p9) argues, becomes more evident when we turn to explore the current status of water provision in South Africa in chapter four below.

Regarding survival (as the most basic need), Gleick (1996 p84) reports that humans feel thirst after they have lost just one per cent of bodily fluid and their lives are in danger when fluid loss is near 10 per cent. Tvedt (2001), however, states that if humans lose more than 20 per cent of bodily fluid they die. Pearce (2004 p26) reports that no human can live without water for more than five days. Clearly, water is needed to live in everyday life.

Neither Gleick (1996) nor Rudin (2008) consider the recreational use of water as a need. What about water slides, public baths and swimming pools, or filling a balloon with water and hurling it at someone? The recreational use of water is not considered as a need, for both Gleick (1996) and Rudin (2008) take as their starting point human survival. I argue that the need for water should also include such recreational use, as Max-Neef (1991 p17) would concur. In this way, our starting point is more than mere survival and a fuller picture of humans' relation to water.

Most certainly, Max-Neef (1991 p32-33) would argue that the recreational use of water helps meet what he considers are fundamental human needs of Participation, Idleness and Freedom. Participation is the need to be involved with other people, including playing with others (Max-Neef, 1991 p32), and here water is one way with which we engage with each other (e.g. water sports). Idleness is basically relaxation

or tranquillity (Max-Neef, 1991 p32) and water too offers this – for example, a garden water feature. Lastly, Freedom refers to personal space in which we gain our full potential and freedom from restrictive barriers, possibly through equal rights (Max-Neef, 1991 p33). Here too water could aid the meeting of this need through providing us with a space to develop our full potential in water sports, for instance.

Religious uses of water and how they aid us in meeting our needs are also not reported by Gleick (1996) or Rudin (2008) Such practices as baptism or other religious cleansing rituals are considered needs to some. Many religions have sacred associations with water, some of which we considered later. Water is praised and used; praised for being the life-giver and used to bless those living.

Hence, water is not simply something we need for material subsistence but is also integral to humans' social and economic life. Socially, water is something used for various reasons by many people. Some appreciate a sweet, calm lake; others use water more vigorously: recreationally – water sports, swimming, water balloons, etc. We associate with each other over and around water. For some, water does not carry such pleasant associations for it can be wielded as a weapon - either as a deterrent (for example in murdering by drowning or poisoning water sources) or a threat (interrupting water supply in warfare, like the Goths' destruction of the Roman aqueducts in 537 AD). Closer to home, water was used as a weapon when, for example, the apartheid government cut the water supply to the Wesselton Township of 50 000 people in 1990 because of protests over poor sanitation and living conditions (Joseph, 2005 p43).

Economically, we use water in agriculture to produce food and we also use it to cook food. We use water for industrial production and mining activities, the latter is particularly a contested site of water use (e.g. acid mine drainage). Water is also used to create energy through hydropower and also provides transport (rivers, canals, etc.). Water is also used for sanitation and health care, in the home and in the city. Water is also used to make profit, such as in the privatisation of water provision. Water may, arguably, be the most fundamental element of life. What's more, water is a finite substance, which we cannot simply create. What happens when such a resource is threatened?

1.3 Threats to water

According to Clarke and King (2004 p22-23), 500 million people in the year 2000 were living in countries chronically short of water and this number is projected to increase to four billion by 2050. South Africa is projected to be one of these countries and, in 2000, was categorised as a “water stressed” country – demand and use beyond our means of replenishment (Clarke and King, 2004 p22-23). In this, South Africa’s proportion of water use is reported as mostly going to agriculture then to domestic use and, lastly, to industry (Clarke and King, 2004 p24). Currently, South Africa is considered one of the 30 driest countries in the world, according to Junior Potloane of the Water Institute of Southern Africa (Smit, 2010). Another notable pattern is how water usage is increasing with wealth. As people are becoming richer, so they are using more water (Clarke and King, 2004 p30). However, cities in developing countries are reported to typically lose up to 40% of provided water through leakage, which is approximately what South Africa also loses (Clarke and King, 2004 p30).

The increasing world population is an important factor when considering issues of water. It is known that population levels are increasing exponentially. Varis (2006 p199) asserts that the world’s population growth is largely determined by the growth of urban population, which is increasing dramatically. The level of the world’s population from 400 to 1700 AD (a span of 1300 years) only increased threefold. Whilst for two periods of 100 years each, 1700 to 1800 AD and 1800 to 1900 AD, the world’s population increased 1.5 times and 1.8 times, respectively, and this rate is still accelerating (Juuti et al., 2007d p100). In 1975, 190 million people lived in cities with a population of more than five million (Varis, 2006 p199). In 2000, this same figure rose to 394 million and the United Nations has forecast this to increase to over 600 million by 2015. Moreover, according to the *Living Planet Report* released in 2008 (compiled by World Wildlife Federation, the Zoological Society of London and the Global Footprint Network), more than three quarters of the world’s population lives in countries with levels of consumption beyond possible environmental renewal (BBC News, 2008). This global situation spells disaster for water provision.

As previously mentioned, water has had many different associations and meanings for people. Some recent research is recasting how we understand water. Swyngedouw

(2004 p28) states that “water is a ‘hybrid’ thing that captures and embodies processes that are simultaneously material, discursive and symbolic”. Budds (2009 p420) reports on how political ecologists are reconceptualising water more socially: water as a “socio-nature”, which has enabled water to be seen more as something that includes social relations in its conceptualisation. This means that water is seen as more than simply an environmental resource. What follows below is a consideration of some meanings people ascribe to water.

1.4 Meanings of water

Bergua (2008 p782-4) explores the meanings associated with water throughout history. He states that water has most often been considered the birth element or the “maternal” element. As he highlights, for the Amerindian Kogui people, water represents just the birth element; the “Sea-Mother” from which life arose (Bergua, 2008 p782). The Vedas record water to be maternal because it is a fluid which circulates, giving life to the world, like sap, blood and milk that also circulate (Bergua, 2008 p783). Bergua (2008 p783) also notes how water both gives and takes life and represents both security and danger. He reports that many divinities associated with water would require sacrifice from their believers: Poseidon and Neptune (Greeks and Romans), Indra (Hindus) and Mallku T’inkai (Quechas in the Andes).

Other meanings water has held for people have emerged from antiquity. Copleston (1962 p38) reports that Thales of Miletus, according to Aristotle, considered the earth itself to be superimposed on water – as a floating disc – and that the primary stuff of all things is water. Thales understood moisture to be the nutriment of all things and thus the base matter of all things. Anaximander, also of Miletus, believed that humans came from the ocean; he actually guessed at human evolution (Copleston, 1962 p39). Other “ancient” philosophers believed differently – for example, Anaximenes of Miletus believed that the primary element was air; Heraclitus believed it was fire (Copleston, 1962 p40, 57). But considerations of water being the primary matter influenced most of these philosophies of life. For example, it could be argued that Heraclitus, probably the inspiration for Hegel’s dialectic, was influenced by the movement of water when he stated, “You cannot step in to the same river twice”; that “all things are in a state of flux” (Copleston, 1962 p55). This movement may have led

Heraclitus to develop his theory of unity in diversity and difference in unity, leading to strife as being essential to existence, as Copleston (1962 p56) reports Heraclitus claims. Water has had a clear influence on Western philosophy.

Bergua (2008 p790) also discusses how drinking water, specifically in urban areas, has been used to discipline the individual and order society. His aim is to unpack the ideological (cultural) meanings of drinking water particularly and argues that, with the beginning of the Industrial Revolution, people were being ordered by the hegemonic characteristics ascribed to water, such as cleanliness and purity (Bergua, 2008 p790). Importantly, Bergua (2008 p790) claims that this “ordering” of modern urban society was carried out by the “hegemonic social subject of our era, the bourgeoisie”, supported by abovementioned values ascribed to water and “powerful allies” of doctors, microbiologists, architects and the like. He claims that those who had power in society were pushing their interests, specifically around urban drinking water. As we will see later, this is being carried out in South Africa, although I offer a slightly different interpretation of it.

Of course, alongside the many religious, ideological and exceptional meanings people hold for water, are the ordinary, everyday meanings that billions of people hold for water. Water means hygiene. Water means a hot, cooked meal. Water means play time. Particularly in South Africa, adequate emergency water provision can mean the difference between life and death. Having access to adequate water can extinguish the myriad and ubiquitous shack fires, which consistently kill people. Indeed, water is a daily necessity for billions. Unfortunately, water has also come to hold an ephemeral material meaning for it is rather the *lack* of water that many experience day-to-day.

We turn later below to consider this everyday reality for many when we cast our gaze on the privatisation of water. To ground this consideration, we first turn to a brief history of the relationship between humans and water.

1.5 Humans and water: a brief history

This very brief history of the relationship humans have had to water through the eons is not comprehensive; there is simply not enough space in this thesis to unpack this rich and interesting area. However, we note three major shifts in humans’ use of

water. The first shift came with a movement from nomadic existence to a sedentary lifestyle; the second with the development of irrigated agriculture; and the third with industrialisation.

Presently, the purpose of this brief historical examination is to show that humans' relationship to water changes under our various modes of production. We also note the importance of water to human development (how we have used it) and the role human labour played in this development. What is evident is that there appears to be a dialectic operating between water and human labour. This brief historical examination is specifically skewed along the lines of so-called "Western Civilisation", though noting exceptions, for it is out of such "Civilisation" that our current capitalist mode of production develops and now holds sway over the global economy, our everyday lives, including urban domestic water provision. Let us turn to consider the first shift.

About 10 000 years ago, humans began to settle into a sedentary agricultural lifestyle (Juuti et al., 2007b p12). Before this, humans were nomadic, moving from one place to another for food, shelter and water. In terms of water, these nomadic humans sought water sources (e.g. rivers, springs) and moved to others. When humans began to settle, their relationship to water was transformed into a more stable one, where humans settled near consistent sources of water, like rivers, springs or streams (some have taken this further to develop theories of hydraulic civilizations or empires, e.g. see Wittfogel (1956; 1957). A sedentary agricultural lifestyle meant that humans were able to live in villages, cities and states and the population increased because of this lifestyle (Juuti et al., 2007b p12). The earliest known permanent settlement is reported to be Jericho (8000-7000 BC), which was located near water sources and this is similar for other early settlements (Juuti et al., 2007b p13; Tvedt, 2001).

Humans did not simply decide to settle into sedentary lifestyles. Over time, our methods of producing our goods (or our "mode of production") changed with our environments and our increasing ability to utilise them intelligently. The human mode of production changed from being nomadic (hunter-gathers) to being sedentary (farmers; agriculture). In this latter mode, humans learnt to better control and produce their goods, including food. For example, one of the first methods of farming was "dry farming". This is a form of agriculture that depends on natural soil moisture and

not irrigation (Nace, 1972 p34). From about 8000 BC to 5000 BC, dry farming of domesticated cereals and the herding of domesticated animals were widely practiced in southwest Asia (Nace 1972 p34). By about 7000 BC, as Nace (1972 p34) reports, “farming villages had been established through a wide arc of territory extending from Khuzistan in south western Iran through the hills areas of the Zagros and Taurus Mountains of Iran, Iraq, and Turkey into Anatolia, and also into Palestine.”

With such sedentary lifestyle came problems of hygiene, among others. Humans who settled in the early stages of this first phase realised that their waste and that of their animals started to have detrimental consequences for their sanitation and health (Juuti et al., 2007c p94). This helped give birth to the first human sanitation systems. As many early settlements were near water sources such as rivers, they were utilised to deal with the hygiene problems, which grew along with the population of such settlements.

The second major shift took place during antiquity (approx. 500 BC-500 AD). This has been argued as the first urbanisation in Europe (Vuorinen, 2007 p47). Humans (in this first phase of their relations to water) started to use water more than simply for drinking and watering their beasts. Rather, they began *en masse* to cultivate fields for food production and dig trenches and conduits to bring water into their settlements, thus farming with irrigation (Juuti et al., 2007c p94). During this time, “urban” people lived in towns with a population between 5000-10 000 persons. This urbanisation was “not possible without transporting or supplying a sufficient amount of good quality water to the town” (Juuti et al., 2007c p94). Hence water was needed to spur growth of such towns, some of which, in turn, grew into cities. Such urban areas were largely based on good quality water and their systems of collection and provision.

So far this brief history shows the trend of a dialectic between both humans and nature through human labour (expressed through the changing modes of production), and also between developing urban infrastructures (like water systems) and developing cities. Urbanisation developed with each phase building upon its former phase.

In the Mediterranean region, during antiquity, urbanisation developed rapidly. Water was key to such development. Without a reliable source of water, humans could not settle as they depended on water (and still do). Marrying reliable sources of water with certain tools and techniques (based on developed and developing knowledge), humans were able to take up sedentary lifestyles (see Diamond, 1997). This included both agriculture and keeping and breeding animals (domestication), building on methods developed through human history.

However, there are notable exceptions to this general pattern of the development of water provision focused on in this brief history. Urbanising centres developing in Mexico and Cambodia, for instance, actually had the opposite problem of that faced by many of the urban centres under discussion: too much water. Whilst many “western” urbanising centres were struggling to provide water to burgeoning areas, urbanising centres in Mexico and Cambodia were actually trying to expel water. For example, in the original Mexico City (Tenochtitlan), earth was collected on a massive scale and used to displace the ever-present water, effectively creating both a growing settlement and a kind of fort (with an extensive moat) to defend the Aztec empire (Tvedt, 2001).

Before the third major shift in human water use, there was a “hiatus” in the development of water use methods. This hiatus was during the medieval period in history, but it was not a complete hiatus. There were endeavours of extending water provision post antiquity,² but water provision was almost reversed (or paused) after the fall of Rome and antiquity’s end. Humans began to rely more and more on wells, springs, reservoirs and fountains and retreated from building, using and maintaining many of the great aqueducts (Juuti et al., 2007d p100). For example, Robins (1946 p91) reports that the Goths besieged Rome in 537 AD and destroyed the water systems amongst other things. From the fall of the Roman Empire followed the Dark

² Some of these endeavours are: Pope Adrian I, in the eighth century began restoring the destroyed Roman aqueducts (Robins, 1946 p91); in the twelfth century, Sultan Saladin ordered the construction of water supply networks to Egypt, these aqueducts still remain (Robins, 1946: 95-96); in West England in the thirteenth century, the countess of Devon granted the town of Tiverton water rights to certain springs in the Norwood Common and leats (open water channels) were dug to bring the water into Tiverton (Robins, 1946:110).

Ages, where the impetus and momentum created by science and technology from antiquity was stifled. Particularly in the European region, people again depended on earlier water systems like wells, springs and conduits, which were localised (Robins, 1946 p91).

Though there was great dependence on conduits, as towns grew, conduits became increasingly insufficient to meet the growing needs for water provision and people turned to other sources like Londoners did in the fourteenth century, drawing from the River Thames (Robins, 1946 p130). During the sixteenth and seventeenth centuries in particular, these earlier water systems also developed more into public water fountains (Robins, 1946 p129). But what we find is that in the Middle Ages (approx. 537 AD – 1453 AD) and up until the eighteenth century, there were limited steps in developing water provision (Juuti et al., 2007d p100).

We now come to the third major shift of the history of water use. The Industrial Revolution (roughly 1750-1850) and the related growth of cities gradually lead to a greater need for centralised water systems (Juuti et al., 2007a p236). As Britain was the forerunner, technological innovations generally spread from there, as did innovations in water provision (Juuti et al., 2007a p236). During the nineteenth century water provision services were started in earnest, mostly with private enterprises (especially in England) (Juuti et al., 2007a p236).

Municipal organisations did exist but to a limited extent during this time. However, these municipalities grew with increasing urbanisation and quickly began to dominate urban water provision in most of Europe and North America, during the latter part of the nineteenth century and early twentieth century (Juuti et al., 2007a p236). All countries in these parts of the globe followed the same trend with the exception of France, which developed too many municipalities (some 36 000 by the eighteenth century) for them each to have localised water systems and operation and has since greatly depended on private water companies (Juuti et al., 2007a p239).

Hydropower was a very important driving force in the Industrial Revolution. Though most countries depended on coal as the energy source underlying industrial production, the energy precursor to this was hydropower. The water mill was widely

used for the growing textile industry and especially for the saw mill (Tvedt, 2001). In fact, hydropower is what allowed Norway to industrialise *without* coal during the Industrial Revolution (Tvedt, 2001). Lastly, one very important technological innovation based on water was the steam engine. The first steam-powered engine was really a pump, first used in 1698, designed to pump water out of mines. After this, was Watt's famous steam engine, which, arguably, catapulted humankind into the Industrial Revolution.

Mercantilism developed more into private enterprise based on private property (and eventually full capitalism). This development came after the land enclosures of the late eighteenth and early nineteenth centuries, which primarily affected England but then spread throughout the greater "western world".

Out of this cauldron of industry developed the commodification and privatisation of water, to which we next turn. This brief examination of the history of water use helps us see that underpinning the growing present model of water provision – privatisation – is a history of humans developing through their labour on their natural environment. How we provide water is largely based on our mode of production, which has changed through history. Capitalism is that mode of production by which we now provide water to the billions of people on this planet. Many of them encounter problems accessing the water they need.

1.6 Privatising water

Water management norms are currently undergoing a dramatic institutional and organizational transformation through a process of marketization: the introduction of markets or market-simulating decision-making techniques, and the participation of private companies and private capital in resource development, water supply, and wastewater treatment. Corporate control of water resources development, allocation and supply is gradually being ceded by the state to private companies, decision-making mechanisms are increasingly market oriented or market mimicking, and (to a somewhat lesser extent) decisions about water allocation are increasingly being made via the market rather than (or alongside) public policy mechanisms. (Bakker, 2003b p36)

Argentina, Bolivia, China, Chile, Indonesia, Morocco, the Philippines, Poland, South Africa, Thailand, and Turkey are just a few of the countries in which the state has initiated private-sector participation in water supply. A handful of private companies hold the majority of contracts, and these companies have been increasing their market share in the domestic water supply sector. (Bakker, 2003b p36)

The privatisation of water provision, particularly urban domestic water, is increasing

in the current phase of neoliberal capitalism. The privatisation of water provision that we focus on is that of state water provision or municipalized water provision services, which have become privatised. Such privatisation, however, is not new. As mentioned above, for about 200 years France has provided its citizens with domestic water through the privatisation of such provision. Curiously enough, except for a brief interlude, Paris – the home base of two of the biggest water corporations, Veolia and Suez – has rejected water privatisation and maintained public management of the Parisian water services (Food and Water Watch, 2010 p1). Following a brief interlude, as from June 2009, the Paris City Council re-municipalised Paris' water services in order to, “stabilize prices for consumers, improve efficiency and provide accessible water services to all residents” (Food and Water Watch, 2010 p1). This flies in the face of the general global trend of water privatisation, which frequently touts the so-called “French model” of water provision.

However, the global picture is that more and more municipalities are allowing for and relying on private corporations to provide urban domestic water (Bakker, 2003a). The manner of such provision has many forms (see chapter three), but this trend of water privatisation means on the whole that the provision of urban domestic water, amongst the uses outlined earlier, is also used to make profit. The provision of water is treated like any other business. And, indeed, this business is not novel.

What is new is the intensity of the privatisation of water provision and also the attempt to treat water itself as an actual commodity. Here we must draw an analytical distinction between the waters we focus on. Urban domestic water is produced as a product for consumption. Hence urban domestic water, that water which comes out when we open the tap in our urban homes, is itself a commodity. This water is analytically distinct from the commodified provision of domestic water. What do we mean by commodified provision? In order to produce potable water, especially for the urban environment, a whole slew of organised work must go into such production. We have briefly considered a history of this above. However, giving content to this commodified provision: water catchments and dams are built by human labour to gather raw water; that water is then transported through water pipes which are laid or trucks which are driven or simply processed at the water catchments or dam; the processing of this raw water includes purification, softening or hardening – modifying

the raw water, particularly for domestic and industrial consumption. Of course, this does not happen with all raw water. There are numerous instances of “water harvesting” (see *The Water Wheel*, 2006), for example. But human labour is utilized with almost every contact humans have with raw water. This labour is performed within the mode of production of capitalism.

So we have a distinction between produced water – the water itself as a product – and the provision of such water. This analytical distinction will become important for us below. It is important to note that the water product (e.g. urban domestic water) falls within the framework of providing such water – from the collection of raw water to purification to the management of domestic delivery through household taps.

Water provision (and management) has changed over time. As Juuti et al (2007a p239) state, from the mid-nineteenth century the distinction between private and public became more salient and the control over water services operation and provision jostled between the two. Over the years, there have been many different forms of the privatisation of water provision. Whereas before, water provision was mostly private in the growing industrial centres (Juuti et al, 2007a p239), the growing municipalities (state management) began to take over the provision of water for its citizens (Juuti et al, 2007a). Where there was movement from private to public, this changing management was not only due to generally developing municipal control but also because of high inefficiency, costs and corruption related to private enterprises’ control of water services (Juuti et al, 2007 p239). Ironically, many of these shortcomings are now levelled at the public sector, not only regarding water provision.

Currently, this historic changeover from private sector to state is now reverting back to the private sector (Bakker, 2003b p40), and a much more developed and powerful sector at that. As will be discussed further below, the commodification of water precedes the movement from municipal to private. While the essential fact of commodification has not changed, commodification of water in the capitalist mode of production has become more and more a contested and socially volatile issue. Such commodification we fully consider in chapter three.

1.7 Conclusion

We have examined water and what it is for human society. We can readily see that water is more than simply a compound of oxygen and hydrogen. Aside from the materiality of water, it bears a social component. For humans it has carried varied meanings over the eons, from extraordinary and mysterious to ordinary and everyday.

Water supply is something necessary to every human's day-to-day life but is globally under threat. By examining a brief history of water provision we saw how the different modes of production have shaped and been affected by changing water use and provision. This brief historical examination also allowed us to historically ground the privatisation of water, not as ordained by some higher being, or result of a natural process, but socio-historical. It is this social element that is the crux in the matter of water privatisation. Of course, the material aspects of water are to be considered (see chapter three) but we note that water is a social product.

Bakker (2003b p48-49) expresses this comprehensively:

A focus on the materiality of water opens up an understanding of the implications of its particular biophysical characteristics for the social relations (such as property institutions) of its production. ... acknowledging the materiality of water involves recognizing the socially and temporally contingent limits to the utilization of H₂O [the actual, physical compound] in line with human intentions. ... Whereas H₂O [the actual, physical compound] circulates through the hydrological cycle, water as a resource circulates through the hydrosocial cycle – a complex network of pipes, water law, meters, quality standards, garden hoses, consumers, leaking taps, as well as rainfall, evaporation, and runoff. Water is a dynamic resource landscape, generated by the processes imperative in the uneven development of capitalism.

This does not imply that a distinction is to be made between “first nature” and “second nature”; both H₂O [the actual, physical compound] and water [including the social aspects] are produced in nature, in a “complex dialectic between production and nature.” Rather, water is simultaneously a physical flow (the circulation of H₂O) and a socially and discursively mediated thing implicated in that flow.

This thesis focuses on the socio-historical process of the provision of water through privatisation in the dominant mode of production: capitalism in its neoliberal phase. It explores Marx's theory of alienation in seeking to determine whether it can assist in deepening our understanding of the process and social consequences of the commodification of water. Hence, we now turn to consider this theory.

CHAPTER TWO: ALIENATION

The product of labour is labour which has been embodied in an object, which has become material: it is the *objectification* of labour. Labour's realisation is its objectification. Under these economic conditions this realisation of labour appears as *loss of realisation* for the workers, objectification as *loss of and bondage to it*; appropriation as *estrangement*, as *alienation*.

Marx (1975b p272) *Economic and Philosophic Manuscripts of 1844*

In this chapter, we will explore Marx's theory of alienation, including the origins of the concept of alienation. We will also explore the concepts of fetishisation and reification, included in Marx's theory of alienation. We end off by considering the inadequate use of this theory and critiques of the theory.

The Marxist theory of alienation contains the hope of transcending alienation. Not only the alienation experienced by the worker, but the whole of humankind. This thesis uses Marx's theory of alienation in this spirit.

2.1 Origin of the concept of alienation

The concept of alienation was not new when Marx developed his theory of alienation. Marx provides a unique turning point with this concept but he develops his conception from others' understanding of the concept, particularly Hegel. Mészáros (1970 p27) tells us of how this concept has been involved in a large set of "complex problematics" from religion to law, economy and philosophy. Indeed, Mandel (1970) reports that the concept of alienation is almost as old as religion itself; the two have been linked together in their histories, both in the Western and the Eastern philosophical traditions. Whilst an in depth exploration of this concept is interesting and useful, the space for this dissertation is limited. We therefore start from a brief exploration of Hegel's conception of alienation and how Marx appraised and developed this. We then consider the key concept of "mediation", which will help us when we move to explore Marx's theory of alienation proper.

2.1.1 Alienation: from Rousseau to Hegel to Marx

A useful place to start is the relationship between nature and humans. Hegel argued that the dynamic between material reality (nature) and what we make of it as humans, is our ability to labour on nature. "Labour" is also termed "productive activity" and

Hegel averred that this human activity is what moved history. Hegel also argued that humans are actually alienated beings. Before Hegel, alienation was first understood in a positive light; as something desirable in terms of “socio-economic and political phenomena” (Mészáros, 1970 p48). For instance, the alienation of land was desirable as one could profit in divorcing land from the old feudal relations tied to it and make such land into private property, for which the new capitalist owner could charge rent (Mészáros, 1970 p48). Regarding the concept of alienation, this time in history has been termed “Uncritical Positivism” (Mészáros, 1970 p48). It was not until the effects of the capitalistic mode of production began to “erupt through social unrest”, as Mészáros (1970 p49) argues, that dusk began to settle on a “positive” understanding of alienation.

Rousseau helped clear the fog of “Uncritical Positivism”, pointing to the effects in his society of alienation, which he considered inhumane. For example, Rousseau argued that one ought not to sell oneself (thereby making oneself alienated) and thus degrading social relations to relations based on profit (Mészáros, 1970 p55). Rousseau considered the root of this alienation to be people’s hunger for money and wealth (Mészáros, 1970 p55). However, Rousseau’s conception of alienation is trapped as a moral postulate (leading to moralisation) (Mészáros, 1970 p60).

Hegel transformed the concept of alienation from a moral postulate to an historical postulate (Mészáros, 1970 p61). His approach is a markedly different one in understanding alienation for Hegel understood alienation as linked to the fundamental laws of capitalistic society (Mészáros, 1970 p61). Hegel understood the transcendence of alienation to be embedded within the movement of history; that history moves by a dialectical process through which the transcendence of alienation is eventually realised because it is an “inherent necessity” in the dialectical process (Mészáros, 1970 p62).

Hegel asserted that humans are alienated because human labour is alienated (Mandel, 1970). Hegel based this assertion on his complex explanation of alienation. He explained alienation in two senses. First, he argued that humans will never fulfil their needs, which are always a step ahead of the available economic resources (Mandel, 1970). This rests on the notion that alienation is essential (and inevitable) to human

life. Other philosophers post Hegel held this notion, for example, Heidegger. He argued that alienation is a necessary part of human existence, which cannot be transcended in everyday reality (Petrović, 1963 p423). In Heidegger's terms, humans' existence is both "authentic" and "nonauthentic".

Hegel's second explanation hinges on his understanding of "externalisation" (*Entäußerung*), where whatever we produce in material reality is simply an extension of a humanly conceived idea (Mandel, 1970). However, at this point, what we produce (according to Hegel) ceases to be a part of us as it is separated from us into material reality, and cannot be part of our being anymore as opposed to an idea we have in our minds which is part of our being (Mandel, 1970). Hence for Hegel, whatever we produce is alienated from us and humans will always be separated from the products of their labour. We can only labour in an alienated way (Mandel, 1970).

For Hegel, actual transcendence of alienation – that is, in material reality – was concluded only in thought, i.e. conceptually (Mészáros, 1970 p62). This is because an uncritical stance towards the basis of alienation – the socio-economic realities of capitalism – was transformed by Hegel into aspects of thought ("thought-entities" as per Hegel) (Mészáros, 1970 p62). Hence, changing our thought is to change our alienation and the transcendence of alienation merely remains illusory (Mészáros, 1970 p62). This is why Marx considered Hegel's standpoint as "uncritical positivism" and bourgeois – as idealistic (Mészáros, 1970 p62).

We now come to Marx and his conception of alienation. Marx rejected Hegel's explanations of alienation. Marx argued that the dissatisfaction at which we arrive, stemming from the inability to ever fully meet our needs through our labour, is not absolute (Mandel, 1970). This unsatisfying state is conditioned by history and Marx shows how we have arrived through history at a point where we can produce more than we need (Mandel, 1970). For Marx, alienation was something "rooted in the material world" (Cox, 1998 p1); which is the opposite of Hegel's conception. As Petrović (1963 p425) states, Marx regarded alienation as "a historically transient characteristic of man [sic], a phenomena, which to be sure is characteristic of all previous history," and not essential to a human's being. Petrović (1963 p425) also

asserts that “for that reason [alienation] need not characterise the future.” Hence, the assertion that alienation can be transcended.

Marx took a critical standpoint towards capitalism from the critical standpoint of labour (Mészáros, 1970 p64). The capitalistic process of objectification appears as alienation and the two terms are enmeshed, so that it appears as if to objectify oneself in the world is to alienate oneself (Mészáros, 1970 p64). Marx disentangled these understandings, showing how alienation in a capitalistic society is due to the organisation of social relations under capitalism. Capitalism converts almost all property into private property and creates a labour force only able to own its own labour-power, and this it must sell to those with capital in order to live. Such people have been usurped of their land, which resides in the hands of the property owners – the capitalists. This stage in history we have reached is considered necessary, by both Hegel and Marx (Arthur, 1986 p130). However, Marx argues that transcendence of this universal alienation is actually possible and, in fact, will come about with the movement of history – though only through the agency of the proletariat (Mészáros, 1970 p64).

Also, Marx disagrees that whatever we produce is alien to us because it becomes separate from us. It does not follow that what we produce must then oppress us or turn against us. As Mandel (1970) concludes, it is a particular form of society which leads to alienation. Marx transformed Hegel’s conception of alienation from one which was ahistorical and incorporating a closed-system, to one which was historical with an open-ended system (Arthur, 1986 p129). Hegel conceived of reality as the negative movement of “Spirit” (requiring the opposite, positive side of “Spirit” for the movement of history) and thus a “closing of the circle”, as Arthur (1986 p129) puts it. What this means is that Hegel’s system, despite his incorporation of history, moves in cycles to move forward and does so from within itself (Arthur, 1986 p129). Counter to this, Marx conceived of history as the movement through distinct stages of development (in themselves complete) but allowing for an open-ended system of development without an “end” like Hegel’s (Arthur, 1986 p129). Marx understood history to move through radical breaks that “refound the fundamental determinants of being” (Arthur, 1986 p129). This is not a simple inversion of Hegel, as some have

argued (see Althusser, 1969), but rather a supersession of Hegel's encasement of history (Arthur, 1986 p127-128).

2.1.2 The concept of mediation

Both Mészáros (1970) and Arthur (1986) highlight how Marx used the concept of mediation to explain alienation. Marx differentiated between first-order and second-order mediations of the relationship between humans and nature. The relationship between humans and nature through their productive activity is ontologically fundamental (Arthur, 1986 p11; Mészáros, 1970 p80). Humans survive by living off nature. What mediates this relationship is humanity's capacity to labour, i.e. their productive activity. This is what is meant by first-order mediation between humans and nature. We now come to the second-order mediations.

Under capitalism our productive activity takes the form of the capitalistic "division of labour" (capitalistically structured productive activity), which grounds all alienation (Mészáros, 1970 p78). When Marx employed the term "labour" (though somewhat ambiguously used; see Arthur (1986)), he meant alienated productive activity, as exercised in capitalism. The forms of second-order mediations under capitalism are: labour, private property, exchange and the division of labour. Mészáros (1970 p79) states that these forms come to intersperse themselves between humans and their primary productive activity and prevent us finding fulfilment through our productive activity. However, these second-order mediations can only arise on the basis of the ontologically necessary first-order mediation (Mészáros, 1970 p79). Whilst the latter is an absolute ontological fact of human existence, the former is historically specific and becomes the "mediation of the mediation", as it is said (Mészáros, 1970 p79). Hence, the second-order mediations are the historically specific alienated form of the first-order (Mészáros, 1970 p79). Here we end up with a complex of the two mediations, which constitutes alienation under capitalism: LABOUR-PRIVATE PROPERTY-EXCHANGE-DIVISION OF LABOUR (Mészáros, 1970 p79).

The alienation of productive activity sets the ground for private property whereby articles of human labour (e.g. cars, tables, even water) can be sold under capitalism. Such articles are related to via an alienated social order of everyday life. Our ontological fundamental relation to the world (first-order mediation) is separated from

its place in the whole by such second-order mediations. Humankind is broken apart from its genuine and proper place in its relation to nature. This dislodging is due to the historical second-order mediations that are inserted in between humans and nature.

The consequences of dislodging our place from the whole of nature seem to have varied over our history (and indeed there may be a lot we do not know). However, currently, alienation may be argued to be at its historical zenith. Our natural environment – the earth; nature – is literally under threat by our actions as shown by global warming, mass pollution, etc. Based on our current mode of production – that of capitalism – we are able to put things like air and water up for sale; things many regard as fundamentally and inalienably part of nature. As Engels (1975 p435) argued, the capitalistic mode of production “turns all natural and rational relations upside-down”.

2.2 Marx's theory of alienation

The theory of alienation is Marx's attempt to make sense of what he understood as the separation of humans from nature, increasing under capitalism (Ollman, 1971 p133). Marx believed in the unity between humans and nature (humans being a part of nature), but saw that humans were separated from their products, themselves, their activity and each other (Ollman, 1971 p133). In such a state, humans lose touch with their humanness and ascend into abstraction, unable to re-establish themselves in a unity with nature (Ollman, 1971 p135) and, hence, adequately relate to each other as human beings. Arguably, this helps foster a world where (amongst other things) loss of control over production, competition, class hostility, prejudice, and environmental destruction are commonplace. We turn now to consider the four aspects to Marx's theory of alienation.

2.2.1 The four aspects of alienation

Marx sets out what he theorises are the four aspects of alienation in his *Economic and Philosophic Manuscripts of 1844*. These four are:

- (1) the relationship between the worker³ and her/his product is also the relationship between the worker and nature and this relationship is one where the product has *power over* the worker;
- (2) the relationship between the worker and her/his act of labouring, her/his productive activity, is also that of alienation because such activity is not *for* the worker but is *by* the worker;
- (3) the alienation of humanity's "species-being" – what makes us as humans human;
- (4) the alienation of human from human – alienation from each other.

Regarding (1), Marx (1975b p275) states that the worker's product exercises power over the worker as an alien object, which is from our "sensuous external world ... the objects of nature", and this is "inimically opposed" to the worker. Marx (1975b p271-2) argues that the more the worker produces the more the worker is made poor – a fact of capitalism as Marx states – because whilst labour under capitalism not only produces commodities it also produces itself and workers as commodities, where the *increase in value* of things (commodities) means the *devaluation* of the worker and thus humanity.

Cox (1998 p7) mentions that for Marx this situation is unique to capitalism, although alienation is not. Also, "workers can create nothing without nature" – through which productive activity becomes useful and from which and by means of which humans produce (Marx, 1975b p273). Marx (1975b p275, his emphasis) calls this aspect of alienation "estrangement of the *thing*". By "thing" he means not only simply the product of labour but also the *objectification of labour* that is now alien to the worker (Marx, 1975b p272). The products of labour (objectification of labour) are representations of workers' (and hence all humanity's) ability to consciously labour on nature (Marx, 1975b p275). Let us term this first aspect of alienation "product alienation".

³ Marx (1975 p280) argues that the emancipation of the worker contains within it the emancipation of all humans because all humans are involved with how workers relate to production. Hence, my focus on the working class, employed and unemployed.

The second aspect is what Marx (1975b p272) terms “self-estrangement”. The worker is alienated from the very act of producing things; the “*producing activity* itself ... production itself must be active alienation” notes Marx (1975b p274). Marx (1975b p274) asks, “What, then, constitutes the alienation of labour?” He answers: firstly, labour is external to the worker – meaning the worker’s productive activity itself has been wrenched from what it means to produce something by one’s own labour for oneself and is displaced and distorted (Marx, 1975b p274). Secondly, according to Marx (1975b p274), the worker’s labour is therefore not voluntary but is “forced labour”; it is also, “therefore not the satisfaction of a need; it is merely a *means* to satisfy needs external to it.” Lastly, lists Marx (1975b p274), such labour is not the worker’s – it does not belong to the worker – but is *directed* and *controlled* by *someone else*; such labour seems to make the worker belong to the work, not the work belong to the worker. Hence, it is the *loss* of the worker’s self (Marx, 1975b p274). Thus, the worker cannot be “objectified” as a whole human being in their product, but rather just as labour. For ease, let us term this second aspect of alienation “self-alienation”.

This leads us to the third aspect Marx points to: alienation of our “species-being”. This aspect is a little complex, so below we take some time considering it. Marx derives the term “species-being” from Feuerbach – where it refers to the individual and humankind (Marx and Engels, 1975 p275, n 73 on p601). For Marx, humankind’s *conscious* productive activity is the defining feature of its species-being; our lives are objects for us – not simply something we end up doing (Marx, 1975b p276).⁴ On this Marx (1975b p276) remarks that alienated labour reverses the relationship between humankind and its species-being so that our essential characteristic of conscious productive activity becomes a mere means to our existence. Hence, we cease being human and become abstractions from our basic relation to nature (Ollman, 1971 p152-153). Labour is alienated because the worker’s product is taken (or “bought”) from the worker by the capitalist, and workers’ very *acts of labour* are determined by the capitalist not by themselves.

⁴ There is a debate as to whether Marx was too anthropocentric (human-centred) in his understanding of “species-being”, see Grundmann (1991), Benton (1992; 1993) and especially Pepper (1993).

Moreover, the workers cannot stand in relation to *their* product, which they *themselves* produced. This is because it has been taken from them by the complex of second-order mediations (as discussed above). Instead of having themselves *objectified* in what they have produced, the workers' product belongs to someone else – someone else's private property (Ollman, 1971 p152). Marx argued that we cannot realise our humanness through private property (Ollman, 1971 p152). According to Marx (1975b p277), the product of labour is “the objectification of the species-life of man [sic]” and humankind thus contemplates itself in a world it has worked on and created to some extent. Marx highlights how we, as the human species, come to present our “species-life” to each other through our products. Also, workers' productive activity – a potential expression of our humanness – is determined by someone other than the workers. Under capitalism, productive activity is reduced from an expression of our species-being to merely a means of only individual existence (Ollman, 1971 p153). This is an expression of the capitalistic mode of production.

So, as argued by Marx, upon the base of alienated activity producing alienated products, humankind is alienated from its species-being and – as we shall see later – human beings from one another. In an alienated relationship to nature, humankind distends itself from its species-being. Relations to humankind's products, productive activity and eventually between people become mauled and distorted. As Marx (1975 p276) states,

In a physical sense, man [sic] lives only from these natural products, whether in the form of nourishment, heating, clothing, shelter, etc. The universality of man manifests itself in practice in that universality which makes the whole of nature his inorganic body, (1) as a direct means of life and (2) as the matter, the object, and the tool of his life activity. Nature is man's inorganic body – that is to say, nature insofar as it is not the human body. Man lives from nature – i.e., nature is his body – and he must maintain a continuing dialogue with it if he is not to die. To say that man's physical and mental life is linked to nature simply means that nature is linked to itself, for man is a part of nature.

Estranged [i.e. alienated] labour not only (1) estranges nature from man and (2) estranges man from himself, from his own function, from his vital activity; because of this, it also estranges man from his species. It turns his species-life into a means for his individual life. Firstly, it estranges species-life and individual life, and, secondly, it turns the latter, in its abstract form, into the purpose of the former, also in its abstract and estranged form.

Indeed, humans are a part of nature, as Marx argues, and alienated labour wrenches away this process of production through nature where labour is always performed for

another and not oneself. The complex of second-order mediations, concrete representations of the capitalistic mode of production, intercede and displace human producers (workers) from their humanness (“species-being”). This third aspect will be termed “species-being alienation”.

In aspect (4), humans are alienated from one another. Marx (1975b p277) states: “In fact, the proposition that man [sic] is estranged from his species-being means that each man is estranged from the other and that all are estranged from man’s essence”, and humankind’s alienation is “realised and expressed” only in how we relate to each other. What Marx points to here is the process of *dehumanisation* that alienation fosters because people become estranged, separated, dislodged from their common humanity, from being a part of the human species. He is also noting that each human becomes alienated from other humans due to alienated labour, because all humans are alienated from their species-being – in having their productive activity alienated.

Arthur (1986 p10) mentions that the social character of production actually becomes *asocial* because both worker and capitalist depend on each other but are in confrontation over the product. Marx (1975b p278) claims further that how we relate to each other shows the expression of alienation and within this relation is how the worker stands in relation to the capitalist. The capitalist not only owns the product (Ollman, 1971 p149) but also tries to control the product and methods of production through processes that conflict with workers (Arthur, 1986 p10). In the capitalist mode of production a product is produced as an alien product (via alienated labour) and other humans stand in relation to this product (as they must because it is produced by humans) as to an alienated product. According to Cox (1998 p8), “we are related to each other not as individuals but as different relations of production” and how we see each other is not as human beings necessarily but rather as utilities in the capitalistic relationship. As Cox (1998 p9) states, “our abilities and needs are converted into means of making money and so we consider other human beings as competitors, as inferiors or superiors.” This last aspect of alienation we shall term “social alienation”.

Species-being and social alienation are consequences of product and self-alienation (Arthur, 1986 p9-10; Mészáros, 1970 p15). All four aspects of alienation are tied to each other and *internally* related (Ollman, 1971 p15). Hence, the alienation expressed

by social alienation is internally tied to the worker producing for someone else, because the capitalist buys the worker's ability to labour (their labour-power). This is both product and self-alienation: the product of the worker's labour and that very labour are both alienated from the worker because such products and labour are *externalised* from the worker and belong to someone else – the capitalist; they have been bought. Hence, the aspects of this theory that we consider form parts of a whole, each highlighting a certain aspect of that whole.

The above four aspects form the basis to Marx's theory of alienation. However, as is well known, Marx also spoke of "commodity fetishism". Our consideration of Marx's theory of alienation is not complete without it.

2.2.2. Fetishism and reification

Under capitalism, commodity production prevails (Marx, 1976 pg125). Hence Marx started with his analysis of the commodity in *Capital* (volume 1). Here, he formally concluded that there was a mystical and powerful force operating with regards to commodities. He termed this "commodity fetishism" (Marx, 1976 p163) and was highlighting a very powerful force operating under capitalism, influencing social relations. This section will focus on fetishism (where commodities are given a power through the alienated labour process which appears to belong to the commodity) and reification (where social relations become relations between commodities rather than human beings). The two concepts of fetishism and reification highlight different effects of alienation in capitalist society, which are important expressions of Marx's theory of alienation. We begin first with fetishism and then move to reification.

2.2.2.a Fetishism

Marx argued that because commodities are produced from alienated labour they become fetishised (Mészáros, 1970 p140-141; Ollman, 1971 p198). In other words, in capitalist society material objects acquire certain characteristics in virtue of the prevailing social relations which produce them and thence appear as if these characteristics are part of their nature (Geras, 1986 p59). Hence, the essences of commodities become divorced from their appearances, the latter of which take precedence (Geras, 1971 p71; Ollman, 1971 p199).

What is also important about fetishisation is that these commodities carry a power in themselves due to the alienated labour process. The characteristics given these commodities are not natural (i.e. inherent to the things itself) but social. Thus, the power such objects attain actually compel people, as if the fetishised object were itself commanding submission. For example, machines used in the labour process and made by workers, come to control when and how workers themselves are to labour rather than the reverse – workers become appendages to capitalistic machines (Ollman, 1971 p203).

When commodities become fetishised, which is what happens under capitalism, they appear to carry the power to compel or dominate people. This power is attributed to the essences of the commodities (naturally part of the commodity) due to the alienated social relations which produce them under capitalism (Geras, 1971 p72; Ollman, 1971 p199). The fetishised commodity comes to have “a character of absolute objectivity” (Mészáros, 1970 p132), as if it is naturally that way. An example of such an object, not yet a commodity in the above sense, is virgin rainforest.

According to Ollman (1971 p203), money is most often characterised as carrying fetishised power. As Marx and Engels (as cited in Ollman, 1971 p203) averred about money,

... [money] changed into a true god, for *the intermediary reigns in real power over the thing it mediates for me*. Its cult becomes an end in itself.

As we will explore more fully later, domestic water becomes fetishised. This water is produced by workers for domestic consumption and is sold to the consumer by the municipality or by private water companies, charging a price for this water. In this manner, this water seems valued through its price only instead of through the social value water has, as we explored earlier. Moreover, other aspects around domestic water become fetishised, for example the prepaid water meters. These devices have been reported to have a dominating and controlling power over access to domestic water, almost as if the devices themselves have the human power of decision.

We will stop here in our consideration of fetishism and move to reification. It must be noted, however, that these two terms are not sufficiently conceptually separated by

Marx to avoid confusion, as is evidenced by the numerous and sometimes contradictory interpretations offered by many authors. For the sake of this thesis, the two terms have been simply separated with support, as shown above and below.

2.2.2.b Reification

Petrović (A Dictionary of Marxist Thought, 1983 p411) defines this concept as,

The act (or result of the act) of transforming human properties, relations and actions into properties, relations and actions of man-produced things [sic] which have become independent (and which are imagined as originally independent) of man and govern his life. Also transformation of human beings into thing-like beings which do not behave in a human way but according to the laws of the thing-world. Reification is a “special” case of ALIENATION, its most radical and widespread form characteristic of modern capitalist society.

This concept has a varied history of debate and development. As we see from the above, Petrović seems to conflate the concepts of fetishism and reification. This thesis will not go into such a varied history for lack of space (see Burris, 1988; Dunayevskaya, 2002; Honneth, 2005; Lukács, 1971). Suffice it to show that there are various interpretations of both fetishism and reification but this thesis will aim to keep the concept of reification simple yet focused.

In his *History and Class Consciousness*, Lukács (1971) developed this concept further from Marx, showing the extension of fetishism (and hence alienation) into capitalist social life (Feenberg, 1981 p62). Reification points to a deepening of alienation. It focuses on the relations between people in capitalist society and the form they take, as Geras (1971 p76) avers:

... not that a relation between persons takes on the illusory appearance of a relation between things, but that where commodity production prevails, relations between persons really do take the form of relations between things. This is the specific form of capitalist social relations ...

We become things to each other in our everyday lives, transferring capitalist value relations to relations between people. Marx was describing a reality he saw where, in a society dominated by commodity production, “It describes a situation of isolated individual producers whose relation to one another is *indirect* and realized only through the *mediation of things* (the circulation of commodities)” (Burris, 1988 p23, my emphasis).

Marx's concept of reification is multi-dimensional, according to Burris (1988 p23-24), for it addresses both the "objective social relations" and the "apprehension" of such relations under the system of capitalism, and – moreover – the dialectical relation between these two levels. What is most important to note about Marx's concept of reification is that the appearance human relations take on under capitalism – of a relation between things not persons – is the expression of the actual nature of the social relations in capitalism, by which commodities are produced (Burris, 1988 p26). These social relations become value relations according to the exchange-value dictating commodity production. There seems to be a "mystery" as to how such social relations become instead relations between things, but this is explained when we recognise that these relations are the expression of value (Burris, 1988 p26) and value is the form objects (commodities) now take on due to the "peculiar social character of the labour which produces them" (Marx, 1976 p165).

As Geras (1971 p75)⁵ notes, Marx did not consider values or value relations as imaginary or illusory but actual *realities* of everyday life under capitalism. The fundamental ontological relations, according to Mészáros (1970 p81), are turned upside down as everything becomes reified. As Marx (1976 p73) states,

... the labour of the individual asserts itself as a part of the labour of society, only by means of the relations which the act of exchange establishes directly between the products, and indirectly, through them, between the producers. To the latter, therefore, the relations connecting the labour of one individual with that of the next appear, not as direct social relations between individuals at work, but as what they really are, material relations between persons and social relations between things.

This seems somewhat spectacular. Are we to believe that people relate to each other as things rather than human beings under capitalism? This is not as far fetched as it might sound. For example, in just about any bookstore, those buying items are treated as "customers" and those selling are "sales assistants", whose relations to each other as human beings are mediated by the circuit of commodities, the one buying the book and the other selling it. Their relation to each other, as is so often the case, is based on the capitalist exchange relation. What is spectacular is that this is the everyday reality

⁵ Geras (1971) offers perhaps the clearest, cogent exploration of Marxist fetishism as it appears in Marx's *Capital*. However, unlike Geras (1971), I have chosen to keep the concepts of fetishism and reification discrete.

of capitalism, at least according to Marx, where commodities are fetishised and social relations reified. As Marx (1976 p47, 57) argues further,

If ... we bear in mind that the value of commodities has a purely social reality, and that they acquire this reality only in so far as they are expressions or embodiments of one identical social substance, viz., human labour, it follows as a matter of course, that value can only manifest itself in the social relation of commodity to commodity.

And,

... the coat, in the expression of value of the linen, represents a non-natural property of both, something purely social, namely, their value.

To this Geras (1971 p77) adds "... it is [also] necessary to recognize value and the objective form of social relations as *historically specific* social realities, and not just social realities in general." As such, under capitalism, fetishism and reification prevail. We will employ these two concepts when in chapter five we turn to more clearly understand the situation in South Africa around urban domestic water provision.

2.3 A dwindling theory?

Having considered Marx's theory of alienation, what use is being made of it in contemporary times? In answer to this, we also find a significant problem regarding Marx's theory of alienation: its *lack* of contemporary use or application. At least according to Mészáros, Ollman and Geras, this theory is of major importance to Marx's overall oeuvre and especially to his seminal *Capital*. Instead of being a cornerstone to contemporary socialist research into modern society, Marx's theory of alienation seems to be tossed aside, residing on the dusty shelf of historical ideas. Indeed, Marx's theory is not even treated as a "best kept secret".

Now, this could be due to the declining (but ever present) use of Marxism as a social theory, especially with the advent of postmodernism. If we take this further, we can assert that post-World War II signalled a decline and even repugnance towards Marxism in the West. Of course, this was overshadowed by the developing Cold War and looming communism. The situation in the East was somewhat different. Lemert (2004 p277) categorises this period (1945-1963) as the "Golden Age"; a time of enormous growth for the United States in particular, but where the ideologies of

communism and capitalism were at war. In fact, Lemert (2004 p277-278) contends that Marxism became “synonymous with the East or at least with other-than-the-West – the uncivilised.” This assertion of declining Marxism is perhaps crude and deserving of a more nuanced appraisal, but begins to scratch the surface and throw up questions, the answers to which are more adequately dealt with in another work with a larger scope.

However, along with the above assertion, another reason for the lack of contemporary application of Marxist alienation is the “meaninglessness” of the concept. As a concept, alienation has become increasingly vague, losing much of its specificity. One merely has to scan the vast amount of books using “alienation” to see how varied such use is. Feuer (1963 p137-146) discusses some uses of alienation, particularly how twentieth century society has been described from different modes of alienation. Such as the alienation of industrial society, mass society, race, and between the generations (Feuer, 1963 p139).

Whilst Feuer (1963 p139) investigates the multi-formulation of alienation, others have transformed Marxist alienation into quantifiable measures with multiple dimensions. As Boudon and Bourricaud (1982 p31) argue, the concept of alienation took other forms according to certain authors who placed emphasis on particular formations of the concept to understand modern society. For example, Marcuse placed emphasis on the “subtle and repressive mechanisms which characterise industrial society” (Boudon and Bourricaud, 1982 p31). Reportedly, Seeman’s *On the Meaning of Alienation* sparked off further research into such “expanding” meanings to alienation (Feuer, 1963 p139; Josephson and Josephson, 1973 p167). Seeman (1959) distinguished five alternative meanings to alienation, all of which were subjective states of mind (Josephson and Josephson, 1973 p167). For example, “powerlessness” and “meaninglessness” are states that one experiences when “alienated” in certain ways. For other such attempts see Nettler (1957), Dean (1961) and Reisman (1996). Habermas emphasised the social structures preventing one from realising one’s own desires and realising rather the desires of others, and Mannheim emphasised feelings of absurdity resulting from inordinately complex social structures which confuse people (Boudon and Bourricaud, 1982 p31-32). We could even extend the uses of this concept into existentialist philosophy, from Kierkegaard to Nietzsche to Satre.

Such transformations of the concept of “alienation” are myriad and are often in precisely the opposite line of what Marx transformed “alienation” into from Hegel. Others have tried to re-invigorate alienation more broadly (see Twining, 1980) and some have used alienation in a Marxist sense (e.g. see Fromm, 1955; 1961 p37-48; Mandel, 1970; Cox, 1998; Brook, 2009). This thesis focuses on the latter, Marxist, uses of alienation.

Despite both the lack of contemporary use of Marx’s theory of alienation and the varied meanings (and in some instances meaninglessness) of the concept of alienation, some researchers have recently made use of Marx’s theory and concept of alienation. The limit on space does not permit the full exploration of some of these as they warrant. However, it is worth mentioning two recent studies that use Marx’s theory of alienation.

Yuill (2005) applies this theory to explain health inequalities. He employs all four aspects of Marx’s theory as per Marx’s *Manuscripts*. For example, in applying Marx’s third aspect (species-being alienation), Yuill (2005 p139-140) argues that our species-being shows our connection to other human beings for we labour on nature *as* humans and *for* humans: we have the ability to consciously plan our labour which can progress humanity as a whole, basing production on people’s needs (like food, water, transport, clothing, etc.). Based upon this, Yuill (2005 p139) states that “the natural human instinct to be social and further the health interests of other humans is alienated by capitalism”. He adds that the working class suffers the most effects to their health and that these effects have remained despite the advances under capitalism (Yuill, 2005 p139-140).

Brook (2009) has also used Marx’s theory of alienation. What Brook (2009) seeks to do is defend and strengthen Hochschild’s (1983) emotional labour thesis. Brook (2009) supports Hochschild’s argument that capitalism commodifies human emotions (as Hochschild witnesses in airhostesses, for example) by incorporating all of Marx’s aspects of alienation. Brook (2009) states that Hochschild only used the first two aspects (product alienation, self-alienation) and excluded the last two aspects, essentially social: species-being alienation and social alienation. Consequently, as

Brook (2009) argues, Hochschild's work is not thorough enough for she does not capture the full effect of capitalist society on workers, especially the ways in which workers are alienated by capitalism and their ability to see the reality of capitalism.

Aside from these two studies, another two have recently dealt with Marx's theory of alienation. Archibald (2009b) notes the important foundation set by the theory and Archibald (2009a) discusses and attempts to update the theory.

2.4 Critiques of Marx's theory of alienation

There are various challenges faced when using Marx's theory of alienation. In this section we will deal with some of the challenges, especially the debate of the "young and old Marx", often encountered when dealing with Marx's *Manuscripts*.

We may ask: why use such an old, outdated theory to understand more fully a contemporary issue? Well, theories do not exactly "age" but rather, as is well known, are shown to be more or less accurate or valid as time moves by. This may be somewhat true of all theories (for example, theoretical developments in science of the "forces of nature", from Newton's theory of gravity to Einstein's theory of general relativity to Bohr's advocating quantum mechanics and thence to string theory⁶) but in the social sciences, especially sociology, we face a "graveyard of concepts", as it can be described. With Marx's theory of alienation and the concept of alienation we face two difficult facts as described above: the lack of the application of Marx's theory and the almost meaninglessness of the concept of alienation. As this dissertation aims to show, Marx's theory of alienation is, in fact, useful to understand more deeply and broadly, a current social issue.

Marx's *Manuscripts* first appeared in Russian in 1927 but were incomplete (Mészáros, 1970 p11). Only in 1932 did the full version of the *Manuscripts* appear, in French, German and again Russian (Mészáros, 1970 p11). But there are other difficulties encountered in dealing with Marx's 1844 *Manuscripts*. Mészáros (1970 p12-20) takes these up, noting four difficulties. Firstly, the *Manuscripts* are fragmentary and somewhat incomplete. Secondly, there are problems of language and terminology. Mészáros (1970 p12-14) highlights three difficulties within this. (a)

⁶ For a fuller account of this see Greene (1999).

Some key terms Marx employed are difficult to fully translate (e.g. “Aufhebung” means simultaneously “transcendence”, “suppression”, “preserving” and “overcoming” or “superseding”). (b) Philosophy has been dominated, especially in English speaking countries, by what Mészáros (1970 p13) terms “trends of positivistic empiricism and formalism” and thus Marx’s concepts and dialectical theory are not fully grasped (e.g. Marx considers humans both “human” and “natural” at the same time, not one or the other – this was contrary to philosophical conceptions held when the *Manuscripts* were published). (c) Marx kept the terms he criticised, rather transforming them from their previous meanings into what he conceptualised them as (e.g. the term “self-estrangement” Marx transforms from Feuerbach into a concept used more concretely and specifically, instead of as a general condition of humankind).

Thirdly, Mészáros (1970 p14) deals with what he terms the “complexity of the key concept: alienation”. Here, Mészáros (1970 p14-15) unpacks the term and its complexity, showing how Marx’s conception embraces four aspects (as we have unpacked above). Mészáros (1970 p15) states,

Thus Marx’s concept of alienation embraces the manifestations of “man’s estrangement from nature and from himself” on the one hand, and the expression of this process in the relationship of *man-mankind* and *man and man* on the other.

Lastly, Mészáros (1970 p15-20) deals with the difficulty of the structure of the *Manuscripts*. The *Manuscripts*, according to Mészáros (1970 p15-20) represent a major synthesis and constitute Marx’s first major comprehensive system. But it is a multidimensional and interrelated system, which relates to and is understood through Marx’s corpus as a whole (Mészáros, 1970 p16). In fact, Marx (1975b p231) himself notes in his *Preface* to the *Manuscripts* how significant his synthesis is and uses them as a springboard into various areas of connection they highlight (e.g. “the interconnection between political economy and the state, law, ethics, civil life, etc.”).

These are substantial difficulties and Mészáros (1970) spends most of the first part of his book dealing with them. The works on Marx’s theory of alienation that this thesis leans on have dealt with these various problems to the *Manuscripts* as shown by how they explain them. Of course, this does not solve them but acknowledges and attempts

to incorporate them However, Mészáros (1970), Ollman (1971), Geras (1971) and Arthur (1986) all assert the validity and usefulness of Marx’s theory of alienation. And, that in fact, Marx’s *Manuscripts* and his alienation theory underlie his later works, as we consider below, especially his *Grundrisse* and *Capital*. We turn now to consider just this through the “young and old Marx” debate.

2.4.1 The “Young and Old Marx” debate

A common debate encountered when exploring the use of Marx’s theory of alienation is that of the “young and old Marx”. It is worth briefly unpacking and challenging arguments made in this debate. Some argue that two Marxes appear in Marx’s corpus: the “young Marx” and the “old Marx”. They claim that Marx matured and dropped the concept of alienation from his theory or that it declined in importance (see Althusser, 1969; Catephores, 1972). The strongest advocate of this argument is possibly Althusser (1969), who argues that there was an “epistemological break” in Marx, which rendered void his concept of alienation (see Althusser, 1969 p50-86, p155-160, p227-231). Void because it was too metaphysical for Marx (Lock, 1996 p19). Lemert (2004 p280) maintains that this “narrow scholarly argument” of Althusser’s was an attempt to re-establish some of Marxism in the hostile context of the Cold War and Stalinism, but also that Althusser’s theoretical attempt at this became circuitous. Ollman (1970 p.xiii) maintains that there is no evidence anywhere of such a “break” by Marx (or Engels), and that, on the contrary, Marx used his earlier writings for his later writings, especially his *Manuscripts*. As Arthur (1986 p144) too avers, “Marx’s *Capital* is inconceivable without its ontological underpinning in the 1844 Manuscripts.”⁷

The corollary to the viewpoint that Marx dropped his concept of alienation in his later works is that Marx’s earlier works are then his “true” works, revealing the “real” Marx. Whereas the former view advocates that Marx developed his theory to a “mature” level the latter view advocates that Marx degenerated into an economic determinist, degenerating his earlier work by reducing its scope to purely economic problems (Mandel, 1970 p4).

⁷ For a sharp discussion of the relation between Marx’s *Manuscripts* and *Capital* see Mandel (1971).

Whilst it is true Marx used the term “alienation” less in his later works (as Catephores, 1972 maintains), it is not true that alienation declined in importance for Marx. To support the latter claim I argue two things. Firstly, Marx’s conception of alienation developed more broadly and deeply as shown in his *Grundrisse*. Even though quantitatively Marx uses “alienation” less in his later works, the reason is not necessarily because it declined in importance. We can see this when we compare the texts of the *Grundrisse* and *Capital* (the former actually served as a working board for the latter), where the *Grundrisse* clearly uses not only the term but also the concept and analysis many, many times (Mandel, 1970). In fact, Ollman (1971 p166) states that *Capital* is a treatise where Marx follows the development of alienated labour into the form of private property and into a host of further forms which alienation assumes in capitalism (like fetishism and reification).

Secondly, Marx incorporated alienation increasingly more implicitly into his theoretical base. This is shown centrally and peripherally. Centrally in Marx’s deepening of the concept in his analysis of capitalism. Peripherally by extending the concept to fetishism and reification. Marx did not merely transform alienation from the ideological heights of Hegel but applied it to the material reality of economics through his analysis of actual, real human labour. In fact, as Ollman (1971 p172) asserts, the concept of “labour” in Marx’s conception must be understood as “alienated labour” (remember, Marx transformed terms he inherited from others) and not doing so has led to a widespread belief that Marx abandoned his theory of alienation in his later years.

There is another camp maintaining the opposite of this above view: that Marx never abandoned his concept of alienation and that Marx was consistent in his conception (Mandel, 1970). Such views are maintained, according to Mandel (1970), by authors like Erich Fromm and Maximilien Rubel. As with Mandel (1970), Mészáros (1970) and Ollman (1971), I also advocate neither viewpoint but agree that Marx developed his conception over time, neither abandoning it nor remaining fixed. Ollman (1971 p.xiv) states: “There is an *evolution* in Marx’s thinking which is already present in the logic of his earliest commitments and knowledge.” Hence, Marx developed and evolved his conception of alienation, which can rightly be called and treated like a theory, though Marx never did so explicitly.

2.5 Conclusion

This chapter has considered Marx's theory of alienation, from the origins of the concept of alienation, including the concept of mediation, to Marx's transformation of the concept. We also unpacked the four aspects of Marx's alienation theory, moving to the concepts of fetishism and reification. We note that the different aspects of this theory highlight specific parts of a whole, thus acting more as a lens of understanding rather than a structured framework.

These above explorations will be used extensively below, especially in chapter five when we turn to look at two particular South African urban communities in terms of water provision through the eyes of Marxist alienation. Having also addressed the context around Marx's theory of alienation, we found shortcomings in the use others have made of this theory but also briefly sketched two recent uses. Indeed, Marx's theory of alienation is a difficult theory to incorporate – especially with the various obstacles the *Manuscripts* in particular face – but an incredibly rich and useful lens of understanding to adopt or even simply to use.

CHAPTER THREE: THE COMMODIFICATION OF WATER

Capital is not a thing but rather a definite social production relation, belonging to a definite historical formation of society, which is manifested in a thing and lends this thing a specific social character. Capital is not the sum of the material and the produced means of production. Capital is rather the means of production transformed into capital, which in themselves are no more capital than gold or silver in itself is money.

Marx (1976 p794-795), *Capital I*

Globally, domestic water is being increasingly commodified and turned into something to sell. People are more and more relating to water as a commodity. The forms expressing this relationship have been given the names of “privatisation” and “commercialisation” and also of course “commodification”. However, as we will explore below, domestic water and the provision thereof does not quite fit into the common commodity framework. Water has been subjected to a process of commodification to make it align with the principles of the capitalist market. Such a process cannot happen without alienated labour. Below, this chapter will examine this process and show how urban domestic water is turned into a commodity based on alienated human labour. Including how the concept of alienated labour extends and deepens the theory of water commodification.

We find that the current treatment of domestic water as a commodity is a moment of neoliberalism and by including the concept of alienated labour in our analysis we see how the commodification of domestic water did not begin with the neoliberal turn. Rather, domestic water was commodified before the intensification of commodification through methods of privatisation, because included in the production of domestic water in the capitalist mode of production is alienated labour.

The main question we focus on is **what are the peculiarities of water as a commodity?** We will first turn to exploring what a commodity is and then move to consider the peculiarities of water as a commodity. We thereafter move to consider the process of water’s commodification including what makes up the price of water. Lastly, we turn to consider the privatisation of water and how this process is also one of commodification. We consider the role of alienated labour in all these areas.

3.1 What is a commodity?

A commodity is something useful which enters the market (McDonald and Ruiters, 2005b p19; Watts, 2005 p306), or, as Harvey (2010, p16) more clearly puts it, “The commodity is something that meets a human want, need or desire. It is something external to us that we take possession of and make ours.” Watts (2005 p306) adds that commodities are not what they seem but are “bewildering”. By this Watts (2005) means that there is a veiling of commodities in everyday life that hides the social qualities of commodities and they get presented as façades of their true nature (Watts, 2005 p308). Marx (1976 p163) wrote that the commodity at first appears as something obvious and trivial but, at second glance, beneath the façade lies “metaphysical subtleties and theological niceties”, which is reminiscent of what Marx meant by fetishism. A commodity, as we shall see below, incorporates both material aspects and immaterial aspects. The foundation of commodities produced under capitalism is alienated labour.

Beginning his analysis of a commodity, Marx (1976 p125) states the following:

The commodity is, first of all, an external object, a thing which through its qualities satisfies human needs of whatever kind. The nature of these needs, whether they arise, for example, from the stomach, or the imagination, makes no difference [Barbon, 1696]. Nor does it matter here how the thing satisfies man’s [sic] need, whether directly as a means of subsistence, i.e. an object of consumption, or indirectly as a means of production.

Marx (1976 p125) continues that any useful thing can be seen in the light of quantity and quality and that the “usefulness of a thing makes it a use-value”. Moreover, this usefulness is conditioned by the physical properties of the commodity. For example, wood is useful (in one way at least) because it has the capacity to burn – conditioned by its very substance, its physical makeup. What is also important is that this use-value only becomes actual for humans when we use or consume the commodity (Marx, 1976 p126).

On this last point, Burkett (1999 p99) argues that Marx found use-values to be the “social combination of labour and nature to satisfy human needs”. For example, water only finds its use – satisfying thirst, cooking food, replenishing the human body,

producing electricity, baptism, water sports, and other such uses, all *with* human involvement. Hence, use-values are natural and social. What is also important is that a commodity's use-value is inherent to the thing that becomes the commodity (Marx, 1976 p125).

On the other hand rests what Marx (1976 p126) termed "social value" or "exchange-value". This value is not necessarily conditioned by the inherent qualities of the thing but rather is conditioned, firstly, by the proportion of exchange between use-values of one kind and use-values of another kind (Marx, 1976 p126). For example, exchanging one bag of oranges for two bags of dates. This suggests that at this time and place, one bag of oranges is equal *in exchange* to two bags of dates. Both the oranges and dates are used to satisfy the need for food; they provide sustenance, which is a property inherent in both goods – their use-value. They happen to be exchanged, where 1 bag of oranges = 2 bags of dates. Marx (1976 p126) continues, saying that this exchange changes with time and place and makes the exchange relation seem relative and accidental and thus, he concludes, seemingly intrinsic to each article and inseparably connected to it. He argues that this is a faulty understanding (Marx, 1976 p129-131).

Marx (1976 p128) maintains that as use-values, commodities differ in quality but as exchange-values, commodities can only differ, at first sight, in quantity. When a commodity is cast in light of its use-value then what separates one commodity from another is the use each has (their quality) but when considered in the light of exchange-value, then all that matters is how much each commodity can be exchanged for (their quantity) (Marx, 1976 p128). Oranges and dates both satisfy, to different extents, our need for food. Both are exchanged in an exchange relation based on the quantity of a "third thing" – this, Marx (1976 p128) maintains, is human labour: that which remains if use-value is excluded. Moreover, such labour is *abstract* because in such an exchange relation the commodity's use-value is abstracted from it to make it equally exchangeable (in *quantity*) with some other commodity. Thus, as Marx (1976 p128) argues, we abstract from the "material constituents and forms which make it a use-value" and we also abstract from the particular labour that was performed to produce the commodity. Hence, all commodities are reduced to the same kind of labour which is "human labour in the abstract" (Marx, 1976 p128). This labour is alienated labour under capitalism. From this, Marx (1976 p128) turns to analyse these

products of labour, stating that they are articles embodied with human labour and that this labour transfers exchange-value to them.⁸ Hence, alienated labour is central to this process (Wennerlind, 2002 p2).

In considering this, it helps to imagine commodities with use-value and exchange-value forming two inter-related parts: a use-value and an exchange-value. Use-values are usurped by exchange-values because a commodity can only become a use-value if it is exchanged (Ollman, 1971 p185). This is how commodities come to appear in their fetishised forms, not as they essentially are. This is important because capitalist society – the wealth of which is based on commodities (Marx, 1976 p125) – comes to appear as something other than it actually is (Geras, 1971 p71).

As Marx (1904 p42-43, my emphasis) states, “To become use-values commodities must be universally *alienated* – they must enter the sphere of exchange... Hence, in order to be realised as use-values, they must be realised as exchange-values.” Commodities are produced by alienated labour and in order to be exchanged are valued through their exchange-value, not their use-value (Ollman, 1971 p178) – for that is how they exchange for money and other things in a capitalist economy. Hence, anything commodified is based on alienated labour. Furthermore, as McDonald and Ruiters (2005a p178) note, the value commodities come to carry sets up general conditions for future production and, because alienated labour produces commodities, these conditions will themselves be alienating.

What is important to note through the above, and with which we move forward, is that alienated labour underlies all commodity production. As Marx (1976) avers, alienated labour materially forms the foundation of commodity producing capitalist society.

3.1.1 The Labour Theory of Value

Marx’s Labour Theory of Value (LTV) is a much-criticised part of Marx’s work. The proposition that the value of a commodity is equal to the quantity of socially necessary labour-time required for its production (the LTV), has been called into question by many critics, most notably Piero Sraffa, Eugene von Böhm-Bawerk and

⁸ As stated in the previous chapter, when referring to (human) labour in his *Capital* Marx means alienated labour (see Arthur, 1986).

Carl Menger. Generally, according to Meek (1973 p203), there are three kinds of critique of the LTV.

First, is that characteristically dismissive set of critiques, spearheaded by Böhm-Bawerk, which charges the LTV as invalid, logically weak and too shallow. Critics of this strand state that “prices do not directly correspond with ‘values’ in the capitalist economy” (Meek, 1973 p239). Böhm-Bawerk and Pareto end up dismissing Marx’s economic theory as a whole (Meek, 1973 p239).

The second kind of critique agrees with the first but seeks to reconcile the LTV with the theory of marginal utility and does not dismiss Marx’s economic theory as a whole (Meek, 1973 p203). In this Bernstein found that the concept of value expounded in the LTV to be nothing more than abstraction (Meek, 1973 p239). Lindsay and Croce also critique the LTV in this way, advocating the LTV as more a theory of natural right and less a scientific theory of value in capitalist society (Meek, 1973 p239).

Lastly, the third kind of critique rejects the LTV as having any importance to Marx’s work and that a theory of value is not necessary to a general theoretical system in economics (Meek, 1973 p203). Proponents of this critique are Lange, Schlesinger and Robinson. Lange notes that the LTV lacks sufficient depth to explain better than other non-Marxist theories of value (“bourgeois” theories) economic processes under capitalism (Meek, 1973 p226). Schlesinger is more complex in his critique. He notes two problems that have become known as the “reduction problem” and the “transformation problem” (Meek, 1973 p232). The former charges Marx with having reduced skilled labour to unskilled labour independently of the value of the commodity produced without clear explanation (Harvey, 2010 p29). The latter charges Marx with having transformed prices into values without taking account the values of the elements of input and output that yield value, which also have to be transformed into prices (Meek, 1973 p194). Lastly, Schlesinger critiques the LTV as being outmoded, inapplicable to the modern stage capitalism (which then, circa 1950, was monopoly capitalism) (Meek, 1973 p232). And the most dismissive of the three critics is Joan Robinson, who in her critique reduces the LTV to “mystification and metaphysics” for Marx’s concept of value is simply dogmatic (Meek, 1973 p239,238).

Despite the critiques, the LTV is still of use for us in this dissertation. Lioukakis (2001 p123) argues that using the LTV, Marx theorised how when a natural resource is scarce (e.g. water) it will have greater value than if abundant. This is because less labour time is required to produce or acquire the resource in the latter situation, whilst having a scarce resource requires more labour time. Hence, the LTV shows us that natural resources, like water, are valued indirectly to their quantity under capitalism and, paradoxically, this valuation is inversely related to the contribution nature makes to production (Lioukakis, 2001 p123).

What Lioukakis (2001 p124) points to using the LTV is that capitalism only ascribes value to nature (and thus natural resources) where appropriating it needs human labour but where it does not – and where nature and natural resources are not laboured on but included in production – capitalism simply “freely appropriates” their inclusion (i.e. at no cost) and in the end adds to surplus-value (profit). This will be the case where, for example, rich virgin soil yields a large, healthy crop. Contained within the LTV is the error of the mis-valuation of the “non-labour expended” natural resources used in production – and this error is not Marx’s as espoused in his LTV, but rather the error of capitalism which the LTV incorporates in its theorisation of this mode of production (Burkett, 1999 p99).

What does this mean for domestic water? It helps us distinguish as we have above between raw water and laboured on water and the role each plays in capitalism. As part of nature, raw water is simply appropriated into capitalism as a “free gift of nature” thereby allowing for greater surplus-value (profit). But where water is laboured on and produced, like domestic water, it becomes a product of the capitalist mode of production (i.e. a commodity) and subject to the same general processes as any other product produced under capitalism.

Furthermore, as Burkett (1999 p99) highlights, Marx noted that capitalism “freely appropriates” (i.e. expends no wage-labour) natural and social conditions which serve as material or social elements for the production of values (commodities) and the accumulation of capital. Such natural and social conditions are, for example, the use-

values inherent in nature (e.g. wind power) or human beings (e.g. labour power). Burkett (1999 p99) argues,

Marx ascribes great social significance to free appropriation, viewing it as an integral element of capital's development of the social character of production *via* the harnessing of the productive forces latent in labour and nature to the expansionary, transformative impulses of competitive monetary accumulation.

Burkett (1999) continues, stating that the capitalistic free appropriation process “reinforces the human alienation built into capital's socialization of production”. And with the increasing dominance of capital over the conditions of production, use-values become more and more secondary to the production of exchange-values and the accumulation of value (capital) (Burkett, 1999 p99). The result is that natural and social conditions freely appropriated by capitalism become powers of capital and “exert an alienated social power over the producers, who are unable, as long as production remains capitalistic in form, to exert any cooperative control over their material interchange with nature” (Burkett, 1999 p99).

Therefore, by appropriating into capitalism the use-value of water, for example, inevitably results in this part of nature becoming a dominating force of capitalism (i.e. a force of capitalistic alienation). Hence, if raw water becomes transformed through the capitalistic mode of production into a product of this process – like domestic water – then that product (now a commodity) will carry with it the pervasiveness of alienation given it through the labour process under capitalism. The LTV as espoused by Marx and given an ecological shade by both Burkett (1999) and Liodakis (2001), helps us better understand the commodification of domestic water. Such commodification has its peculiarities.

3.2 What are the peculiarities of water as a commodity?

In chapter one we made the analytical distinction between urban domestic water as a commodity and the commodified provision of this water. Domestic water is produced for consumption within the commodity framework. This commodity is provided to the consumers via the domestic water provision system, which is also commodified. In this section we consider both in turn.

3.2.1 The water commodity

In chapter one we examined water, noting that it has different use-values for us – physical sustenance, recreational uses, religious uses, etc. However, the current treatment of water in South Africa (and many other parts around the world) begs us to see water as a commodity. For example, prepaid water meters have come to mediate the relationship many people have with water – having to “feed the meter” to keep the taps running (see Coalition Against Water Privatisation, 2004b). This is one way water is being treated as a saleable item. However, other ways show water’s commodified form, for example, municipal tariffs and bottled water.

Such treatment of water is based on that other side of a commodity: its exchange-value. Generally, people pay money to their municipalities for domestic water. Of course, historically, water has been exchanged for many different things (not only money), and in many different ways, as we briefly explored in chapter one. However, sometimes, water is not even exchanged but simply offered – to a parched traveller for instance. Hence, water is not intrinsically worth some quantity of money; water existed even before money. What has happened is that we have ascribed an exchange-value to water through our social relations of production. In exactly this sense water is a commodity.⁹

Speaking of Southern Africa, McDonald and Ruiters (2005b p18) assert that urban domestic water is increasingly being traded via its exchange-value, i.e. traded as a commodity. But this commerce is not without difficulty. Water has often been seen as a “public good”, some thing we all share and to which we have equal right. McDonald and Ruiters (2005b p20) define a “public good” as being non-excludable, resisting commodification and non-rival. Air, for example, would be considered as such a “public good”.¹⁰ McDonald and Ruiters (2005b p20) also state that such public goods (or services thereof) are unlikely to become fully privatised due to what they term

⁹ Just because something has a price does not mean it is has value (i.e. a product of alienated labour): “Since exchange-value is a definite social manner of expressing the amount of labour bestowed upon an object, nature has no more to do with it than it has in fixing the course of exchange.” (Marx, 1976 p82). Hence, fresh water in aquifers (for example) may be priced but has not yet had human labour transferred to it as workers have yet to labour on it.

¹⁰ However, this can be disputed. For example, Bond (2008-9) argues that the recent emergence of the so-called “carbon trading” market shows us that even air is being subjected to the capitalist market seeking to commodify and make profit from whatever goods it can.

“free riders”: some getting the good or service for free through others who are paying for them. However, it is evident that public goods are becoming increasingly privatised, as we can see with municipal water.

Taking their case further, McDonald and Ruiters (2005b p20) argue that urban domestic water sits in-between a private and a public good – it is a “merit good”. The argument is that such a good will be underprovided if left to capitalist market forces as, for example, will education for the poor (McDonald and Ruiters, 2005b p20). Moreover, if there is no public sector to provide such “merit goods”, it is likely that the private sector will only provide to those who can afford such goods (McDonald and Ruiters, 2005b p20). In effect, McDonald and Ruiters’s (2005b) argument seems valid – that the private sector will only provide to those who can pay for such provision. However, McDonald and Ruiters’ (2005b) reasoning is faulty, as this thesis will show below. They leave out the crucial fact of alienated labour in the commodification of domestic water. McDonald and Ruiters (2005b) are dealing with the commodity of domestic water rather than the underlying process of commodification: in order to be commodified, domestic water must include alienated labour and, hence, thus becomes a commodity. As McDonald and Ruiters (2005b) show, domestic water as a commodity is particular.

Bakker (2003b) has picked up on such particularity. She avers that water, including domestic water, is an “uncooperative” commodity (Bakker, 2003b p22). In explaining water’s “uncooperativeness”, Bakker (2003b p22) states that water does not operate as other common commodities do under capitalism and she goes further in her explanation than do McDonald and Ruiters (2005b). Despite the efforts of many capitalists and states to fit water into the commodity framework, there are subtleties of misfit in water’s commodification. Why is this?

According to Bakker (2003b p32), the answer lies in water’s biophysical properties. Materially, water is integral to production for it is a part of nature (Bakker, 2003b p32). By this she means water is a raw material from nature drawn on to aid production; water itself is a “product of the labour process” (it is filtered, pumped, treated); and water is also an “instrument of production” needed for industrial

production but also physiologically needed by workers in order to work and live) (Bakker, 2003b p32).

Water is also a “flow resource”, meaning it is not easily bounded above or below ground (Bakker, 2003b p32). Water is also used in several ways, sometimes simultaneously: for example, used to produce agricultural crops, sate workers working on those crops, as the base ingredient for pesticides to spray the crops, involved in making machinery to harvest those crops – and so on (Bakker, 2003b p32-33). Water is also a dense, heavy thing: difficult to transport and expensive in relation to its exchange-value (Bakker, 2003b p33).

Partly for these reasons, argues Bakker (2003b p33), water is not as easily a commodity as coffee beans or shoes. As such, water does not comfortably fit into the commodity framework. Despite these reasons, she argues, water is still used by capital to make profit. As Bakker (2003b p193) says, “water is a liminal, yet highly strategic resource for capital accumulation.”¹¹ In this manner capitalism seeks new markets for profit, as we have previously considered (see Roberts, 2008; Harvey, 2003a, 2003b, 2005; McDonald and Ruiters, 2005b)

Even though Bakker’s points are very useful in outlining the place of water as a commodity in the market, she too leaves out a glaringly important consideration: the role of alienated labour in the production of water. Despite noting both water’s natural properties and that water is itself produced by the “labour process”, Bakker (2003b) does not take into consideration that this labour is “alienated”.

Keeping Bakker’s (2003b) points in mind we turn to Watts (2005) who offers an encyclopaedic approach to understanding the commodity. Watts (2005 p306) argues that in a commodity economy (like capitalism) not everything is produced as a commodity but some things are exchanged as commodities. He gives an example of how people’s labour-power is sold and that, as human beings, this is absurd – because under a commodity economy, even one of humans’ most basic abilities (the ability to

¹¹ In addition, Burkett (1999 p100-101) has noted the following: “nature and use-value are each *necessary conditions* of exchange value ... nature and use value are [also] necessary of value and of capital accumulation.”

creatively perform work) is up for sale as are the very products such human labour produces. Watts (2005 p306) adds that just as labour-power is being sold as a commodity under capitalism, so too is nature (e.g. land). As Watts (2005 p306) states, “over large parts of the earth’s surface the process of *commodification* – of ever greater realms of social and economic life being mediated through the market as a commodity – is far from complete.”¹²

However, the commodity of domestic water is produced. The above appraisals of domestic water as a commodity all neglect the inclusion of alienated labour in the process of domestic water’s commodification. Their departure point is the already commodified form of domestic water, even in unpacking, as Bakker (2003b) does, the materiality of the domestic water commodity. But it would benefit by the incorporation in analysis of the role of alienated labour and how water is thus produced as a commodity under capitalism. This way one can look beneath the appearance of the “uncooperative” water commodity to see how humans through the alienated labour process work on this natural element. Workers are labouring within the capitalistically structured division of labour, producing goods to be traded via their exchange-value. At exactly the point where nature (e.g. raw water) comes into contact with humans labouring via second-order mediations (e.g. the capitalistically structured division of labour, where goods are produced for exchange) is that nature transformed by that labour. No longer just nature it has now been worked on by a socio-historical specific form of human labour: alienated labour.

In the case of domestic water this point is where workers have made dams to contain raw water; pumps to transport it; plants and machinery to filter and purify it; and more pumps and containers to transport and store it. Even seawater (a form of raw water) is worked on through the labour involved in desalination. All developments here involve the alienated labour of workers. Hence, domestic water becomes something produced through alienated labour.

As stated above, the product of the capitalist mode of production can only have its use-value realised through its exchange-value – for example, paying the municipality

¹² Author’s emphasis.

for domestic water. So with the commodity of domestic water – it is commodified because of alienated labour. Domestic water itself is privatised, bought and owned by private water companies. Domestic water is appropriated and in those areas where this happens, by and large, is no longer available as a free public good. It can be traded in the market as a commodity, albeit an “uncooperative” one.

3.2.2 The provision of domestic water

Turning now to consider the provision of domestic water, we must keep in mind that this includes the domestic water commodity. In actuality, these analytically distinct things are integrated. The production of domestic water includes alienated labour, as we have explored above. The provision of domestic water also includes alienated labour. As will be engaged with below, domestic water supply is increasingly being privatised and thus brought (more) into the market for exchange and profit purposes. Market forces of exchange are progressively mediating humans’ need for water, which requires money for its satisfaction.

Polanyi argued, in his *Great Transformation* (1944 p72), labour and money are the “essential elements of industry”. Land is nature (hence, water would fall herein), labour is human activity and money refers to tokens of purchasing power (Polanyi, 1944 p72). These three “essential elements” Polanyi (1944 p72) terms “fictitious commodities” because they are not produced to be sold. Polanyi (1944 p75) argues that the organising principle of society is based on these “fictitious commodities” making for a society running on a “commodity fiction”. Such things must be organised in markets and making them commodities helps this happen (Polanyi, 1944 p72).

Polanyi (1944 p75) interrogates the history of production and finds that the more complicated industrial production became, the more these three essential elements of industry had to be safeguarded. This could only be done in one way in commercial society: to organise these three as commodities – putting them up for sale (1944 p75). Furthermore, their transformation into commodities was necessary to keep production going and the fiction of these “commodities” aided in this process of transformation because they were all three treated as purchasable items (1944 p75) and thus included

in the commodity circuit, by which capitalism turns. As Polanyi (1944 p75) aptly stated, “human society had become an accessory of the economic system.”

What Polanyi is saying is akin to what has become known as capitalist “free appropriation” (see Burkett, 1999 p91, 94). Marx made reference to this concept. According to Marx, elements of nature are freely appropriated by the conditions of capitalism in order to aid capitalistic production. As Burkett (1999 p92) states, “... when Marx considers *capitalist* free appropriation, he is talking about conditions that help fulfil capital’s absolute use-value requirement: the reproduction of exploitable labour power and of conditions under which this labour power may be exploited *via* the objectification of surplus labour in commodity use values” (Burkett’s emphases). Elements of nature (like water for example) become appropriated by capital but at no “cost” for they have not been produced by labour power (exchange-value) but are rather produced by nature. Hence, Marx argued they are “free gifts” to capital (Burkett, 1999 p92). In fact, Marx (1967 p745) lists water as one of those elements of nature which capitalism freely appropriates: “... production supplied by Nature without human assistance, such as land, wind, water, metals *in situ*, and timber in virgin forests”.

This is not to say that there are no costs in appropriating such “free gifts” – to appropriate them requires human labour. Hence, virgin water *per se* costs nothing to capital but our use thereof does for we have to labour in order to use virgin water as urban domestic water. As Marx (1994 p32) put it:

These forces of nature cost nothing as such. They are not the product of human labour. But their appropriation occurs only by means of machinery, which does have a cost, is itself the product of past labour. They are therefore only appropriated as agents of the labour process through machinery and by the owners of machinery.

If we consider water in the above line, we can see how virgin water becomes “freely appropriated” by capital, considered as “gifts”, and thus at no cost. However, in order to utilise such virgin water, for example, costs are incurred in doing so and at the same time human labour is expended and spliced with that virgin water. That virgin water thereby has human labour transferred to it by the capitalist mode of production. Therefore, that water now carries with it the alienation included in the capitalist labour process.

Hence, Polanyi (1944) has figured “nature” as one of his three “essential elements” which is necessary for capitalism to function. The way in which capitalism deals with them is to incorporate them into its particular mode of production so as to keep operating. Hence, water – a part of nature and thus one of the three elements necessary in capitalist production – must become part of the capitalist system of production *as a commodity*, for this is the logic of the capitalist system. What is more, this very inclusion is intensifying.

To place this picture more in focus, let us explore what makes up the price of water. In this way we will be able to see how domestic water (including its cost and profit) is included in the capitalist mode of production.

3.3 The price of water

According to Ollman (1971 p199) the price of a commodity is an indication of exchange-value based on the alienation of use-value. Alvarar (1986 p15) states that “...the sums paid for the bits of nature on the market, such as ground rents, come from quite different sources than nature, e.g., from the surplus value created by labor in industry.” What he elucidates is the basic functioning of capitalism – creating surplus or capital – and with regards to water as a commodity in this system the general line is no different. So what actually constitutes the price of urban domestic water?

Bond, McDonald and Ruiters (2003 p12) explain that what at base determines the price of urban domestic water is the cost of the initial water infrastructure and installation (capital cost) and expenses associated with operation and maintenance (marginal costs). Added to this is whether the public or private sector supplies such water. We will return to this distinction presently. Continuing, Bond et al (2003 p12) report that providing water to “low-income users” (the working class) has a high marginal cost but small quantities of water are used. These high marginal costs include: more complex billing arrangements (as some users lack addresses); difficulties in making payments; leaking infrastructure; and services are used mainly during peak hours. However, Bond et al (2003 p12) also report that the “long run

marginal cost” may actually be driven up by big water consumers who waste and use too much water and thus drive up the cost of general water provision.

And what about profit? In terms of private water provision, it is reported that three companies mainly control the water market – Vivendi, Suez and Thames Water (Barlow and Clarke, 2004 p106; Marsden, 2003). The two largest, Vivendi and Suez, control 70% of the world water market (Barlow and Clarke, 2004 p107).¹³ Barlow and Clarke (2004 p103) argue that private water companies, like Suez for example, “have built-in mechanisms for guaranteeing profit”. For instance, the water concession granted to Agua Argentina (a subsidiary of Suez) to operate in Buenos Aires, had a “built-in flexibility that did much to protect the company’s profit margins ... if its composite cost index (an index based on costs of fuel, labor, and other expenses) rose above seven percent.” (Barlow and Clarke, 2004 p103). Moreover, Aguas Argentina was able to clear in profit, 28.9% of revenue in 1995 and 25.4% in 1996 (Barlow and Clarke, 2004 p104).

These profit margins are nearly three times those of other water companies operating in England and Wales (9.6% in 1998-1999 and 9.3% in 1999-2000), showing indeed that some private water companies have high profit margins (Barlow and Clarke, 2004 p104). Indeed, profit from private water companies is growing. The biggest three – Vivendi, Suez and Thames Water – along with Saur, United Utilities and Bechtel private water companies, only provided water services in about a dozen countries in the world in 1990 (Marsden, 2003). However, by 2002, this grew to 56 countries worldwide to which these six companies were providing water services.

Consider Vivendi, which in 1992 earned US\$5 billion in water-related revenues. A decade later, this figure was sitting at US\$12 billion (Barlow and Clarke, 2004 p.v). Despite cost-recovery methods, private water companies are making profit from providing water services. Indeed, providing water services now entails making a profit and hence is incorporated into the price charged for water provision services

¹³ By “world water market” we do not mean the global water provision network, urban and rural. The world water market is in fact generally limited to the so-called developing world, although it is encroaching within the so-called developed world (Public Citizen, 2010; Newsweek, 2010).

provided by private companies. Water provision is another method of profit making for the capitalists.

We have already explored water as a commodity and see that it is not a “classical” commodity, if you will, like shoes or cars. As we considered in chapter one, water was not always a commodity but has become one and, recently, has become a profitable one. Hence, water is both reluctantly commodified through necessity – for it is necessary as a material resource to capitalist production – but is also a productive commodity, albeit “uncooperative”. Capitalism has absorbed this necessary material resource into its system, in similar fashion as other necessary material resources – like land, for example. Land rent is not inherent to the resource of land but rather grafted into land so that it becomes useful to the capitalist mode of production. Diamonds, gold and other minerals also follow suit. These natural resources are transformed into commodities by the social relations of capitalist production.

As McDonald and Ruiters (2005b) aver, the capitalist system finds new frontiers for commodification. The commodification of water and its provision is most certainly one of these frontiers (see McDonald and Ruiters, 2005a). Central to this transformation of domestic water into a commodity and its provision is alienated labour, as we have explored. Domestic water is treated more and more via its exchange-value instead of simply its use-value. Doing this means money can be made from water commodification and provision of that commodity. In the founding of water as a commodity alienated labour plays a central role. So too does alienated labour in the provision of that water commodity. There are costs, of course, to this whole process of commodification and provision but there is also profit yielded through the provision of domestic water. We now turn to explore the most recent form of water provision in South Africa: privatisation.

3.4 The privatisation of water provision

The privatisation of water provision is a social process through which water is currently being commodified in South Africa. We keep in mind that alienated labour is central to both the particularities of water as a commodity and the provision of such water, as theorised above. We also keep in mind that the privatisation of water

provision is the latest form through which the commodification of water is intensifying in South Africa.

Simply defined, water privatisation is when the state sells its assets to a private company along with operational responsibilities of that asset (such as management, planning, maintenance) (McDonald and Ruiters, 2005b p14). Various models of water privatisation exist. The one just defined is known as divestiture and was largely rolled out in the United Kingdom during Thatcher's time. All aspects of the British water system were sold to a private firm, save for monitoring and regulation (McDonald and Ruiters, 2005b p14). Since the first privatisations of water in the nineteenth century, water privatisation itself has extended and so has privatisation of other areas like telecommunications, railroads, health services, airlines and more. McDonald and Ruiters (2005b p14) argue that these developments are actually attempts to open new markets under capitalism.

As such, the practice of privatisation the world over has extended into many other forms beyond this narrow definition, regarding water provision. For example, full state divestiture is the full privatisation of state water or sanitation services, though still under state supervision. An alternative to this kind of privatisation is where communities or non-governmental organisations (NGOs) work to secure water service provision: transferring water service provision to community members or NGOs, including community members actually digging trenches and laying pipes for the water systems. (For more forms of water privatisation see McDonald and Ruiters, 2005b p15-17.)

Along with these burgeoning forms of water privatisation, according to McDonald and Ruiters (2005b p17), comes the intrusion of free market principals into water services and delivery. The process of commodification, argue McDonald and Ruiters (2005b p19), is the basis of water privatisation. Treating water as a commodity leads to effective commercialisation and hence privatisation of water, embodied for example by prepaid water meters (McDonald and Ruiters, 2005b p19).

What does this mean? To commercialise water means incorporating free market practices into the operations of water services (McDonald and Ruiters, 2005b p17).

Practices such as profit maximisation, cost-recovery, ring-fencing, performance targets, etc. (McDonald and Ruiters, 2005b p17). Counter to these practices in the public water sector are more traditional principles like integrated planning, (cross-) subsidisation, equity operation, etc. (McDonald and Ruiters, 2005b p17). In Southern Africa in particular what has been popular is the “corporatisation” of water provision. This is where water services are turned into stand-alone business entities (e.g. local municipal water provision) supplying water to their now “customers” (e.g. residents in municipal areas) (McDonald and Ruiters, 2005b p17-18). This practice is also called “ring-fencing” and can be more profitable than some private sector operations, having fiercely enforced free market principles (McDonald and Ruiters, 2005b p18).

The privatisation of domestic water provision in South Africa has regressive effects. Bond (2003 p13-19) terms this the “regressive impacts of water privatisation”. In many South African cities, from the mid-1990s to early 2000s, the policy and organisation of domestic water provision was determined by the commodification and privatisation of domestic water. Bond (2003) highlights that the privatisation of domestic water drove up the prices for those using the least amounts of water, whilst the prices were driven up relatively less for those using more water.

As Bond (2003 p17) documents, over five years (1996-2000) the residential water tariff in municipalities supplied by Rand Water (a privately operated water company) increased the most for low-end users and the least for high-end users. The percentage increase he reports for low-end users was 39%, whilst for high-end users it was 24% (all *after* inflation) (Bond, 2003 p17). Along with this, Bond (2003 p17-18) reports that even after the Free Basic Water (FBW) of 6kl per month (in place after 2000), someone consuming more water than a household is entitled to, will still have to pay more *relative to industry tariffs*.¹⁴ Indeed, *industrial* water tariffs remain regressive in nature, meaning high-end users pay lower increases and low-end users pay higher increases (Bond, 2003 p18). Bond (2003 p18) argues that the commercialisation and privatisation processes in South Africa (or at least in Johannesburg) have regressive impacts even after the FBW allocation of 6kl per month. Smith (2009 p103) reports similar findings through her research, where lower-income residents of Eastwood

¹⁴ We consider this allocation of “free” water (provided through the Free Basic Water policy) in the next chapter.

(KwaZulu-Natal) are charged proportionally more (9% of total income) for domestic water than higher-income residents (5% of total income).¹⁵

This regressive costing structure is argued to be due to capital costs from projects like the Lesotho Highlands Water Project (LHWP). Bond et al (2001) argue that the South African government charged individual users for capital costs. For example, users of the Vaal River water network were reported to pay three times more in levies, due to the costs of the LHWP, passed on to all these water users but inequitably – those using lesser amounts of water were having to pay higher tariff increases than those using more (Bond et al, 2001 p20). In a crude economic sense, this is logical for high-end users are, in a way, encouraged to continue using large quantities – which generate more profits for private water companies and ensure a market for their product – whilst low-end users are simply charged more for less.

The privatisation of domestic water is, of course, not restricted to South Africa. It is a worldwide practice. The argument made by neoliberals is that domestic water (and water in general) must be treated as a private good (i.e. a commodity), because the consequences of having the state provide water without competition are wastage, inefficiency, lack of resources and unaccountability (Bond, McDonald, Ruiters and Greeff, 2001; McDonald and Ruiters, 2005b). Neoliberals then argue that treating water as a commodity has social, economic and environmental imperatives (McDonald and Ruiters, 2005b). By having the water sector commercialised and introducing competition means, for neoliberals, that there will be a “policy upshot” resulting in “pro-poor” policy (McDonald and Ruiters, 2005b).

Writing for *The Economist* John Peet offers an example of this neoliberal line. Peet (2003 p5) claims that the “water problem” (meaning the global scarcity of water and associated crises, e.g. pollution, wastage) is a solvable environmental crisis, “and the best way of solving it is to treat water pretty much as a business like any other”. He argues in that water is not adequately utilised and this is the reason for global water scarcity.

¹⁵ We note that not all municipalities have such increases in water rates. For example, the City of Cape Town’s water rates are attached to differential property taxation (see City of Cape Town, 2009).

In line with the popular neoliberal position of Peet (2003), Winpenny (1994) earlier espoused similar suppositions. Like Peet (2003) he argued that domestic water is understood to be *underpriced* and the solution is to commodify water and price it properly, thereby forcing people to treat water as a proper, limited, environmental resource (Winpenny, 1994 p7-11, 15). We have already seen above what this “pricing” entails: alienated labour and profit. Both Peet (2003) and Winpenny (1994), of course, being advocates of the privatisation of domestic water provision, see the glow of profits but do not see the necessity of alienated labour by workers needed in order to make their argument reality. They simply see the market and its “costs”.

Winpenny (1994 p13) argues further that “unlike clean air ... water is not bound to remain a public good. It is capable of being brought under greater control, for the public benefit.” To curb many public problems associated with water (e.g. pollution, overdrawing aquifers, over consumption of domestic water) Winpenny (1994 p12) avers that water (including domestic water provision) needs to be brought into the market economy and regulated. This means effectively making water a private good, best managed and provided for by private corporations who can do so effectively through “water markets” and pricing (Winpenny, 1994 p105-107). In fact, Winpenny (1994 p106) advocates changing human behaviour around water consumption through punitive measures of “demand management” which rests on the statement from the 1992 International Conference on Water and the Environment held in Dublin: “Past failure to recognise the economic value of water has led to wasteful and environmentally damaging uses of the resource” (as cited in Winpenny, 1994 p106).

This neoliberal line advocated above by, for example, Winpenny (1994) and Peet (2003) is embodied by the privatisation of domestic water provision. This social process is the current form of the commodification of water in South Africa.

3.5 Conclusion

We have explored the particularities of the commodity of domestic water and have seen how alienated labour underlies the commodification in both the domestic water product and the provision of that product. We noted the “uncooperativeness” of domestic water as a commodity. However, we have gone deeper than current conceptions of the commodification of domestic water for we have included in our

analysis Marx's concept of alienated labour. In both the commodified product of domestic water and the provision of it, alienated labour plays a key role.

The privatisation of services like domestic water provision in South Africa is the logical progression of neoliberalism (see Harvey, 2005). The privatisation of domestic water provision is based on the commodification of domestic water for which alienated labour is a necessary part. The privatisation of domestic water provision is an attempt to manage and control domestic water and harvest the hoped for blossoming profits. In exploring the price of this water commodity and its provision, profits are a clear part emanating from trading domestic water based on its exchange-value.

We also highlighted the previously existing foundation of the alienated labour of workers in the production of domestic water and hence the privatisation of water provision is an intensification of the process of commodification under neoliberalism. By including Marx's concept of alienated labour we are able to understand this better as an extension of the capitalist mode of production.

It is interesting to note that the provision of the service of domestic water, especially in urban areas, is itself the development of intensifying commodification, where a public good is available only at a profit. This is a paradox. The more people are provided with the service of domestic water on top of notions of "equal access for all", the more the service is, in reality, denied to those most in need of it. We take a deeper look at this paradox in our next chapter.

CHAPTER FOUR: WATER IN SOUTH AFRICA

We begin by examining the history of water provision in South Africa and uncover a socio-historical reality where the interests of capital dominate. We then move to probe the laws and regulations guiding and controlling the provision of water particular to South Africa. Through following changing forms of ownership and control in domestic water provision we expose the conflict between the right to water of the individual and the established socio-historical reality of the dominant interests of capital. In appraising the current situation of water provision in South Africa this conflict emerges stronger, which we elucidated through using the theoretical elaboration of commodification in chapter three. We illuminate the key role played by alienated labour through domestic water commodification. We also appraise the Free Basic Water policy, finding that instead of effectively addressing the conflict mentioned, it essentially deepens the roots of water commodification.

4.1 The history of water provision in South Africa

We have briefly laid out the history of water provision in chapter one but here we will consider that history particular to South Africa. Above we considered three significant stages in the history of water provision: the change from a nomadic to a sedentary lifestyle; the development of irrigated agriculture; and industrialisation. We saw how there was a dialectic operating between human labour and nature, developing alongside human settlements, and eventually into modern urbanisation. There are reflections of these periods in the history we consider below.

The history of water provision in South Africa is closely tied to the history of land dispossession (Cottle, 2004 p5; Guelke and Shell, 1992 p803). Cottle (2004) sets out an historical examination of water provision (along with land dispossession) in South Africa by analysing them in four moments. These are: (i) Dutch colonialism from 1652-1806; (ii) British Imperialism from 1806-1860s; (iii) the Mining era from 1867 onwards; and (iv) the rise of the National Party in power from 1948 (Cottle, 2004 p5-10). Let us follow each of these in turn:

(i) Dutch colonialism. When the Dutch arrived in the Cape in 1652, they found a very differently organised world. Southern Africa was a land of hunter-gatherers and pastoralists in the West and tribal farmers to the East. Although land was not fully privatised in Holland, the notion of owning land existed and thus land in South Africa was claimed in the name of the King of Holland (Theal, 1964). The water of the land was included in this usurpation.

Before this settlement by the Dutch, the Cape served as a significant way station, as is well known. Not only the Dutch but the Portuguese too used the Cape port to refresh stock on their way to and back from the Indies. Both these nations' traders traded with the indigenous peoples of the Cape (the KhoiSan and KhoiKhoi) for vegetables and meat and drew fresh water from the Camissa stream (now Platteklip stream), in modern Table Valley (Hromnik, 2007; Theal, 1964).

Very soon, the Dutch East India Company (VOC) employees started to live at the Cape of Good Hope and were settlers rather than pastoralists. Hence, the land chosen to settle on was riparian and because the Cape is semi-arid, water was vital to all living there. So this led to some, eventually, brutal confrontations.

The land the VOC usurped was roamed by the transhumant Khoikhoi and the hunter-gather KhoiSan (Guelke and Shell, 1992 p803). The Khoikhoi way of life was transhumant and pastoral and thus depended on seasonal access to water (Guelke and Shell, 1992 p803). The waters accessed by the KhoiKhoi and KhoiSan came from the seasonal springs near Table Mountain. However, neither the Khoikhoi nor KhoiSan owned land *per se*. Although, when the Dutch began cultivating the land in 1656, the Khoikhoi also declared that the land belonged to them (Hromnik, 2007; Boonzaier et al p71).

The Dutch were able to seize this land because of their greater firepower, sword power and horsepower. The settlers simply shot Khoikhoi that trespassed on their new land. The resources of the Cape became the settlers' resources; water was subsumed under private property (see Hall, 1939). The Khoikhoi's access to water was physically shut-off to them by the usurpation of land by the settlers. As a result the Khoikhoi could not keep up their traditional transhumant way of life.

The Dutch carried out intensive farming. Land grants were small in the beginning (on average 29 acres) and located in traditional KhoiKhoi pasturage: by the Liesbeeck Rivier. The defeat of the KhoiKhoi Gonnema in 1677 opened more land for the settlers and land allocation changed and became more systematised. Land was made available to burghers on a first-come-first-served basis. Such land was that situated along the Eerste River and its tributaries in the District of Stellenbosch. Larger areas were claimed than before. The Dutch effectively had “legal” ownership of the land enforced through brute violence. This land was previously the Khoikhoi’s – who were now alienated from the land and waterways.

The Dutch provided water for themselves through open canals (grachts) and fountains which tapped the springs and streams emanating from Table Mountain (the main water sources) to bring water into the developing towns (Juuti et al., 2007e p167). The Dutch were also able to lay water pipes, though very minimally at first. However, most settlers drew water from the fountains and canals by bucket, often carried by slaves or water sellers – otherwise children and women carried them (Juuti et al., 2007e p167-168). The laying of water pipes eventually increased; most were wooden, which often leaked and eventually rotted, and were only replaced by lead pipes beginning in 1799 (Grant, 1991 p29). Such were the first methods of water provision for the developing towns at the Cape.

Until the early nineteenth century, the Cape colony grew steadily but slowly (Juuti et al., 2007e p168). Access to water during this time clearly differed for indigenous people of the Cape and the new settlers. In accord with Dutch manners about private property and land, the water resources were effectively captured and protected for exclusive use by the Dutch in the name not only of the Dutch Monarchy but the VOC – a pioneer of the new dawning era of capitalism. For the Khoikhoi water was the fulcrum on which their life was balanced for they had livestock and a transhumant way of life. The KhoiSan too depended on frequent access to the sweet waters of the Cape. In this way the Dutch effectively alienated these indigenous peoples from their water sources. This helped force both the Khoikhoi and KhoiSan into labour for the burghers. Instead of sustaining themselves off the land, the Khoikhoi and KhoiSan now had but their labour-power.

(ii) British colonialism. The British seized the Cape from the Dutch in 1806 (Cottle, 2004 p6). The British were pressurised for they were in competition with other empires and had to accumulate more capital; at the same time slavery was ending (Cottle, 2004 p6). Hence, when the British dug in at the Cape, they sought a base from which to accumulate wealth and used the indigenous peoples for labour. The Khoikhoi and KhoiSan could not legally be slaves and so the British had to force them into labour by dispossessing them of their livelihoods (e.g. cattle and land). The Dutch had yet to dispossess all the indigenous people of the Cape of their livelihoods but the British to a great extent completed this task. The Khoikhoi and KhoiSan were now more tied to their colonial master through their labour-power (Cottle, 2004 p6).

Developing riparian rights and the control of indigenous labour created the basis for British land expansion and increasing commercialisation of farming. By the end of the 1860s colonies were growing not only in the Cape but also in what is now the Eastern Cape and KwaZulu-Natal (Cottle, 2004 p6).

The provision of water grew alongside these developing towns. In Cape Town, during the first half of the nineteenth century, most of the poor collected water from public water pumps, which were managed by the municipal council (Worden et al., 1998 p120). By 1834 there were 36 free-flowing fountains in Cape Town (Burman, 1969 p98). Because water was scarce during the summer months in the Cape (especially now that the population was growing), more water had to be secured. The Cape Town municipal council decided to build a reservoir, completed in 1852, to meet the growing need for water and a larger second reservoir was completed in 1856 (Burman, 1969 p99). Such developments were similar to those in other towns (like Grahamstown and Durban, see Mäki, 2007). Johannesburg was unique (Mäki, 2007 p191) and, as we explore next, this had to do with the mining industry.¹⁶

(iii) The Mining Era. Diamonds were discovered in Kimberley in 1867 and gold on the Witwatersrand in 1886. This revolutionised the economy in South Africa at the time (Cottle, 2004 p6). With the mineral rush came more people searching for wealth.

¹⁶ It is curious to note that as the biggest city in South Africa, Johannesburg, was not founded near a natural source of running water, like a river – as many other major cities are.

Consequently, more people meant an increasing need for food, water, transport (particularly for mining) and other basic infrastructure (Cottle, 2004 p7). Importantly, the demand for food (and thus commercial farming) increased and so water was needed to match this increase (Cottle, 2004 p7). Of course, the burgeoning mining industry needed both massive amounts of water and labour, the former was mostly provided by private companies (Cottle, 2004 p7; Mäki, 2007 p192) as the South African Republic was unable to provide water at such a level (Tempelhoff, 2000 p91).

In 1903 the Rand Water Services Board was established in order to address persistent water shortages affecting both mining operations in the Witwatersrand and settlements linked therewith (Cottle, 2004 p7; Tempelhoff, 2000 p109). In 1923 the Vaal River was finally dammed and for a short while met the need for water in the Witwatersrand but it was soon evident that this supply would be insufficient for the growing area (Tempelhoff, 2000 p111). The developing water provision spurred on a process of developing water infrastructure for the growing urban areas, with priority of water distribution given to agriculture through irrigation schemes (Tempelhoff, 2000 p112).

During the early twentieth century under the South Africa Union, water provision increasingly came under state control, which prioritised the mining industry and increasingly the agricultural industry (Cottle, 2004 p8). The provision of water and other utilities became concentrated in the hands of the white ruling class (Cottle, 2004 p8). At this time too the state had to deal with growing urbanisation and intensifying mining activities and, consequently, control over water provision. Cottle (2004 p8) reports that control over water provision during this period oscillated between the state and private companies. There is a historical parallel during this time between the colonial usurpation of land and the by now conquered black tribes, which carried through to the apartheid period: blacks were also forced into land “reserves” which were of very poor quality so as to deny them self-sufficiency and force them to labour for the ruling white class on farms or in the mines (Bate and Tren, 2002 p58).

During this time the provision of water was primarily directed to mining, agriculture and manufacturing industries and mediated through them too (Bakker and Hemson, 2000 p8; Swatuk, 2002 p511). The provision of water remained in the hands of the

ruling class and became more consolidated under the apartheid government, which we turn to explore next.

(iv) The apartheid era. The National Party took power in 1948 and thereafter consolidated land dispossession and water control for the white ruling class (Cottle, 2004 p9). This period, as is well known, is characterised by callous racial politics and law reform all aimed at primarily securing South Africa for the whites. Thus the developing black working class, formerly squeezed into the allocated “reservations”, became more curtailed although the size of the land they were forced into increased marginally. (This process can be seen as a “proletarianisation” of the indigenous peoples of South Africa). These “reservations” (which developed into the Bantustans) had minimal water sources and supply (Cottle, 2004 p9) and in fact had to negotiate with the government to get potable water (and other rights), including permits (Funke et al., 2007 p13). Water was also used as an effective weapon by the apartheid government (Funke et al., 2007 p13).¹⁷ The majority of the water sources, services and supply was in the hands of the white ruling class and was used to further the development of industries, urban business and agriculture, with particular focus on the latter through more irrigation schemes, dams and subsidies (Cottle, 2004 p9; Funke et al., 2007 p13). This trend continued more intensively during this period, as the laws around water we explore below reveal.

As Cottle (2004 p10) asserts, the ownership and use of “free” water became synonymous with relations of private property. Swatuk (2002 p529) has stated that the particular history of water in South Africa (as we have explored above) has influenced the current treatment and deployment of water in South Africa. Indeed, in reporting on the water architecture in South Africa, Swatuk (2002 p508-511) confirms the above history, arguing that the colonials displaced indigenous people and, what he terms, a “certain European ideology” shaped water technologies and management delivery. Swatuk (2002 p508-511) also mentions how the migration from rural to urban areas created more water needs in more concentrated areas because of expanding urban settlements required by burgeoning capitalist industry. Hence, the

¹⁷ As mentioned in chapter one, the apartheid government cut the water supply to the Wesselton Township of 50 000 people in 1990 because of protests over poor sanitation and living conditions (Joseph, 2005 p43)

water infrastructure in South Africa came to be built for the white settlers and their industry, and the current water management and use leads to the commercialisation of water (Swatuk, 2002 p511).

What we have outlined above is a socio-historically developed social reality of water provision reflecting and serving the dominant interests of capital in the current mode of production. These dominant interests are expressed through directing priority water provision to agricultural, mining and manufacturing industries. These industries were provided with water through the growing network of water provision amenities. They could only be provided with water through gaining ownership and control over water resources, as the above has briefly explored. By examining the law around water in South Africa, which we do in our next section, we see reflected the changing forms of ownership and control. We consider this for it reflects the deeper social reality of the commodification of water.

4.2 The right to water

In 1655 the Dutch traders under Jan van Riebeeck proclaimed that the water at the Cape was to be free to the Dutch traders and the VOC was the *dominus fluminis* (de facto owners of the Cape waters) (Hall, 1939 p11). Guelke and Shell (1992) show how the Dutch (and also the British) usurped land by force and then, after the fact, legitimised their occupation and ownership through their laws, first engraved by the VOC. Guelke and Shell (1992 p808) also argue that the Dutch used the war with the KhoiKhoi in the 1670's as a cover for land theft. The Dutch legitimised their land usurpation by this war and with this combined their legal processes giving their occupancy some justification and legal basis.¹⁸ Private property was, arguably, a right only after the theft of it.

When the British took the Cape from the Dutch in 1806, the laws of the land changed. Although, British land law (like the Dutch) was based on private property rights, it asserted citizenry ownership of water (as private property) but the state controlled water provision (as per Roman law) (Hall, 1939 p5-6). State ownership of water

¹⁸ There were also moral reasons for the land usurpation. It has been argued that the colonials actually believed they were doing the right thing through their colonisation of Southern Africa (and Africa in general) – that they were bringing the light of the West to the “heathen”. For such accounts and arguments see Arniel (1996).

disappeared under British law, replaced by riparian rights, which effectively tied water to the land (Hall, 1939 p16). What this meant was if your land fell adjacent to a river, that water was effectively yours, although specific laws of water use applied to upstream and downstream users. State ownership of water was not known of in Britain at this time (Cottle, 2004 p6; see Juuti et al., 2007a p236). In 1856 the Supreme Court in South Africa ruled that the owner of land is the absolute owner of all water rising upon his land (Cottle, 2004 p6; Hall, 1939 p32). Ownership of water moved from the state (and monarchy) to the individual. However, what mattered more was the control of water.

In 1882 the Cape Colony parliament passed legislation that detailed the powers and duties of the municipalities, which were given control of water provision (also including functions of sanitation e.g. sewerage disposal) (Juuti et al., 2007e p170). This was past with the prevailing laws of ownership where natural water (e.g. riparian water) was owned by individuals. The legislation passed in 1882 was legislation of the control of water through municipalities.

The 1910 South Africa Act enfranchised whites and gave them political control over all other race groups (Allen, 2005 p.xi). The control over water became more racially concentrated in the hands of the whites. The 1913 Natives Land Act further sealed the dispossession of land by legalising it and created conditions for more cheap labour, particularly for the mining industry, as the indigenous peoples (mainly blacks for the KhoiKhoi and KhoiSan were nearly wiped out by this time) were almost wholly kept from owning land and moved to reservations (Cottle, 2004 p7-8). This Act, according to Cottle (2004 p7-8), also legitimised the whites' control of resources (forests, minerals, and water) – which were all tied to land. More laws followed which aimed to solidify the white ruling class's control in South Africa, as Allen (2005 p.xii) reports:

... the Natives in Urban Areas Bill (1918) aimed to force blacks into 'reserves'; the Urban Areas Act (1923) introduced residential segregation and provided cheap labour for the mining and farming industries; the Colour Bar Act (1926), prevented blacks from practicing their skilled trades; the Native Administration Act (1927) made the British Crown, rather than paramount chiefs, the supreme head over all African affairs; the Native Land and Trust Act (1936) complemented the 1913 Native Land Act and, in the same year, the Representation of

Natives Act, removed blacks from the Cape voters' roll. Finally, the Asiatic Land Tenure Bill (1946) banned any further land sales to Indians.¹⁹

The above developments in legislation show that, in combination with private property laws, legislation around water was either about ownership or control. Private property rights were legislated from 1806 and ownership of water remained with the owner of the land. From 1882 legislation began reflecting more duties of the state in the provision of water, controlled through the developing municipalities. Alongside these laws continued the growth of mining and agricultural industries, utilising the country's resources, including water. From 1910 the South Africa Act (1910), Natives Land Act (1913) and following legislation, helped concretised white control of water. However, this was set to expand in the next era.

During the era of the National Party, the Water Act of 1956 was passed which increased state control over water: the minister of water affairs had effective control over most water; surplus water was no longer private water but now belonged to the state and was to be used productively (i.e. mainly for industry); private dam constructions now required permits as did tapping some ground water sources (Bate and Tren, 2002 p82-83; Cottle, 2004 p9). However, water was still understood to be either public or private. Public water (water not on private land – e.g. a river) was owned by the state and regulated by the Water Act (1956) and subsequent amendments; private water (water on private land – e.g. a spring) remained the private property of the landowner (Bate and Tren, 2002 p84-85).

According to Bate and Tren (2002 p90-91), from the 1970s onwards, more efforts were made to consolidate government control over water resources and manage water primarily to meet the needs of mining and agricultural industries and thereafter – urban domestic needs. Emphasis was placed on exercising control of water “in the public interest”, a vague concept which included agricultural, industrial and urban uses and environmental protection (Bate and Tren, 2002 p91). Water legislation, however, continued to be inflexible and largely inefficient in adequately controlling productive water use (Bate and Tren, 2002 p91). From the late 1980s political conditions in South Africa began to change. As we know, a new government was

¹⁹ This is paraphrased from Allen (2005 p.xii).

elected in 1994, which brought many changes in legislation, including those around water provision.

Instead of private ownership of water, all citizens were now granted ownership of the country's water through the state (Funke et al., 2007 p15). The state remained in control of domestic water (Funke et al., 2007 p14). This is reminiscent of the old Roman laws where the state is *dominus fluminis*, however there is more included in the definition of citizen. The Constitution of the Republic of South Africa (Republic of South Africa, 1996) states in Article 27 (1) (b) that "everyone has the right to have access to ... sufficient food and water". Article 27 (2) states that the government must take "reasonable legislative and other measures, within its available resources, to achieve the progressive realisation" of the above right. The management of this right is set out by the National Water Act (Republic of South Africa, 1998) and related amendments.

The Water Services Act (Republic of South Africa, 1997) in Article 3 states:

3. (1) Everyone has a right of access to basic water supply and basic sanitation.
- (2) Every water services institution must take reasonable measures to realise these rights.
- (3) Every water services authority must, in its water services development plan, provide for measures to realise these rights.

And in the Regulation Gazette No. 7079 (Department of Water Affairs and Forestry, 2001c), Article 3 sets the standard for basic water supply as follows:

3. The minimum standard for basic water supply services is -
 - (a) the provision of appropriate education in respect of effective water use; and
 - (b) a minimum quantity of potable water of 25 litres per person per day or 6 kilolitres per household per month -
 - (i) at a minimum flow rate of not less than 10 litres per minute;
 - (ii) within 200 metres of a household; and
 - (iii) with an effectiveness such that no consumer is without a supply for more than seven full days in any year.

This signalled a drastic shift in water provision, as reflected in the legislation. More emphasis is placed on the use of water rather than ownership and control.

State ownership is subsumed beneath the decree of citizenry ownership (through the state). Also, where use was legally determined by the needs of general industrial production (agricultural, mining and manufacturing industries), as reflected by earlier legislation, use now is, rather, legally determined by the needs of the citizen. In this, the ordinary person in South Africa has the right to sufficient water, in black and white. Despite this, we have seen that this right is secondary to the social reality of the dominant interests of capital, as shown through the priority of water use given to general industrial production. This means the right to sufficient water is granted on top of the already existing social reality where the needs of industry are primary.

Even though these rights and regulations are stipulated in Acts, they are often transgressed – simply being in law does not make them facts of everyday life. Water treated as a commodity contradicts water treated as a human right at certain points. Expressing such commodification, water provision privatisation and cost-recovery methods collide with and contradict these laws. There are many instances that show this, especially the Phiri prepaid water meters court case (Dugard, 2008; Dugard, 2010). In our next section we explore the current situation of water provision in South Africa where we unpack further this conflict, including the trumpeted solution of Free Basic Water.

4.3 The current situation of domestic water

Currently, domestic water provision is in a crisis in South Africa. This crisis is coloured by the fact that South Africa is a semi-arid country where water is scarce. In investigating this crisis, themes emerge. There is a crisis of domestic water privatisation and management. There is also a crisis of domestic water delivery, which most definitely fits with the increasing and ubiquitous so-called “service delivery protests”, clearly showing a dissatisfaction with domestic water provision. We begin with South Africa’s water resource status.

South Africa has a low average precipitation of 497mm per year (Oosthuizen, 2002 p2; Turton, 2008 p2), which has been cited as a fundamental developmental constraint

(Turton, 2008 p2). The world average rainfall is 860mm per year (Van der Zel, 1997 p218). Currently, 62%²⁰ of water in South Africa is used for irrigation and domestic use stands at 27% (urban 23%, rural 4%); the remaining 11% is used for mining (2.5%), general industry (3.5%), power generation (2%) and afforestation (3%) Department of Water Affairs and Forestry, 2009b slide 14). Alternative sources of drinking water are being sourced through treating used water (to develop “grey water” and potable water) and desalination; the latter is very expensive and uses large amounts of energy Department of Water Affairs and Forestry, 2009b slide 19; Momberg, 2008).

A 2009 news report argues that South Africa is heading for a significant water deficit in years to come. The Water Resources Group study projects a best-case scenario water deficit in two decades of 5.4 billion cubic metres, taking into account accelerated economic growth and moderate climate effects (Salgado, 2009). South Africa’s water supply is roughly 15 billion cubic meters, and the deficit is projected to be 30% (Salgado, 2009). Another news report from 2010 points to the crisis faced in South Africa regarding a startling 80% pollution of its fresh water supply (Van Wyk, 2010 p14). This report (Van Wyk, 2010 p14) argues that because of “poor maintenance of major storage dams, failing water and sewerage infrastructure and outdated and poorly maintained delivery systems, ... municipalities across the country fail to reach a minimum health and safety standard in quality of drinking water.” Acid mine drainage is also a significantly major threat to the country’s groundwater reserves (Van Wyk, 2010).

This points to a looming crisis in both water resources in this semi-arid country and the management of that water. Significantly, Salgado (2009) reports that the solution to South Africa’s water crises lies in investing in the water market to establish water security and stimulate efficient provision of water. Indeed, the study asserts that globally, water is chronically underinvested (Salgado, 2009). Regarding South Africa, Salgado (2009) reports that the cheapest and most effective solution to coming water shortages will be more investment in infrastructure and better efficiency in all sectors

²⁰ This is the most recent official figure. The South African National Committee on Large Dams (SANCOLD) reports this number as 60% (see South African National Committee on Large Dams, n.d.) whilst in a recent news report this is vaguely noted to be more than 50% (Smit, 2010).

of water use. Desalination is also mentioned as a further option but is massively expensive both on the pocket and for the environment, not to mention the problems of transporting the water produced (Salgado, 2009).

What stands out in this last report is the priority ascribed to the only possible solution being sought through the market. In fact, in a communiqué from the now Department of Water Affairs,²¹ it was stated that “South Africa is among the 30 driest countries in the world and as such water is a scarce *commodity* that is finite in nature” (Department of Water Affairs, 2010 p1, my emphasis). A similar sentiment was expressed by Junior Potloane of the Water Institute of Southern Africa (of which the Department of Water Affairs is a patron member) in a news report about South Africa’s water security. Potloane notes the need for South Africans to understand “the economic value of water” (Smit, 2010).

In order to secure the needs of all the argument is made for the economic valuation and safeguarding of water resources, including the effective provision of domestic water. This argument is peppering various accounts of the domestic water crisis in South Africa made by the government and the private sector “role-players” in the “water market”, as they have been termed (Newsweek, 2010). The argument, as we can deduce, closely relates to that of the neoliberal line put forth about domestic water, which we recounted in the previous chapter. Regarding South Africa’s provision of water, what elements are contained in this apparent crisis?

A survey of news reports from 2001 to 2009 shows the following trends most affecting South Africa’s water provision: pollution, failing infrastructure (maintenance, treatment), poor administration or mismanagement, affordability, increasing population, environmental constraints (including alien vegetation) and acid mine drainage. On top of this, many reports assert that the privatisation of water provision (including methods of cost-recovery and commercialisation) is a major problem which has and can lead to health crises (afrol News, 2001; afrol News, 2002). The cholera outbreak of 2000-2001 in KwaZulu-Natal is an example of this

²¹ In 2009 some national government departments changed names. The Department of Water Affairs and Forestry is now the Department of Water Affairs, with responsibility for forestry falling under the new Department of Agriculture, Forestry and Fisheries (see <http://www.info.gov.za/aboutgovt/dept.htm>, accessed 11 January 2011).

fact (see Deedat and Cottle, 2002 p81-97; Hemson et al, 2006). This outbreak has been directly attributed to the commodification of water through cost-recovery methods like prepaid water meters (Hemson et al, 2006 p36).

Gosling (2009) reported that water resources in most provinces are at their limit, with the Northern Cape, North West and Limpopo provinces exceeding their water resources. Moreover, water losses in all municipalities are higher than 25% (at least 15% above internationally “acceptable” standards) and about 85% of sewerage infrastructure systems in all provinces are dilapidated (Gosling, 2009). An audit report commissioned by the Department of Co-operative Governance and Traditional Affairs states that the upgrading of water and sanitation infrastructure is urgent (Gosling, 2009).

Most of these findings are echoed in a report which assessed water and sanitation provision from 15 municipalities in South Africa. Tissington, Dettman, Langford, Dugard and Conteh (2008 p2) maintain that, since 2000, the government in South Africa has steadily decreased financial and technical support and municipalities have been pushed towards cost-recovery methods of operation, which is largely determining water services delivery. Cost-recovery methods operate on the basis of the commodification of domestic water and also within privatisation. They cite this as a key reason for the ongoing crisis in water services delivery in South Africa.

Tissington et al (2008 p25) identify nine “fault lines” in South Africa’s water and sanitation provision, focused on urban areas. These are:

- Eliminating Backlogs and Improving Levels of Service
- Free Basic Services (FBS)
- Indigent Policy as the FBS Targeting Mechanism
- Tariffs
- Credit Control Enforcement – Water Disconnections and Restriction Devices
- Financial and Technical Assistance
- Water Quality
- Water Demand Management (WDM)
- Public Participation.

South Africa, reportedly, has “one of the most progressive legislative and policy frameworks for water services in the world” (Tissington et al., 2008 p8). This includes the constitutional right to water and a national allocation of free water (through the Free Basic Water policy). Tissington et al (2008 p8) state that according to this framework, water is conceived of as a social good but the reality on the ground for many is counter to this: access to “sufficient water” remains outside their everyday lives.

At municipal level in South Africa, water services are mainly determined by cost-recovery practices and not by practices aimed for social or developmental benefits (Tissington et al., 2008 p8). Swatuk (2002 p513) quotes Conley (1996 p19) stating how “it has become necessary for each water use to warrant the cost of providing the water.” This points to the situation where domestic water is provided only through its commodification: the provision of domestic water is largely determined by whether costs can be recouped not by whether water is needed.

Historically black areas in South Africa have been, and still are, targeted for such cost-recovery practices because of poor or failing infrastructure, which requires maintenance and upgrading to make sure these infrastructures operate well and to extend said infrastructure to those yet to receive domestic water services (Tissington et al., 2008 p8). Historically white areas have been better equipped and maintained due to efforts from the apartheid government and, because the water services infrastructure is of such a standard, less maintenance is required which lowers the cost of service provision (Tissington et al., 2008 p8). Earlier, we saw reflected through our historical exploration and that of the law around water, that the provision of domestic water was purposefully skewed in favour of these historically white areas and also towards the industries of mining, agriculture and manufacturing. Hence, there is a historically entrenched inequality in South Africa regarding water service provision.

Tissington et al (2008 p72) report that the municipalities they focused on had an obvious underlying attitude of antagonism and paternalism towards the poor. This situation clashes with these municipalities’ obligations to the public, especially concerning constitutional rights. This clash is because an antagonistic and

paternalistic attitude means these municipalities treat the poor not only as a problem but also almost like children.

As they say, “the balance is firmly tilted in favour of cost-recovery” when it comes to local municipalities’ methods of water services delivery (Tissington et al., 2008 p72). Reportedly, the government has come under pressure to improve water services with an added pressure of recovering costs from all areas in line with National Treasury’s path of fiscal discipline, which requires municipalities to balance their budgets (Tissington et al., 2008 p8). Consequently, municipalities are treating water as a commodity through a cost-recovery dominated approach so that they can recoup costs (Tissington et al., 2008 p8-9). This approach is not just regarding water provision but service delivery in general (Naidoo, 2007 p57). Again, it is in line with neoliberal practices previously noted.

Staying with Tissington et al (2008 p72), they lay the blame mostly on national government for it offers insufficient technical and financial support to municipalities, the latter of which seek to find short-term solutions (sacrificing medium- and long-term considerations) like water management devices and cost-recovery practices (Tissington et al., 2008 p72). Consequently, the goal for equitable and adequate access to water for all (as the government asserts) falls decisively short. Tissington et al (2008 p72) conclude that universal access to water services will not be achieved within the current framework.

Added to this situation is also the drive to generate more consumable water through the desalination of seawater. Construction is underway in Mossel Bay (Western Cape) to aid the drought prone area’s municipal water provision and the industrial production of PetroSA (Oelofse, 2010). There is also a desalination plant in Sedgefield (Western Cape) (see WorldPress.com, 2010) and plans further afield in Namibia to construct a desalination plant to support the mining industry (Business Report, 2010).

Tissington et al (2008 p72) conclude that domestic water handled as a “public service for poor communities” and a “commercial product” are two sides of the same coin. Indeed, they purport these approaches to be compatible – where water sold for profit

to “rich households, businesses, industry and agriculture” should balance out the costs of domestic water provision to poor communities (Tissington et al., 2008 p72). They argue for a much more centralised national management and better regulation of domestic water provision to remedy the “fault lines” they highlight (Tissington et al., 2008 p72). In conclusion they also propose, however, that the national limit of free basic water be doubled (from 6kl per month to 12kl) and the indigent policy scrapped as a method of FBW allocation (Tissington et al., 2008 p73).

Like many other reports trying to get a handle on the situation of domestic water management in South Africa, Tissington et al (2008) fail to see the outside of the current mode of production and fail to locate fundamental problems of domestic water provision within capitalism. On the contrary, they argue for the solution to be found within capitalism. Counter to such a conception, Naidoo (2007 p57) argues that service delivery in South Africa has become defined by the dominant logic of commodification and that poor communities are the ones having to struggle against this because it denies services in their everyday lives. One of those services denied is domestic water provision. There is indeed further support for such an argument.

By 2001, almost 10 million people in South Africa had their water cut off for not paying their water bills (McDonald, 2002c p22), which is more people than the government had managed to connect in the previous six years, 1994-2000 (Public Citizen, 2003a). In 2003 alone, approximately 1.5 million people were cut off for non-payment (Muller, 2004). Coupled with a surging increase in protests over inadequate service provision, 39% of South Africans surveyed felt that life had improved from 2004-2009 and a majority of 44% claimed it had stayed the same (Hemson, 2010 p110). Furthermore, Hemson (2010 p112) reports that despite a response of satisfaction in general to government service provision, only 56% of respondents claimed to be satisfied with water and sanitation provision. However, “even among those services receiving broad approval there are often sharp contestations, as in the case of water and sanitation” (Hemson, 2010 p112). A recurrent demand of the many so-called “service delivery protests” is for better access to domestic water.

Despite these facts the government has refused to accept that the provision of domestic water in South Africa is in crisis. Instead, claims are made about the well-

performing domestic water provision network.²² For example, then chief director of water services of the Department of Water and Environmental Affairs, Helgard Muller, claimed that 93% of people in South Africa had access to clean water in 2010 whereas in 1994 only 53% has access (Ndaba, 2010). At worst, as Muller added, South Africa is heading for a water provision crisis, due to “serious issues surrounding the efficient use of water” (Ndaba, 2010). He states that the “serious issues”, at least in the Gauteng area (having the largest demand for urban domestic water), boil down to inefficient water usage (Ndaba, 2010).

Despite increased access to water, as the government has claimed, such access is more than simply about expanding the domestic water (or sanitation) network. The “sharp contestations”, as Hemson (2010 p112) terms them, point to a national dissatisfaction with the *quality* of access to domestic water. The government’s expansion of the domestic water network has carried the caveat of cost-recovery through mechanisms like water management devices and prepaid water meters (PPMs). It seems that having access to water in terms of cost-recovery is worse than no access at all – there is a correlation between increasing protests and areas with implemented and improved service provision (Hemson, 2010 p112).

4.4 Contestation and commodification

What emerges is a conflict between the declared right to water of the ordinary person in South Africa (as espoused in current water legislation) and a socio-historically developed social reality of water provision, reflecting and serving the dominant capitalist interests in the current mode of production.

Mascarenhas (2008 p191-192) avers that within countries globally, the rich have more access to water than the poor, particularly within Africa and Asia. In fact, a recent World Health Organisation news release states that within sub-Saharan Africa, the richest 20% of the population are twice as likely to use an improved drinking-water source (and five times as likely to use improved sanitation) than the poorest 20% of the population (World Health Organization, 2010). Along with this is the neoliberal line pursued in water service provision, incorporating cost-recovery methods and

²² See more of these claims in the Introduction of this dissertation.

privatisation. Where prepaid water meters have been installed and thus community standpipes taken away, the reality for many people in these areas has been an inability to pay for services, even at the lowest tariffs and especially in the rural areas (Hemson et al, 2006 p36).

As Drakeford (1998 p601) has explored, the privatisation of water provision and associated legislation and laws in the United Kingdom resulted in advantages for the capitalists in private water companies and disadvantages for the working class. What is ironic about the commodification of water and related cost-recovery practices is that very often such methods turn out to be more expensive than previous systems in place that were thought to be more expensive still. As Hemson et al (2006 p37) argue, the cholera epidemic of 2000-01 they reinvestigated and consequences thereof were vastly more expensive than providing simple, timely water services for the areas affected by cholera.

At the very least, the ubiquitous “service delivery” protests have established a dissatisfaction of ordinary people in South Africa with the current status of the provision of basic services, including domestic water provision. This points directly to the rub of the present situation of domestic water. Greater access to domestic water is set out and pursued by the South African government but on the basis of domestic water as a commodity. If we refer back to our previous chapter, we encountered the process of water commodification as subsuming the use-value of water beneath its exchange-value, embossed on water through the alienated labour process.

As we have shown above, through the changing regulations and arrangements of water provision, the interests of capital are dominant and water is handled through its exchange-value (through which its use-value is realised) and hence alienated labour plays a continually central role. The attempts by the South African government to meet the requirements set out in law regarding the right to water are embodied by the Free Basic Water (FBW) programme. As we will see, the FBW programme not only fails to resolve the conflict between the citizen’s right to water and the dominant interests of capital, but it actually reflects a denial of access to water.

4.5 “Free” Basic Water

As we described above, recent legislation around water provision seeks to provide water to all South African citizens despite the shortage of water in the country. In seeking to do this, the government developed and implemented the Free Basic Water policy (FBW), launched by the Department of Water Affairs and Forestry (DWAF) in July 2001 (Department of Water Affairs and Forestry, 2001b).

This policy falls under the South African government’s aim of alleviating poverty (Department of Water Affairs and Forestry, 2001a, 2002). This policy stipulates the provision of adequate water and sanitation to all households, though primarily poor households²³ (Department of Water Affairs and Forestry, 2001a p4,6). Water tariffs are set to zero (special tariff) for usage of 6000 litres (6kl) of water per month or below and thereafter the local governments are charged with setting a tariff which served for “financial sustainability” (read cost-recovery) of the water provision service (Department of Water Affairs and Forestry, 2001a p7). Reportedly, this amount of 6kl typically runs out within two weeks (Dieltiens, 2008). Moreover, the Implementation Strategy Document (2001a p7) quotes the Water Services Act (Republic of South Africa, 1997), stating:

procedures for the limitation or discontinuation of water services must not result in a person being denied access to basic water services for nonpayment, where that person proves, to the satisfaction of the relevant water services authority, that he or she is unable to pay for basic services.

The then water minister Ronnie Kasrils reported that Gauteng was providing free basic water to 80% of its population with 70% for the Western Cape (Department of Water Affairs and Forestry, 2001b p1,2). He continued, saying that some rural households were using more than the stipulated 6kl per month, which was attributed to their inadequate control over water usage (Department of Water Affairs and Forestry, 2001b p1,2). He did not mention that the allotted amount was insufficient. Again, we see this argument emerge, that ordinary people are not using domestic water efficiently.

²³ This document, written in 2001, understood poor households as earning below R800 per month (Department of Water Affairs and Forestry, 2001a).

Regarding the notion of “sufficient” water, we saw in chapter one, where we considered the human need for water, that both Rudin (2008) and Gleick (1996) did not consider recreational uses of water in their determinations of sufficient water. In making the case for South Africa, Rudin (2008) states the amount of sufficient water to which the constitution refers should be at least 94.5 litres per person per day (l/p/d). The FBW policy only allows for 6kl of domestic water at zero charge per month, which for a household of eight is about 25 l/p/d. However, the amount of water a person needs daily can vary a great deal. For example, as we consider in chapter five below, the FBW amount of 6kl per month is not near enough for residents of Orange Farm and Phiri, who live in a country with the highest HIV infection rate in the world. Even for this reason alone, the amount of “sufficient” water is basically indeterminable for it will change from day to day, depending on the health needs of the household. The amount of water needed is determined by the residents’ present, variable situation, not a pre-calculated amount of domestic water. Though 94.5 l/p/d is by far better than the reportedly insufficient 25 l/p/d, an exact amount of “sufficient” water is unrealistic to determine. Moreover, as Smith (2009 p31) argues, the amount of free water is determined on the basis of “basic needs” and the “requirements” of the needy, not by those actually needing the water. Rather, “more powerful or economically relevant elements of governance” determine these bases and thus the amount of 25 l/p/d (Smith, 2009 p31).

Julie Smith’s doctoral thesis in part focuses on the FBW policy and how it relates to Msunduzi Municipality in KwaZulu Natal (Smith, 2009). She contends that the FBW policy not only fails to deliver access to domestic water necessary to those who need it but also actually has the opposite effect. That is, it limits access to domestic water for those very people the FBW policy aims to reach (Smith, 2009 p180). As she maintains, the implementation of FBW restricted households previously receiving an unlimited water supply (albeit with increasing debt towards Msunduzi Municipality) to just receiving the FBW amount of 6kl – meaning they could not access water beyond this cap of 6kl for they could not afford to purchase it (Smith, 2009 p124). She states,

It is bitterly ironic, then, that the most vulnerable, for whom the free basic water might actually have implicated great benefits for transformation, equity, dignity and improvement of

quality of life, are the ones for whom free basic water has acted retrogressively. (Smith, 2009 p124)

Smith (2009 p180) argues the FBW policy also has negative social impacts; degrading the quality of life for those under the FBW policy. In fact, she suggests the FBW policy contravenes the rights to water laid out in the South African Constitution (Smith, 2009 p180). She also challenges the argument that ordinary people use water inefficiently, finding that in Eastwood households without water restriction devices, with a mean size of 3.7 members, 14.1kl of water is used per month (Smith, 2009 p180). Water use was not frivolous in these households and larger households actually benefitted from economies of scale, where many shared water (for example, sharing bath water) (Smith, 2009 p114). Smith's (2009 p180) study showed that water use, in the traditionally working class area of Eastwood, was moderate and in no way "irresponsible and reckless", as is often levelled against such areas.

Striking a chord with Bond's (2003; 2008) assertions, Smith (2009 p180) also argues that the FBW policy has retrogressive impacts in terms of the affordability of domestic water. In fact, for poor households, the PPMs (through which the FBW is provided) and high tariffs made previously unlimited access to domestic water generally inaccessible and worsened the "emerging household affordability crisis" (Smith, 2009 p181). Moreover, the "Indigency Policy" instituted so as to augment the FBW policy, despite providing greater access to "free" domestic water, actually repelled people to register through it and, ironically, increased the number of illegal connections (Smith, 2009 p180).

In light of the FBW policy, Smith (2009 p186) concludes the following:

In short this thesis, via the case of Eastwood, has shown that the offering of free basic water is not about meeting water needs or making water more affordable or even improving the lives of poor households. It is simply about using a social policy legitimised under the guise of utilitarianism, environmental and economic "scarcity," "expert" calculations, universal "recommendations" and even the realisation of social-economic rights to exclude certain people to access their required water volumes so as to lessen the economic burden on the local state. Contesting free basic water then, is not about finding better ways to calculate water need, different modes of delivery or different tariff structure designs – it is about contesting state control shrouded in the dominant ideology which puts narrow economic objectives before people.

The FBW policy arguably represents an attempt to mediate the conflict between the declared right to water of the ordinary person and a socio-historically developed present social reality where the provision of water serves the dominant capitalist interests in the current mode of production. As Smith (2009) concludes, this policy fails (at least in the case of Eastwood). In actual fact, efforts to provide greater access to domestic water essentially seem to provide, instead, a denial to domestic water.

What deepens an understanding of this social reality is an inclusion of the process of the commodification of water and provision, as expounded above in chapter three. The FBW policy stipulates an amount of 6kl of water per month for “free”. All problems associated with this amount and indeed this policy aside, the 6kl of domestic water provided, in actual fact, is not free *per se*. As uncovered in chapter three, all domestic water production incorporates alienated labour. From collection to provision, alienated labour is a central element in the provision of domestic water, including that water provided for “free” through the FBW policy.

This water is provided through the social network of labour, working on raw or used water to produce it as domestic water and provide it to people. As we noted, this social network consists of workers building dams and other water collection constructions, making and laying pipes to transport water, building filtering and purification machines, laying more water pipes, within the urban environment in particular, and the creation and installation of restriction devices (from taps to prepaid water meters) – all involving the alienated labour of workers under the capitalist mode of production. Under this mode of production, anything produced is commodified, for this is how the capitalist mode of production is able to continue – through the exchanging of commodities. The basis of this commodification is alienated labour. We have noted how water is produced within this mode of production and thus is commodified. Hence any water provided under the capitalist mode of production is commodified on the basis of alienated labour and will always thus need to have its costs recovered, despite the claim, for example, of *free* basic water.

Indeed, we may argue that PPMs serve as cover for the South African government to continue providing water through the means of privatisation by tacking them to the FBW policy, thereby seeming to quell the conflict between the declared right to water

and the dominant interests of capital which make the realisation of this right nigh impossible. The social cost to such measures and the real conflict is actually carried by working class people like those in Eastwood and also in Orange Farm and Phiri.

4.6 Conclusion

Through examining the history of water provision in this chapter, the conflict between the right to water, as declared in legislation, and the socio-historical reality of domestic water provision became apparent. To clarify this conflict we draw on the theoretical elaboration of water commodification in chapter three. What emerges is that despite the declared right of every citizen in South Africa to sufficient water, the lived reality for many people is counter to this. We find that the right to sufficient water is granted atop a status quo where the needs of capital are primary when it comes to domestic water provision. In this, we further clarified the conflict, finding that the use-value of water as something socially necessary is subsumed beneath the exchange-value of water as a commodity. We illuminated the central role of alienated labour in this commodification. Even with the aim of greater access to domestic water and the provisions made in the law for the realisation of the constitutional right of every South African to sufficient water, this access is essentially denied to ordinary people. The FBW policy is an embodiment of these efforts and far from addressing the conflict, deepens the commodification of domestic water.



Figure 4.1. A prepaid electricity meter. (Source: www.indymedia.org)

CHAPTER FIVE: THE STRUGGLE FOR WATER

Around the world there have been many struggles against the privatisation of water provision. Perhaps the most famous case is that of the “Cochabamba Water Wars”, which took place in Cochabamba, Bolivia. Protests broke out in 2000 after Aguas del Tunari (a newly contracted private water company, owned by the multinational water company International Water Ltd.) tripled water prices (Coalition Against Water Privatisation, 2004b p1). After four months of mass resistance, state repression and more resistance, the president of Bolivia terminated the water contract with Aguas del Tunari (Orange Farm Water Crisis Committee, 2004 p4; Public Citizen, 2003b p5).

Other areas of similar struggle have been Atlanta, Georgia (see Gleik et al, pg62; Public Citizen, 2003b); Buenos Aires, Manila and Jakarta (see Public Citizen, 2003b). Within Africa: Ghana and Kenya (see O'Callaghan, 2008); Cameroon (see Page, 2003). Areas in South Africa include: Sebokeng, Gauteng (see McKenzie et al., 2007); Nkobongo in KwaZulu-Natal (KZN) – an area from which the cholera epidemic of 2000-2001 emanated (see Hemson et al., 2006; Pauw, 2003); Msunduzi (KZN) (see Smith, 2009); and Harare in Khayelitsha, Cape Town (see Anderson, 2004; Martindale, 2004).

Hereunder we briefly describe two cases in South Africa where the struggle against the commodification of water has been attentively followed. These two areas are Orange Farm and Phiri, both in Gauteng Province, quite near Johannesburg. These two struggles are examined because they are the most well documented cases in South Africa of intensifying urban domestic water privatisation. We will focus particularly on prepaid water meters (PPMs). In the context of commodification we have seen how they concretise in reality the current commodification of urban domestic water.

These two cases are both general and specific. General in that the people and areas we consider are the working class and working class areas. Working class areas like Orange Farm and Phiri are townships located around all major cities in South Africa. They are specific for both Orange Farm and Phiri are located in Gauteng and under the aegis of *Operation Gcin'amanzi*, both areas have their water supply controlled by

JW.²⁴ Thus both areas had PPMs installed as water management devices under the push for water privatisation. These areas also have vociferously and consistently resisted the privatisation of public services by the Gauteng Municipality and Johannesburg Water (JW).

Hence, these two cases are cast as suitable areas of investigation. The theory of alienation is used in an attempt to better understand the social effect that the privatisation of water is having on social relations in everyday life in these areas. In doing this we take the concepts outlined in chapter two and the discussion of water commodification in chapter three as the basis for developing better a understanding of the struggle for water.

5.1 The Orange Farm and Phiri cases

Stretford Extension 4 in Orange Farm was the first area targeted for the PPMs and Phiri followed. What these two case studies allow us to explore is the progressive movements of both JW and the residents of said areas. Along with increasing installations of PPMs and other water privatisations, grew community resistance in affected areas. On the back of installations in Orange Farm, JW told Phiri residents of their success as they began installing PPMs in Phiri. At this time the residents of Phiri set up the Phiri Concerned Residents Forum (August 2003) in response to JW's PPM installations (Coalition Against Water Privatisation, 2004a p1). This Forum became an affiliate of the Anti-Privatisation Forum (APF) and also of the Soweto Electricity Crisis Committee (SECC) and of Orange Farm Water Crisis Committee (OFWCC) (Coalition Against Water Privatisation, 2004a p1). These organisations and more make up the Coalition Against Water Privatisation (CAWP), formed after the Phiri Concerned Residents Forum in September 2003 (Coalition Against Water Privatisation, 2004a p1). This is how the residents of Phiri were able to make out that JW was lying when it said the residents of Orange Farm were happy with their PPMs (Coalition Against Water Privatisation, 2004a p8; also see Coalition Against Water Privatisation, 2004b). There was clear resistance to such devices.

²⁴ Johannesburg Water, in fact, was established in 2001 as an independent company with the City of Johannesburg as its sole shareholder. Thus it is a state supported private company. It claims to provide services "along business principles, ensuring customer satisfaction and cost recovery." (Johannesburg Water, n.d.).

Previously, for townships in the Johannesburg area, domestic water was most often provided through standpipes and water tankers, which were frequently un-metered or consistently ignored for measurement purposes (Coalition Against Water Privatisation, 2004a p8; Bond and Dugard, 2008 p8). There was a flat rate (termed “deemed consumption”) of 20kl per month for Phiri, for which residents were charged via the municipality (Coalition Against Water Privatisation, 2004a p8). As for Orange Farm, the flat rate was for 5kl per month (Smith, 2006 p18).

Currently, the urban domestic water provided to the residents of Orange Farm and Phiri is provided in two ways. They are allotted an amount of 6kl of “free” water through the Free Basic Water policy (FBW). Thereafter, they must buy their water via a PPM. The FBW is argued to be free and a “lifeline” for the residents (Coalition Against Water Privatisation, 2004a p20).

Also, from domestic water being a commodified community resource provided for via standpipes and water tankers, it is now turned inwards to households and through PPMs. Though much more convenient – having a water supply inside one’s house – the form this convenience takes is the PPM. Not everyone needing water actually lives in a house in Orange Farm and Phiri – some people are so-called backyard dwellers who now must share water limited in provision as per household rather than from a community standpipe, which provides water on a much larger scale. By the late 1990s Phiri had nearly one backyard dwelling per every household (Morris, 1999, cited in Coalition Against Water Privatisation, 2004a p11). For such backyarders, access to water now means first having access to a household, where as before it meant walking to the standpipe to get water.

It is precisely on working class people that PPMs are imposed, in line with “cost-recovery” measures and “demand management” (Coalition Against Water Privatisation, 2004a p6). The South African government is using private water companies such as JW to make more “efficient” the provision of domestic water. This is in line with their current efforts to provide basic services, especially domestic water (see Department of Water Affairs and Forestry, 2003). PPMs have been incorporated to meet this aim.

5.1.1 Orange Farm

Orange Farm is a township about 45 km south of Johannesburg and some of its residents have been at the front of struggles for service delivery. Orange Farm is a working class area, established in the 1980s, with approximately between 500 000-800 000 residents, as of 2004 (Orange Farm Water Crisis Committee et al., 2004 p11). Approximately two thirds live in informal housing with a majority of the households being headed by women (Orange Farm Water Crisis Committee et al., 2004 p11). The population in Orange Farm is young with 40% under 18 years of age and the HIV prevalence rate is high (Orange Farm Water Crisis Committee et al., 2004 p11). The majority of residents are unemployed and poverty levels are high (Coalition Against Water Privatisation, 2004b p12). Sanitation is poor with most households relying on pit latrines and access to electricity is mainly through the prepaid system (Orange Farm Water Crisis Committee et al., 2004 p12).

Domestic water was initially brought to Orange Farm via communal standpipes and water tankers; some residents still rely on such tankers (Orange Farm Water Crisis Committee et al., 2004 p19). Some residents have made their own makeshift connections from these standpipes to their yard taps (Coalition Against Water Privatisation, 2004b p12).

In one particular area of Orange Farm named Stretford, Extension 4, JW decided to introduce its pilot project for the prepaid water system, named *Operation Gcin'amanzi* (Operation Save Water). JW began installing PPMs in September 2003. This area of Orange Farm has been one of the worse off areas, with 30% of households gaining no income and only 5% of households earning above R1500 per month (Orange Farm Water Crisis Committee et al., 2004 p17). This is also an area, like the rest of Orange Farm, where most – if not all – residents do not have sufficient access to water.²⁵

²⁵ Despite the vagueness of the term “sufficient” in the Constitution of the Republic of South Africa, I too have employed this term, but with focus on areas such as Orange Farm and Phiri – areas with residents who quite clearly feel their access to water is insufficient for they have created makeshift connections to existing supply lines, attempt to (and do) fix the existing infrastructure where they can, and protest against inadequate service delivery, among other things.

JW's plan for the prepaid water meters consisted of installing PPMs in 1389 households at a project investment of R5 million (Coalition Against Water Privatisation, 2004b p16; Orange Farm Water Crisis Committee et al., 2004 p15). Each household would receive a subsidy of R3600 but must pay a connection fee of R100 (said to be for sewerage not water) (Coalition Against Water Privatisation, 2004b p16; Orange Farm Water Crisis Committee et al., 2004 p15). JW planned to reduce water wastage in Stretford, Ext. 4 by installing PPMs and when the project finalised in 2003, JW removed all the communal taps in the area (Coalition Against Water Privatisation, 2004b p16; Orange Farm Water Crisis Committee et al., 2004 p15). Reportedly, the decision to install prepaid water meters was a top-down decision (Coalition Against Water Privatisation, 2004b p15; Orange Farm Water Crisis Committee et al., 2004 p14). Residents were expecting proper sewerage and sanitation (like flush toilets), once the PPMs were installed (Orange Farm Water Crisis Committee et al., 2004 p15-16).

One PPM has been installed for every water stand (Orange Farm Water Crisis Committee et al., 2004 p15), no additional stands were installed despite the inadequacy of the existing water infrastructure. The PPMs are operated by a plastic chip loaded with "water units", which are purchased at one of two stores in the area (Orange Farm Water Crisis Committee et al., 2004 p15). These stores, however, do not operate at all hours and if residents need water they have to plan ahead to get units.



Figure 5.1. A prepaid water meter. (Source: www.indymedia.org)

5.1.2 Phiri

Phiri is part of Soweto. Also as part of *Operation Gcin'amanzi*, JW planned to install prepaid meters at most of Soweto's 151 000 water stands to better provide water to this area on the basis of "cost-recovery". Phiri was the target area to begin with.

Reportedly, most of Soweto's infrastructure is more than 50 years old (Coleman and Niekerk 2007 p16, cited in Coalition Against Water Privatisation, 2004a p10). The Phiri township borders those of Mapetla and Moraka and was set up in the 1950s by the apartheid government to house Sothos and Tswanas (Coalition Against Water Privatisation, 2004a p11). Between the years 1954 and 1969 the council built 50 000 low cost houses, many without inside amenities (Coalition Against Water Privatisation, 2004a p11). By the late 1990s, because of the housing shortage (and increasing urban migration), Phiri – like many other township areas – grew in backyard dwellings, which numbered 1,963 (Coalition Against Water Privatisation, 2004a p11). This is almost one in every stand (Morris, 1999, cited in Coalition Against Water Privatisation, 2004a p11). Not to mention that Phiri has been particularly populous with a high population density of 181 people per hectare (Coalition Against Water Privatisation, 2004a p11). This may be why, according to Coalition Against Water Privatisation (2004a p11), JW chose Phiri because this amount of people in one area leads to large water usage and large water debt (being a poor area) and water loss.

On average, 16 people reside in one household in Phiri and in about half of those households, at least one person was chronically sick or in need of special care (Coalition Against Water Privatisation, 2004a p12). In 2004, of the 174 households visited, 54% had a monthly household income of below R1000 (Coalition Against Water Privatisation, 2004a p12). This figure is just one per cent above that stated by another report conducted from 2005-2006 of 163 households in the same area (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p14).²⁶ This latter research established that most households surveyed earned between R500 and R1000 a month with only 51% having someone in the household with employment (Coalition Against Water Privatisation and Anti-Privatisation Forum,

²⁶ A follow up report conducted by the Anti-Privatisation Forum from 2005-2006, confirms many previous findings in Phiri, although the figures presented are more conservative.

2006 p13). Three quarters of respondents received electricity via prepaid meters and only 15% of households had flush toilets inside their houses (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p15). Phiri, like Orange Farm, is an area with high levels of both unemployment and poverty (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p13).

Residents were told that if they did not accept the installations of PPMs they would not receive flush toilets, and if they illegally connected their pipes to the standpipe they would be fined R1500 (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p16). They could also receive electricity from a prepaid meter but had to sign on to the indigent policy, thus limiting their actual choice (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p16). Even though most households received the free 6 kilolitres of water per month (although 6 households amongst a sample of 163 did not²⁷), this amount is insufficient (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p16-17). Reportedly, households used on average 8.7-15.3kl of water per month, over and above the allocated 6kl (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p17). Water use is not frivolous either, as residents have neither swimming pools nor large gardens but use the water to cook, clean, and to meet basic sanitary needs (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p17). So for these residents the allocated FBW of 6kl per month is at minimum less than half of the amount they need per month.

The households surveyed ran out of water on average once a month, the highest being eight times a month (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p18). Meters must be recharged like cellular phones that run out of airtime, but unlike airtime, water credits can only be brought at specific outlets during opening hours. So residents who run out of water during the night must wait until the store opens (Coalition Against Water Privatisation and Anti-Privatisation Forum,

²⁷ This was noted as an important point as these households did not receive their legislated right to 6000 liters of water for free per month and thus is a contravention of their legislated and quantified human right to this water. JW and the municipality have both allegedly claimed that the system is efficient yet these 6 households (approx. 42 people) do not get water

2006 p18). Even without airtime, cellular phones can be used to dial emergency numbers but in case of an emergency (a fire for example, common in areas like Phiri) a water meter will not release water.

As mentioned, many households had at least one sick person. People who are sick generally need continuous hydration, especially if the most common sicknesses are HIV/AIDS related. Many sicknesses are, for Phiri and other such areas in South Africa known to have high rates of prevalence, not to mention the high correlations between urban poverty and communicable diseases and other major health concerns (see Dye, 2008). Moreover, women often bare the brunt of responsibility for the sick and other household chores (cooking, cleaning, etc.) and cannot easily or consistently meet those responsibilities given increasing water restrictions (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p18-19). Added to this is the atrocious fact that many women are left without sufficient water for their biological needs (e.g. when they menstruate) (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p19).

In August 2003, JW began the operation by first laying new water pipes in Phiri (Coalition Against Water Privatisation, 2004a p7). By the beginning of 2004, approximately 300 PPMs were installed by JW (Sindane, 2004, cited in Coalition Against Water Privatisation, 2004a p9). As stated, community resistance to the installations of PPMs grew. From the establishment of the OFWCC and the Phiri Concerned Residents Forum, along with joining in struggle with the APF and SECC, to the famous court case against PPMs (which lead all the way to the Constitutional Court), the residents of these communities have been struggling daily against the privatisation of water. For an account of this court case see Dugard (2008) and Dugard (2010).

The sketches of the two situations provided are at this stage deliberately descriptive. In the following section we pursue examination of the effects of the situation outlined above, beginning with a focus on the encounters of daily struggle around water, which it engenders.

5.2 Daily struggles

In these two areas the residents are forced to struggle to manage their everyday water against the impositions of the PPMs and the commodification of urban domestic water. This imposition has taken root within the daily social life of these residents.

In fact, the PPM is the instrument determining how much water is provided. Technology has been developed based on the commodification of water to further the method of water privatisation. As Burris (1988 p15) has pointed out, “Social relations that were once realized directly through communicative interaction are now mediated by technical apparatuses of various sorts.” As a consequence, the PPMs are ordering social life in Orange Farm and Phiri and dominating the residents’ access to water.

This is not to say that the previous relationship these residents had to state provided urban domestic water was trouble-free in any way. On the contrary, the use of the technology of PPMs has intensified the commodification of urban domestic water. This water becomes another thing dominating them because, as with their electricity for example, these residents are forced to pay for their water (above the insufficient 6kl per month from FBW), which they cannot live without.

Regarding the social effects of PPMs, residents of Phiri have reported a “decline in the quality of their lives” (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p27). Urban domestic water is used more solely for essential needs and less for recreation and other so-called “secondary tasks” like gardening (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p 17,27). This situation negatively affects domestic hygiene, especially in cases where more water is required in the context of HIV-AIDS (Coalition Against Water Privatisation, 2004a p16; Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p27). In fact, of 163 households surveyed in Phiri in 2006, all ran out of water at least once per month (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p18).

As for Orange Farm, similar effects are reported. The majority of residents have limited the following activities: flushing toilets, bathing, washing dishes, cooking,

drinking, cleaning and gardening (Coalition Against Water Privatisation, 2004b p22). In terms of their health, they too lack the necessary amount of water to fully care for the sick (especially those with HIV-AIDS) and also the elderly (Coalition Against Water Privatisation, 2004b p22-23). Not being able to keep food gardens has also decreased the residents' ability to meet their nutritional needs and further endangers their health (Coalition Against Water Privatisation, 2004b p23). As one resident stated,

[Water] is important; I must have water. If I don't have flush toilets, a lot of diseases will come. Water is life. If there is no water there is no life. (Respondent 38, Coalition Against Water Privatisation, 2004b p22)

This situation has negative health consequences not only for each resident but for the whole community (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p27). Not just in terms of general health but also in specific health crises like the 2000-2001 cholera outbreak in KwaZulu-Natal, which showed how dangerous the current practices of water provision are for such areas; like privatisation through PPMs (see Deedat and Cottle 2002). In fact, this particular outbreak is argued to have been caused by the PPM system (see Deedat and Cottle 2002).

Aside from drastically affecting the residents' health and the possible safety of such areas, the PPMs have a curious impact on the humanity of the residents. One cannot deny that each and every human being needs water to live and in a human way (i.e. to meet human needs, from drinking to washing clothes and childcare and also for recreation). But before this is possible, these residents are treated as "consumers" just like customers at the local grocery store who must first produce money to get food, which they also need in order to survive. This means the residents of Orange Farm and Phiri have their human need for water mediated by the capitalist market in the form of privatised water provision. What seems a curious impact is in fact a consequence of this.

The residents' human need for water is met in two ways, setting up two sets of social relations the residents must confront.

On the one hand, the residents' need for water is regulated by control determined by the state; on the other, immediately controlled through the private water company (JW). The state has allocated a specific amount of 6kl of FBW to these residents, which is less than they need (Coalition Against Water Privatisation, 2004b p20; Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p18). According to Birkinshaw (2008 p12), Orange Farm residents receive less water through PPMs than they did before directly through the state. Smith (2009 p183) avers that the FBW policy "[systematically denies] the humanity of poor citizens". The private water company, JW, has not determined an amount of water but rather controls access to any water over and above FBW through a PPM. They effectively determine the amount of water through commerce.²⁸

In these relations, the residents of Orange Farm and Phiri are reduced to "consumers" through the effect of PPMs. Instead of being human beings who need water to survive and also for other human activities such as health and recreation, the residents are treated like "consumers" who only have access to water they need through a PPM – and only if they can pay for it or if the state decides they should have it. The qualities of this relationship have been deception and imposition. Many residents in Orange Farm disagreed to JW's plans but they were unheard by JW and public meetings held with JW are reported to have been more promotional than informative (Coalition Against Water Privatisation, 2004b p16). Likewise, Phiri residents were not consulted (Coalition Against Water Privatisation, 2004a p18; Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p19-20). In fact, 95% of the 174 households surveyed in Phiri stated that they that felt deceived by JW and their local councillors (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p5). This is in line with the findings of Tissington et al (2008 p72) who reported an attitude of paternalism from the municipalities towards "the poor", as they termed it.

These two sets of relations, imposed if residents are to access water at all in turn, have effects on the way they relate to each other. From being treated paternalistically and

²⁸ In other communities, like those in Mitchells Plain and Tafelsig in the Western Cape, access to water is controlled through Water Management Devices (WMDs), most of which allocate a daily amount of water (Xali, 2008. Email communication, 3 December 2008).

reduced to “consumers” who can or cannot buy the water they need, the residents of these areas are also forced to relate to each other in ways characterised by selfishness, dishonesty and animosity.

Community relations are eroded as PPMs intercede between the relations of one resident to another. In a situation where people generally share much with each other for they have to be poor, residents now cannot easily share water with each other. The PPMs have stripped away communal access and deepened the responsibility on metered households and individuals (normally women) charged with securing water. In the process the relationship of residents to urban domestic water is under pressure to become increasingly individualised, and where it is connected with others, competitive. Where commodified urban domestic water used to be something fairly easily accessed through an almost free flowing standpipe or trucked in via water tankers, the situation now is located within established households and metered by PPMs.

Hence, the water coming out of the PPM is measured and after the FBW amount of 6kl, water provided thereafter exacts a price. This presents a difficulty for anyone in these areas asking others for water as the researchers of the Orange Farm study experienced. When the researchers asked for a glass of water they were told they must pay 20c per glass (Coalition Against Water Privatisation, 2004b p23). This also makes it difficult for any others in the area who do not have water and need it to look after someone sick, for example.

Other ordinary social relations are also affected. Traditional ceremonies like weddings and funerals are interrupted or postponed because residents involved are unable to afford the large amounts of water needed for such occasions (Coalition Against Water Privatisation, 2004b p26). Some residents beg for water from their neighbours. There is animosity between those residents who have water and those who do not. The inequalities in such communities are exacerbated by the privatisation of urban domestic water for it is based on those who have money to pay for it and those who do not. Whereas before, residents could more easily bide time to keep their water debt with the municipality from the level when cut-offs occur, now, the cut-offs are

automatic.²⁹ This has, arguably, led to theft between residents. The following quote illuminates this:

The introduction of prepaid meters is beginning to see the erosion of social relations tied to water and its communal use. While in the past neighbours shared water, today they are forced to steal it from each other. (Coalition Against Water Privatisation, 2004b p10)

Community members are relating to one another with animosity. Instead of sharing a scarce resource *between* one another they have to protect their domestic water *from* one another, for it effectively becomes their property.

Social relations *between* households are not the only set of social relations degraded by the effect of the privatisation of urban domestic water. Social relations *within* households are also affected. Residents of Phiri expressed this when 93% agreed that the PPMs would cost them time and money and 90% agreed that the PPMs would increase conflict in their homes (Coalition Against Water Privatisation, 2004a p17).

This conflict is strongly gendered. As mentioned, women usually bear the brunt of water security in the household, now greater due to the PPM. For both Orange Farm and Phiri, women are responsible for managing water in the household (Coalition Against Water Privatisation, 2004a p17; Coalition Against Water Privatisation, 2004b p23; Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p18). Domestic violence against women is argued to increase with PPMs (Coalition Against Water Privatisation, 2004b p26). Women are charged with obtaining water for the family and are prevented from doing so when the meter credits run out and are expected to carry the responsibilities (Coalition Against Water Privatisation, 2004a p17; Coalition Against Water Privatisation, 2004b p26-27; Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006 p18). Children are also negatively affected, having to walk further with their mothers to fetch water from available sources (Coalition Against Water Privatisation, 2004b p27), not to mention health risks facing those at young ages who go without water.

²⁹ There is no longer a visible or active agent responsible for this disconnection: water workers are no longer needed by the municipalities to perform the function of water disconnections if the PPMs do this automatically; part of their job has been replaced by a machine.

Not only this, but the PPMs act as class gatekeepers. PPMs are not nearly as widespread in middle class or rich areas. Such devices are forced onto “the poor” so that they do not waste water or other resources (see Drakeford, 1998; Coalition Against Water Privatisation, 2004a). This is management of “the poor” through the market: the mechanical control of access to water as per the capitalist mode of production. As Burris (1988 p16) notes, “Insofar as technology assumes the form of capitalist property, its development reflects the class interests of those who control its design and application.”

Hence, the PPMs become their own power, commanding the access these residents have to water. The PPMs control the flow of water through the household and will not let a drop pass without payment. The PPM is designed for this purpose – to shut off the water if payment is not made. In this manner too the PPMs “demand” payment. Thus, the PPM is designed to discriminate as per non-payment like the municipality did through human labour – water workers would physically shut off water supply if payments were not made. Now the machine takes over this action.

Hence, it may seem the PPM is policing access to water for these residents. Loftus (2007 p49) dubs this situation the “dictatorship of the water meter”, noting how the residents themselves experience this policing as an inhumane power:

Repeatedly, residents [of townships and informal settlements in Durban] cited the power of the water meter as an inhuman agent working within their homes ... Grassroots anger is frequently directed at challenging this inhuman power. (Loftus, 2007 p49)

We have mentioned that the residents of Orange Farm and Phiri are turned into “consumers”. In this they are also “depositors” required to “feed” the PPM (Coalition Against Water Privatisation, 2004a p13). In the social reality of this, the residents are forced to serve the machine instead of the machine serve them. The relationship between human and machine is reversed.

Moreover, like many people under the yoke of greater power, the residents in Phiri have come to “accept and internalise the logic of paying for water through the prepaid system as their choices over how they survive and live have become restricted over time” (Coalition Against Water Privatisation and Anti-Privatisation Forum, 2006

p16). This point is important for it shows us that residents of Phiri are forced into the position of accepting PPMs and also the “logic” of paying for water through such means. For Orange Farm there is no such “internalisation” of the “logic” of paying for water reported, though it stands to reason that there is such “internalisation” there too. However, it is plain that the PPM acts as a power, preventing access to water and that the power is somewhat located in the meter. For example, a common call and graffitied phrase in Orange Farm is “Destroy The Meter, Enjoy The Water” (Coalition Against Water Privatisation, 2004b p26; Orange Farm Water Crisis Committee et al., 2004 p30).

Earlier in this thesis we made note of how the scarcity of water is claimed as a basis for the need to privatise and efficiently manage water provision. There is another operation of “scarcity” in Orange Farm and Phiri: urban domestic water itself becomes thought of as a “scarce commodity”. The “scarcity” part of the urban domestic water commodity begins to be justified through its price. There is an important social process to note here. Before, commodified urban domestic water was something unmetered and relatively free-flowing in these areas – through standpipes or trucked in by water tankers. Once the PPMs were installed and operation began, this water became, almost overnight, “valuable” and hence measured and controlled through PPMs. On the back of calls to manage urban domestic water “efficiently” and “resourcefully”, the private sector (for these areas JW) was charged to manage this previously, seemingly “abundant” resource. Now for these residents, this “scarce” urban domestic water exacts from them a price and dominates how they are to relate to this water: as a scarce commodity.

Finally, we see then that the social relations behind the PPMs are hidden. It is almost as if the history of the commodification of water and the social relations involved in this – do not exist. Behind the PPM is a set of social, production relations and historical events – as we have explored in previous chapters – and this is hidden from the residents. For example, what process changed urban domestic water from public to private provision? Another example is that water has always been a scarce resource in South Africa (see chapter four) but this is now claimed as a chief reason for the installation of PPMs and of water privatisation (see Department of Water Affairs,

2010; Asmal, 2008), and this is not solely due to an increasing population. Rather it is almost as if the PPMs are simply “just there”.

5.3 Through the eyes of alienation

We have made a series of observations in the section above of the daily realities facing the residents of Orange Farm and Phiri. In this section we grapple with the following questions: Can we explain these realities of daily life above simply as a response to the commodification of water? Is the privatisation of water in these areas a new chapter in water provision or a continuation of the same provision experienced before? Is the PPM simply a water management device, aiding the efficiency of water provision? What is actually going on and underlying the encounters involved in and arising out of the attempts of an ordinary working class person to access the water they need? We draw on the Marxist theory of alienation is seeking to pursue these questions, thereby giving effect to the central contention of this thesis: that the Marxist theory of alienation can help us better understand the realities of the struggle for water.

5.3.1 Using reification

For the residents of these areas water is no longer just water – a resource they need for maintaining life and ensuring some quality of life. It is stripped of its complete nature and they are forced to relate to it as a commodity. Urban domestic water for these residents is foremost something to buy through the PPMs, which they always have to do as the FBW amount is insufficient. Hence, the use-value of water for these residents is subsumed by its exchange-value and only uncovered once they pay for it. What does this actually mean?

Before the residents can use water as water – to quench their thirst, cook their food, bath, or play – they first have to acquiesce to water in its commodified form and relate to it as something one pays for. Once bought, it can operate naturally. Hence, in this manner is the residents’ relation to urban domestic water transformed into a relation to a “thing” of capitalist production relations, a commodity. This also means that social relations around water become value relations according to the exchange-value dictating commodity production.

In addition to this, PPMs have significantly changed how water is accessed in Orange Farm and Phiri. Getting water is not as simple as it was before PPMs. We made the observation that when the researchers asked for a glass of water they were told to pay 20c for a glass. They did not know they were stepping into a situation where ordinary social relations around water were infused with commodified relations.

Two sets of social relations emerge in using the concept of reification here. One concerns the relation between the residents within the two areas; the other set is that relation between domestic water and the residents, both mediated through the PPM and money, respectively.

5.3.1a The individualised consumer

What residents bring to their relations with each other is, amongst other things, an unequal, individualised relationship to urban domestic water. Some residents can afford water more easily than others and this has set up an unequal relation between residents in terms of access to water. In addition, this has at times come to dominate the relation residents have to each other; the overriding factor becomes who does and does not have water (Coalition Against Water Privatisation, 2004 p8; Orange Farm Water Crisis Committee, 2004 p27).

Residents relate to each other as “things” in the sense that while one individual will have water, another will not have any. This reality replaces the decent, human relation that is possible because the intensified commodification engraved through PPMs makes water access accord to commerce, i.e. those who can afford to buy the water get the water they need. The “individual” is now treated primarily as a “consumer” of water and not, for example, the mother of four who is charged with the care of water needs (and other needs) of the household. Consequently, residents are pressured to treat each other by this same dictum, holding on to “their water” which they have secured by “managing their household properly” (McDonald, 2002 p17-18), where he reports how “the poor” are blamed for inefficient water management and a “culture of non-payment”). In this way is the relation of resident to resident, in one sense, reduced to a relation between a consumer who has water and another who has none.

5.3.1b The mediators of money and machine

PPMs are concrete representations of the commodification of urban domestic water. Such machines are designed for this purpose: to control access to privatised water. However, instead of serving as a machine the function of which is to deliver urban domestic water, the PPM does not actually serve the residents but the residents serve the PPM. This is because the PPM acts as a power over the residents. Just as a tap is designed to allow and prevent the flow of water so is a PPM. However, and most importantly, the PPM is not operated freely by the residents of Orange Farm and Phiri. They cannot open and close the PPM at will but are forced to acquiesce to one action: pre-payment. Once the PPM hits the 6kl mark, the residents have on control but are rather controlled through the market via a PPM.

What we must note is that PPMs are an *intensification* of urban domestic water commodification. We already discovered that urban domestic water provided to these areas before PPMs, though standpipes and water tankers, was itself commodified water. Reified relations of water privatisation and commodification express the “*historically specific* social realities” (Geras, 1971 p77) now based on that intensified form of capitalism – neoliberalism.

Access to water is not about a human being with a need relating to other human beings who work so that water is available. In the immediate experience of seeking to access water, the workers actually “producing” that water have been made invisible. It is not even between the person needing water and the people ostensibly responsible for providing it – the government and the water company. Instead, it seems to be a relationship between the PPM and another “thing” – money. There is no point for the person needing water to draw on human capacities in seeking to convince the machine. The machine only responds to money. As Geras (1971 p76) has noted, “where commodity production prevails, relations between persons really do take the form of relations between things.” He is pointing to the fact that social relations are transformed by capitalist value relations into relations between things, rather than between human beings. At work is a process of reification – a process to which we are alerted and through which we are prepared for if we draw on the concept of reification – a concept central to the Marxist theory of alienation.

Residents are not locked into treating each other as “things” all the time – of course there are many moments where they treat each other as human beings in their everyday lives. But what intercedes with this ubiquitous humanity is the effect of reified social relations in terms of water commodification. We could argue social relations in these areas are also punctuated by other commodifications, e.g. prepaid electricity. It does mean that residents are forced to relate to each other in terms of water, from the basis of having money to pay for the “extra” water needed above the allotted 6kl per month. In this manner residents become things to each other.

But it goes beyond this. In his work, Loftus (2007 p49) asserts that there is “a strange transformation in the power of water infrastructure, as it begins to regulate the rhythms of daily life” and in regard to PPMs he contends that there is an “inversion of people and ‘things’” (Loftus, 2007 p49). In fact, he argues that the “dictatorship of the water meter” as he terms it embodies this “inversion” and where residents in Durban’s townships have referred to the PPM as an “inhuman agent working within their homes” (Loftus, 2007 p49). Loftus (2007) argues that current relations to domestic water provision and the use thereof are producing and reproducing reified relations to domestic water, as shown in his research into Durban’s “waterscape” (meaning urban water infrastructure, production and usage) (Loftus, 2007 p48). What Loftus points to is how the people of Durban’s townships are cast as “consumers” of water by the developing “waterscape”, whereas the PPMs are given the power to control the everyday human need for water – as if the machines have to power the decide how much water the people need, whilst the people obey the decision like a machine. (Loftus (2007) neglects to clarify that there are indeed human beings who have produced the “waterscape”.)

Sitting between the residents and their domestic water are the mediators of money and the PPM. What the concept of reification alerts us to is the situation where the residents are reduced from humans with a human need for water into, essentially, money. On the other side is domestic water – reduced, essentially, to a PPM. The *things* of money and the PPM are both social products, produced by humans to mediate in this case the relation of these residents to their domestic water: money becomes the mediator of the residents and their human need for water; the PPM

becomes the mediator for domestic water. Where the social relation between the residents and their domestic water actually sits, in everyday life, is between the things of money and the PPM. These things actually come to embody the social aspect of this relation; they act as gatekeepers.

5.3.2 Using fetishism

We have recognised the power that PPMs have, as they “demand” payment for water. For our situation this is indeed the case. In their struggle for access to water residents attacked the PPMs. The physical machine is ripped out or tampered with in attempts to gain access to water. This means the machine carries a power in it and we have argued that it embodies a set of capitalist social relations of production based on intensification through neoliberalism: the machine “demands” payment. However, the machine hides the set of social relations of production because the power of the PPMs appears inherent to the meter, not given by the set of social relations of production. Let us make this clearer.

We have explored the socio-historical processes that went into transforming urban domestic water into a commodity. We also explored these processes in terms of the provision of such water. These processes – from the collection and storage of raw water through constructed dams built by the alienated labour of workers; processing of this water through filtration and purification infrastructure also build through alienated labour, to the water provision infrastructure where pipes have been manufactured and laid – all are shrouded by the domination of the commodification of water based on alienated labour. Urban domestic water is only provided as a commodity and hence the other aspects of water (e.g. recreational uses) are shed and dominated by this alienated form.

Also, the “internalisation” of the “logic” of paying for water is really the adherence to an ideology fostered by the commodification of water. But beyond this it is actually the reality faced by these residents, forced to pay money for their urban domestic water – the ideology becomes the reality for them. Moreover, the “scarcity” part added to the arguments, of water being a scarce commodity, is also a fetishisation. Nothing to do with the actual situation of water in South Africa but more to do with how urban domestic water is treated in its commodified form – if it is scarce it has a

higher exchange-value and justifies a higher price. In this, the urban domestic water itself coming from the PPMs is handled as being more valuable because it is scarce; as if the more it costs the better it is. In this manner does scarcity appear inherent to urban domestic water.

Of course, human labour is ultimately behind PPMs. However, this technological mediation between those receiving water and those providing water is a further alienating step in capitalism. It could be argued that such machines now free water workers from disconnecting debtors in the aim to efficiently manage water provision. Such efforts are clearly reducing the amount of human involvement in water provision and allowing for more reified relations therein. Burriss (1988 p16) frames this as follows:

Capitalist social relations... are literally built into the structure of the machinery. The obverse of this process is that the characteristics of modern technology serve to reinforce capitalist social relations. As technology acquires a particular social form, human behavior is made to "personify" (i.e., accommodate itself to) patterns of social organization compatible with the accumulated mass of technology.

Fetishism is what shrouds the set of social production relations behind the provision of urban domestic water, based on a particular set of socio-historical processes under the capitalism mode of production. By using the aspect of fetishism we can see behind the cloaked PPMs and contend that the PPMs themselves are not the actual problem regarding water privatisation, even though they are the current form of intensified domestic water commodification. The problem lies with the social production relations involved in the commodification of urban domestic water and based indeed on the alienated labour of the working class. This is the totality of what must be challenged to break urban domestic water free of its commodified form.

5.3.3 Using the other aspects of alienation

The above appraisals using reification and fetishism help us see the overall picture of the effects of water commodification and intensified privatisation through PPMs, all based on alienated labour. Technically speaking, the other aspects of alienation are contained within this overall picture. Product alienation, self-alienation, species-being and social alienation are all involved and promoted by the processes of reification and

fetishism detailed above. We will however note below the specific parts of the whole to which these aspects draw our eye.

5.3.3a Product alienation and self-alienation.

These aspects of alienation complement each other so we will consider them together. Urban domestic water is laboured on by workers and produced for domestic consumption. This water will thus be an *objectification of human labour* by those workers who produced this water. We already established in chapter three that commodities are produced by alienated labour, hence grounding urban domestic water is commodification. However, the aspects of product alienation and self-alienation allow us to see deeper than this. Water is directly from nature (natural or “raw” water) and when laboured on within the capitalist mode of production, alienated labour is infused into this water for it is produced by workers under capitalism. Hence urban domestic water is nature laboured on.

The PPM is a machine developed to control the provision of this urban domestic water. But it is more than that. The PPM is a concrete representation of a product made by workers labouring under capitalism, which is used to control other workers’ access to urban domestic water.

These PPMs have been made by the hands of the (global) working class,³⁰ who make the machines used in factories to develop and manufacture the various components, which make up the PPMs that are installed in households in Orange Farm and Phiri. In fact, *Thusong Prepaid Solutions (Pty) Ltd* is a South African company specialising in prepaid services (see www.alibaba.com, 2010) and which sells the model of the prepaid *electricity* meter shown in figure 4.1 in the previous chapter.³¹ There is a connection between workers in China making parts for and assembling PPMs, and those workers we are here considering in Orange Farm and Phiri using them. They are both of them tied together by these PPMs – where one set of workers is forced to work and create products having oppressive and alienating effects on another.

³⁰ PPMs are most commonly made in China (see http://www.alibaba.com/trade/search/3i1ptyfchms/prepaid_water_meters.html, which lists 60 Chinese suppliers and http://www.alibaba.com/suppliers/prepaid_water_meters.html, which lists 18). There is also a South African company listed which supplies one model of PPMs (http://www.thusong.com/products/terminals_and_meters.html).

³¹ See http://www.thusong.com/products/terminals_and_meters.html.

The workers of China do not go to work thinking that their product is used to dominate and control the access these residents' have to water. The workers in China rather go to work every day because they are forced to seek wage labour so they may feed themselves and their families. But they too are alienated from their product and do not know the various effects it has in another country.

This highlights the usefulness of the aspect of "self-alienation". The residents of Orange Farm and Phiri are self-alienated in the ways many other ordinary people are. They labour as a means to satisfy their needs, which they are prevented from satisfying through their own labour. Hence, they cannot be objectified in their product as whole human beings, as Marx would aver, for it is just by their labour that their humanity is recognised – through selling their labour is how they achieve the means to satisfy their needs, not directly through their own labour *per se*. As Marx would have it – their act of labouring is alienated from them because it is not *for* them but simply *by* them. Hence, they labour via second-order mediations.

Part of the root of an objective barrier separating groups of workers from each other and obstructing solidarity lies in this: that the product produced, like the PPM, and embodying the alienated labour of one group of workers, is encountered as an imposed control, a "powerful thing", by another group of workers, like those in Orange Farm and Phiri.

5.3.3b Species-being alienation and social alienation

In the observations above we also noted the reduction of the residents' humanness to "consumers" and a degradation thus of their humanity. Marx's aspect of species-being alienation can deepen this too for us. With the aspect of species-being alienation we can understand how these residents' humanity is degraded, as is reported. Water is not provided to them in any other way but as a commodity and thus they are considered "consumers" for whom the provision of urban domestic water does and must cost. We saw that the water from the FBW was actually the same water commodity as that coming from the PPMs, and that the PPM is there to recover the costs of this provision beyond 6kl. The amount of FBW provided to these residents is not sufficient, as we established earlier. Despite the allotted amount of 6kl being

championed by the government, it is clearly not enough for daily needs of these residents, whose households are large and levels of health low necessitating more water.

What these two cases highlight for us is the provision of urban domestic water on the basis of commerce rather than human need. This in turn makes it difficult to simply increase the amount of water provided (e.g. the FBW allocation) unless commercial costs are accounted for – production, labour, maintenance, transport, etc. Making for a system of provision, in the end, based on who can pay and not on who needs. One could argue that taxation has been incorporated to balance out inequalities of wealth and provide to such people like those in Orange Farm and Phiri. Yet, located in a state with such methods of taxation, residents of these areas only get the urban domestic water they need (almost always above the “free” 6kl) if they can pay for it. Hence, the system of urban domestic water provision is based not on human need but primarily on commercial need.

Cast and treated as consumers, these residents are denied their “whole humanness” by both the state and the private water company (JW). If they are consumers, they are not then characterised by their human consumption of water, even less their general humanity. Instead, the water they need is determined by the state and then by what the residents can pay, provided to them through a private water company. Even though the PPM amount can be set, as it clearly is to 6kl per month, these residents (poor for the large part) are required to pay for their water as they would for commodities superfluous to everyday survival like perfume, greeting cards or diamonds.

What the residents get alienated from is their humanly creative capacity expressed through their ability to labour. Some of them may indeed lay the very water pipes transporting urban domestic water into their homes or having a hand in building or repairing the dams or water purification plants storing and processing the very water product they consume. Not only relating to water though, as the working class (employed or unemployed) they labour in many different ways. For example, everyday unpaid domestic care, normally carried out by women in the home, which

generally allows the employed to be free to work (most often men) is part of the everyday human labour carried out by many of these residents.

The strange effect on the residents' "humanity" as we observed above, including them being reduced to "consumers", is better understood through the aspect of species-being alienation. The aspect of species-being alienation allows us to understand better the reduction of the Orange Farm and Phiri residents to "consumers" as not merely a role or even a label under commodification but deeper than this. These residents are treated as "consumers" who must pay to get water – this is the chief mediating factor of the second order. Moreover, reducing them to "consumers" abstracts them from whole human beings with human needs, one of which is the need for water. Under the capitalist mode of production this is mediated by the set of second-order mediations, for example exchanging money for water. This reduction of human beings to "consumers" is characteristic of species-being alienation.

In terms of social alienation, we noted how people in Orange Farm and Phiri are turned into individualised antagonistic competitors with one another. This aspect of alienation concerns the relations of people to each other, and we have already characterised such relations in the observations made above.

We noted how such relations are degraded and eroded: where water has come to define communal social life for residents (e.g. funerals, weddings, etc.) and everyday household life (caring for the sick, childcare, cooking, sanitation, etc.), such social relations are modified through the privatisation of domestic water provision and of course PPMs. How are they degraded and eroded? More burden is placed on women in the household (Coalition Against Water Privatisation, 2004a p3; Coalition Against Water Privatisation, 2006 p19; Orange Farm Water Crisis Committee, 2004 p27). Residents of Orange Farm were questioned about the claim by JW that residents were indeed happy with the PPMs system of domestic water provision (Orange Farm Water Crisis Committee, 2004 p28). Figure 5.2 below shows that more than half of respondents link problems in social relations to problems from the PPMs system and water problems.

| Attitude | Percentage (%) of respondents agree |
|----------------------------------------------------------------|-------------------------------------|
| Prepaid water means that families steal water from each other. | 56 |
| Water problems increase violence in the area. | 66 |
| Water problems increase domestic violence | 62 |
| Women have more work with prepaid water meters. | 60 |
| When we don't have water it distorts our working life. | 78 |

Figure 5.2. Table reflecting attitudes of respondents in Orange Farm regarding the effect of the privatised domestic water provision through PPMs on social relations. (Source: Orange Farm Water Crisis Committee, 2004 p28)

5.4 Conclusion

We have employed key aspects of Marx's theory of alienation in our appraisal of urban domestic water provision in these areas. In so doing, we have organised and presented the material to illustrate the value of drawing on that theory to deepen understanding of what underlies the struggles around water. We have considered each of the key aspects outlined in earlier parts of the thesis. As will be the case with any illustrative cases, they have uneven applicability and need to be considered in the specificities of each concrete situation. Different situations will highlight different aspects of the theory. We need mention again that these different aspects are part of a whole and interrelate to each other, filling out that whole.

We are left to question: can the provision of urban domestic water under capitalism be provided without the human costs we have identified and explored above?

CONCLUSION

Jameson (1997 p175) has pointed out: “capitalism is not merely a system or mode of production, it is the most elastic and adaptable mode of production that has appeared thus far in human history” and has achieved this by “expansion of the system, [and] the production of radically new types of commodities.” The provision of domestic water is one area in which capitalism is setting its teeth of commodification – these teeth are sinking deeper. The seeping venom of alienated labour is the catalyst for the commodification of domestic water. Alienated labour is central to the commodification of water. This dissertation contends that this is accurate. We have investigated the commodification of both domestic water and the provision of that water, which is undergoing intensified commodification through methods of privatisation.

Those with their eyes cast to this field have argued that the privatisation of water in South Africa (and other parts of the world) is based on the commodification of water. And informing this transformation of water provision is neoliberalism. However, a major gap in this literature is the lack of adequate focus and analysis on the basis of capitalism itself – that of alienated labour. This may be so partly because of the shortcomings many have associated with Marx’s work and the lack of accurate appraisal and understanding of Marx’s work, as we considered in chapter two. Thus, barring a few studies, Marx’s concept of alienated labour and how it lays the basis for capitalist production is taken by an undertow and left out of many analyses we consider below. These analyses are of neoliberalism’s burgeoning effect on nature, the commodification of nature and explanations particularly of the water services provision of South Africa.

We noted the peculiarity Bakker (2003b) sees with the commodification of water. However, she leaves out the central role of alienated labour. She moves from raw water to the provision of the “uncooperative” commodity without interrogating when water is turned into a commodity. We have shown in this dissertation how alienated labour plays a central role in this process and through what means. Bakker (2003b)

blurs the lines of water's commodification as she deals with the provision and handling of water, as it is forced into the commodity framework, albeit "uncooperatively".

Patrick Bond has written many articles on the commodification of domestic water in South Africa. He has focused social movements of anti-privatisation struggles, such as the Anti-Privatisation Forum. Bond's general line is to advocate the *decommodification* of domestic water. As Bond (2004 p25) writes,

In reality, commodified water is failing to deliver the goods, or even the profits. More crucial still, the neoliberal "reforms" we can observe in South Africa are being resisted by the other side: those who would *decommodify* water, and no doubt much else thereafter.

Whilst Bond does have an eye cast towards social movements demanding an end to privatisation of public goods like water, his critique of domestic water commodification rests on the intensification of such commodification under the aegis of neoliberal methods, which draws on the "ideology of commodification" (Bond, 2003 p7). As Bond (2003 p22) furthers,

the ongoing anti-privatisation campaigns for water access are resonating with struggles in other places to *decommodify* water and institute public sector services that meet people's needs.

And,

As purposive ecological destruction and social inequality reach levels never before recorded in human history, the conflict between forces bent on further commodification and those committed to decommodification is also growing intense. (Bond, 2004 p8)

Missing from Bond's corpus of work around domestic water commodification is an understanding and use of alienation and alienated labour, which is argued by Marx to underpin capitalism. It is this mode of production that drives domestic water commodification and privatization. Hence, Bond is not drawing the connections between the commodification of the service provision of domestic water, domestic water itself (however "uncooperative" such water is as a commodity) and the working class's relationship to such water, such as the social movements he draws on.

Bond's solution stops at the point of a deepening of commodification, which allows a broader appreciation of the effects of domestic water's commodification, especially on those most affected – the working class. Hence, Bond ends up understanding social movements that are resisting the effects of neoliberal market measures on domestic water (and other areas such as electricity) to be “demanding decommodification” (Bond, 2003 p2). Whilst it is true they are demanding an end to practices of neoliberalism such as privatization, they are clearly demanding more than this, as we have explored above. The process of alienated labour is endemic to capitalism and so even if domestic water is “returned” as public provision workers will still be labouring via alienated labour and thus producing water as a commodity, as this dissertation contends.

McDonald and Ruiters (2005b) come close to a more grounded understanding of the commodification of water based on alienated labour. However, they do not incorporate the concept of alienation in any form, let alone Marx's. Their book *The Age of Commodity: Water Privatization in Southern Africa* provides a good collection of articles relating to Southern African water provision. In their first chapter they argue that privatisation (in general) must be understood as “a social intensification of capitalism” (McDonald and Ruiters, 2005b p13). They argue that,

goods and services [e.g. domestic water and its provision] are not inherently “public” or “private” according to some innate set of physical characteristics (as neoclassical theorists would have us believe). The commodification of a good or service is a socially and historically constructed phenomenon that cannot be understood outside of its relationship to a given set of social relations of production. (McDonald and Ruiters, 2005b p23)

As the driver of privatisation, commercialisation and corporatisation, commodification allows for “goods and services to be captured by the logic of the market” (McDonald and Ruiters, 2005b p23). Also, they argue commodification to be an actual, structured transformation of material lives and hence the oft called for *decommodification* of water involves, in their words, “nothing less than the rupturing of social relations that contributed to its commodification in the first place.” (McDonald and Ruiters, 2005b p23). The consequences of such “rupturing” are often unintended by those arguing for decommodification, according to McDonald and Ruiters (2005b p23). They also argue that ownership of water assets do matter (McDonald and Ruiters, 2005b p24) – assets being water infrastructure and service

provision – because of the capacity through the public sector for greater public control of water provision (McDonald and Ruiters, 2005b p24).

Yet for all their understanding of water commodification in South(ern) Africa and processes driving such commodification, from historical to economic, they do not draw on Marx's basis of alienated labour and his theory of alienation. If domestic water is being commodified then does it carry fetishism and reification? Is it simply a matter of not being able to afford more intensely commodified domestic water? If domestic water was "returned" to the public sector, is the capacity for exercised public control the limit? If social relations are involved in commodification of domestic water, then how and what are the effects of such commodification? The literature considered is silent in response to such questions.

We can see how using Marx's theory of alienation can provide a deeper understanding of water commodification in South Africa when we deal with the issue of "free" water. We have examined the Free Basic Water policy (FBW) policy by which the South African government provides domestic water for "free" and that such water is indeed *not* free. Those authors assessing this policy, such as McDonald (2002a), L. Smith and Hanson (2003), Bond (2004), Deedat (2006), Tissington et al (2008), Calfucoy et al (2009) either conclude that the amount of FBW should be increased from 6kl per month or suggest improvements to the policy and system of water provision. None straight-out reject the FBW policy. Not even J. Smith (2009), from her in-depth study of the FBW policy in the area of Eastwood (KwaZulu-Natal), considers rejection of the FBW policy as a political conclusion or even a theoretical one.

Casting her study in the realm of commodification and neoliberal practices, Smith (2009) focuses more on social control of the poor by the state. She concludes that "free basic water ... did not improve the lives of poor households; instead it eroded original water access" (Smith, 2009 p.i). She also avers that,

free basic water stole women's time spent on domestic activities; compromised appropriate water requirements, exacerbated service affordability problems and negatively affected household functioning. Poor households experienced the government's policy of free basic services as containment and punishment for being poor. (Smith, 2009 p.i)

Smith's (2009) conclusions are important for those receiving free basic water. She is also commenting on the social effects of such a policy in the context of water commodification and neoliberalism.

However, left out of her thesis (and others' works as considered above) is the notion that (urban) domestic water is water worked on by alienated labour and imbued with such labour, preparing the ground for commodification under capitalism. Thus domestic water is not, and can never be with the capitalist mode of production, actually free.

This dissertation has argued Marx's theory of alienation helps in giving a fuller understanding of the commodification of domestic water. The consequences of water alienation are varied and interconnected. One key finding of this dissertation, also reported by Smith (2009), is that efforts of providing more access to water to the working class in South Africa means, in actuality, the *denial* of water. Many people in South Africa are denied access to water because they cannot afford it, even though water provision is improving. This is because water is treated as a commodity under capitalism and a whole complex of second-order mediations intercede between urban domestic water and access to this water by ordinary people. Hence, alienated production must be included when looking at both the provision and consumption of water.

In casting our eye to struggles against water commodification using the theory of alienation we were able to see these struggles as bigger than simply struggles for the decommodification of water or more control over water provision through the public and not private sector. If this is accurate, as this dissertation avers, then therein lies massive hope. In the historical materialist analysis we have undertaken in this dissertation, the use of Marx's theory of alienation and the associated concepts of reification and fetishism have helped us to better understand the everyday social reality of the working class around domestic water. We have used Marx's theory to aid a better understanding of the commodification of domestic water and as such it remains a theoretical work. What must clearly be negated is the current situation. After all, ordinary people are struggling against the everyday barbarisms of capitalism.

Unalienation

My labour can appear in my object only as what it is. It cannot appear as something which by its nature it is *not*. Hence it appears only as the expression of my *loss of self* and of my *powerlessness* that is objective, sensuously perceptible, obvious and therefore put beyond all doubt.

Marx (1975a p228) *Comments on James Mill*

Marx's Marxism is predicated on a vision of a better world. This world begins with socialism and moves into communism, whereby humankind's relationship to nature becomes more balanced. Contained within *Comments on James Mill*, Marx sets out an idea of a better world, an *unalienated* world.

Marx bases his vision on the transcendence of the aspects of alienation he theorised in his *Manuscripts*. Thus, humankind is free, *unalienated*, when (paraphrased from Marx, 1975a p227-228):

- (i) We produce freely and our products are objectifications of ourselves – my product is the embodiment of my individuality which becomes real for me through its existence which I gave birth to (“*a manifestation of my life*”) and, according to Marx (1975a p227), “*visible to the senses and hence a power beyond all doubt*”.
- (ii) By having others directly enjoying or using my product I would have satisfied a human need by my work – by bringing humankind's “essential nature” into concrete existence for myself and others.
- (iii) Resulting from unalienated products and production would be a confirmation of our species nature, our human essence because the above two aspects are carried out in a *human* way, in ways which are human.
- (iv) Dovetailing here would be the expressions not only of my individual life but another's too because I have produced in a truly human manner, activating human species nature and therefore others too will share in the produce of my true human activity. Hence, Marx (1975a p228) states, we would *confirm* and *realise* our *communal* nature.

In the above conception, Marx (1975a p228) stresses that labour would not be imposed through some external forced need but rather activated from an internal and essential need.

Marx and Engels once stated that workers are producing their own chains labouring in capitalism. Just so do workers produce their own thirst: by making water into a commodity and thereby bringing it into the market place to be sold and hence mediated by capital. Workers will increasingly not be able to afford water just as they struggle to afford food and other basic commodities. Indeed, workers are producing their own thirst.

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REFERENCES

- afrol News. 2001. *Unions concerned about poverty and cholera in Johannesburg*. 24 January 2001. [Online].
http://www.afrol.com/News2001/sa003_joburg_poverty.htm. [26 October 2008].
- afrol News. 2002. *10 million water cuts after South Africa's water privatisation*. 4 November 2002. [Online].
http://www.afrol.com/News2002/sa024_water_private.htm. [26 October 2008].
- Allen, J. 2005. *Apartheid South Africa: An Insider's Overview of the Origin and Effects of Separate Development*. iUniverse, Inc.
- Althusser, L. 1969. *For Marx*, London and New York: Verso.
- Alvatar, E. 1986. 'The Foundations of Life (Nature) and the Maintenance of Life (Work)'. *International Journal of Political Economy*. 20(1): 10-34.
- Anderson, M. 2004. 'Ilitha Lomso and a community's struggle for water': Environmental Monitoring Group.
- Archibald, W.P. 2009a. 'Globalization, Downsizing and Insecurity: Do we need to upgrade Marx's theory of alienation?' *Critical Sociology*. 35(2): 319-342.
- Archibald, W.P. 2009b. 'Marx, Globalization and Alienation: Received and underappreciated wisdoms'. *Critical Sociology*. 35(2): 151-174.
- Arniel, B. 1996. *John Locke and America: The defence of English colonialism*, Oxford: Oxford University Press.
- Arthur, C.J. 1986. *Dialectics of Labour: Marx and his Relation to Hegel*, New York and Oxford: Basil Blackwell.
- Asmal, K. 2008. 'Don't be surprised by water-shedding'. *Sunday Independent*. 16 November 2008.
- Bakker, K. 2003a. 'From Public to Private to... Mutual? Restructuring Water Supply Governance in England and Wales'. *Geoforum*. 34(3): 359-374.
- Bakker, K. 2003b. *An Uncooperative Commodity: Privatising water in England and Wales*, Oxford: Oxford University Press.
- Bakker, K. 2005. 'Neoliberalizing Nature? Market environmentalism in water supply in England and Wales'. *Annals of the Association of American Geographers*. 95(3): 542-565.

- Bakker, K. and Hemson, D. 2000. 'Privatising Water: BoTT and hydropolitics in the New South Africa'. *South African Geographical Journal*. 82(1): 3-12.
- Barlow, M. and Clarke, T. 2004. *Blue Gold: The fight to stop the corporate theft of the world's water*, New York: New Press.
- Bate, R. and Tren, R. 2002. *The Cost of Free Water: the global problem of water misallocation and the case of South Africa* Johannesburg: Free Market Foundation.
- BBC News. 2008. *Earth on course for eco "crunch"*. [Online].
<http://news.bbc.co.uk/2/hi/sci/tech/7696197.stm>. [15 October 2009].
- Benton, T. 1989. 'Marxism and Natural Limits: an ecological critique and reconstruction'. *New Left Review*. (178): 51-86.
- Benton, T. 1992. 'Ecology, Socialism and the Mastery of Nature: A reply to Reiner Grundmann'. *New Left Review*. (194): 55-74.
- Benton, T. 1993. *Natural Relations: Ecology, animal rights and social justice*, London: Verso.
- Bergua, J.A. 2008. 'Ideology, Magic and Spectres: Towards a Cultural Analysis of Water Use'. *Current Sociology*. 56(5): 779-797.
- Birkinshaw, M. 2008. 'A big devil in the shack'. *Pambazuka News*. 17 September 2008.
- Bond, P. 2003. 'Commodification of Public Goods: Critique and Alternatives'. Paper presented to World Council of Churches Dialogue with the World Bank and International Monetary Fund. Geneva, Switzerland, 14 February 2003.
- Bond, P. 2004. 'Water commodification and decommodification narratives: pricing and policy debates from Johannesburg to Kyoto to Cancun and back'. *Capitalism, Nature, Socialism*. 15(1): 7-25.
- Bond, P. 2008. 'Decentralization, privatization and countervailing popular pressure: South African water commodification and decommodification'. in Beard, V., Mirafteb, F. and Silver, C. (eds.) *Decentralization and Planning: Contested Spaces for Public Action in the Global South*. London: Taylor and Francis. Pp 36-54.
- Bond, P. 2008-9. 'The Global Carbon Trade Debate': For or against the privatization of the air?'. *The Commoner*. 13: 85-102.
- Bond, P. and Dugard, J. 2008. *Water, Human Rights and Social Conflict: South African experiences*. [Online]. Law, Social Justice & Global Development Journal.
http://www2.warwick.ac.uk/fac/soc/law/elj/lgd/2008_1/bond_dugard/bond_dugard.pdf. [3 December 2010].

- Bond, P., McDonald, D.A. and Ruiters, G. 2003. 'Water Privatisation in Southern Africa: The state of the debate'. *Economic and Social Rights in South Africa*. 4(4): 10-13.
- Bond, P., McDonald, D.A., Ruiters, G. and Greeff, L. 2001. 'Water Privatisation in Southern Africa: the state of the debate'. Cape Town: Environmental Monitoring Group South Africa.
- Boonzaier, E., Malherbe, C., Berens, P. and Smith, A. 1996. *The Cape herders: a history of the Khoikhoi of Southern Africa*, Cape Town: David Phillip.
- Boudon, R. and Bourricaud, F. 1982. *Critical Dictionary of Sociology*, London: Routledge.
- Brook, P. 2009. 'The Alienated Heart: Hochschild's 'emotional labour' thesis and the anticapitalist politics of alienation'. *Capital & Class*. Vol. 98: 7-31.
- Budds, J. 2009. 'Contested H₂O: Science, policy and politics in water resources management in Chile'. *Geoforum*. 40(3): 418-430.
- Burkett, P. 1996. 'On Some Common Misconceptions About Nature and Marx's Critique of Political Economy'. *Capitalism Nature Socialism*. 7(3): 57-80.
- Burkett, P. 1997. 'Nature in Marx Reconsidered: A silver anniversary assessment of Alfred Schmidt's *Conception of Nature in Marx*'. *Organization & Environment*. 10(2): 164-183.
- Burkett, P. 1999. 'Nature's "Free Gifts" and the Ecological Significance of Value'. *Capital & Class*. Vol. 68: 89-110.
- Burman, J. 1969. *The Cape Of Good Intent*, Cape Town: Human and Rousseau.
- Burris, V. 1988. 'Reification: A Marxist Perspective'. *California Sociologist*. 10(1): 22-43.
- Business Report. 2010. 'Tax, power and water issues threaten Namibia's mines'. *Business Report*. 2 June 2010.
- Calfucoy, P., Cibulka, J., Davison, J., Hinds, T. and Park, M. 2009. *Improving Free Basic Water Provision in South Africa*. [Online]. Board of Regents of the University of Wisconsin System. <http://www.lafollette.wisc.edu/publications/workshops/2009/southafrica.pdf>. [9 December 2009].
- Cape Times. 2003. *Water poorly managed, 19 May 2003*. [Online]. [9 June 2008].
- Castree, N. 2000. 'Marxism and the Production of Nature'. *Capital & Class*. Vol. 72: 5-36.

- Castree, N. 2003. 'Commodifying What Nature?' *Progress in Human Geography*. 27(3): 273-297.
- Catephores, G. 1972. 'Marxian Alienation - A Clarification'. *Oxford Economic Papers*. 24(1): 124-136.
- City of Cape Town. 2009. *Revised consumptive tariffs, rates and basic charges for electricity services, water services and waste management services*. [Online]. http://www.capetown.gov.za/en/Budget/Documents/Budget%202009-2010%20final/Annexure%205%20-%20Consumptive%20Tariffs_0910%20May2009.pdf. [30 March 2011].
- Clarke, R. and King, J. 2004. *The Atlas of Water: Mapping the world's most critical resource*, London: Earthscan.
- Coalition Against Water Privatisation. 2004a. *The Struggle Against Silent Disconnections*. [Online]. http://apf.org.za/IMG/pdf/phiri_report.pdf. [03 February 2009].
- Coalition Against Water Privatisation and Anti-Privatisation Forum. 2006. *Lessons from the War Against Prepaid Water Meters*. [Online]. http://apf.org.za/IMG/pdf/Final_PPM_Research_Report_-_102006-2.pdf. [03 February 2009].
- Coalition Against Water Privatisation, Anti-Privatisation Forum and Public Citizen. 2004b. "'Nothing For Mahala": The forced installation of prepaid water meters in Stretford, Extension 4, Orange Farm, Johannesburg, South Africa'. Durban: Centre for Civil Society.
- Coleman, T. and van Niekerk, A. 2007. *Orange River Integrated Water Resources Management Plan*. [Online]. WRP Consulting Engineers, Jeffares and Green, Sechaba Consulting, WCE Pty Ltd, Water Surveys Botswana (Pty) Ltd. <http://orangesenqurak.org/UserFiles/File/Other/Water%20Resources%20Management%20Plan%20Study/Water%20Quality.pdf>. [30 March 2011].
- Conley, A. 1996. 'A Synoptic View of Water Resources in Southern Africa'. *Sink or Swim? Water, Resource Security and State Co-operation. IDP Monograph Series, no. 6*.
- Copleston, F. 1962. *A History of Philosophy, Volume 1*. New York: Doubleday.
- Cottle, E. 2004. 'The Class Nature of Free Water in South Africa: From past to present'. [Unpublished].
- Cox, J. 1998. 'An Introduction to Marx's Theory of Alienation'. *International Socialism*. (79).
- Dean, D.G. 1961. 'Alienation: Its meaning and measurement'. *American Sociological Review*. 26(5): 753-758.

- Deedat, H. 2006. 'Free Basic Water, Case Studies of the Gendered Impact of Free Basic Water at the Household Level and its Unintended Consequences'. Pretoria: Water Research Commission.
- Deedat, H. and Cottle, E. 2002. 'Cost Recovery and Prepaid Water Meters: A case study in Madlebe, KZN'. Chapter 4 in McDonald, D.A. and Pape, J. (eds.) *Cost Recovery and the Crisis of Service Delivery in South Africa*. Cape Town: HSRC Publishers. Pp 81-100.
- Department of Water Affairs. 2010. *National Water Week 2010: Together we can do more to save water*. [Online].
<http://www.dwaf.gov.za/Communications/PressReleases/2010/WaterWeekrelease2010.pdf>. [31 March 2011].
- Department of Water Affairs and Forestry. 2001a. Free Basic Water: Implementation strategy document. [Online].
http://www.dwaf.gov.za/dir_ws/webdocs/share/ViewwebDoc.asp?Docid=31. [2 December 2009]
- Department of Water Affairs and Forestry. 2001b. *Media Statement by the Minister of Water Affairs and Forestry, Mr Ronnie Kasrils*. [Online].
<http://www.dwaf.gov.za/Communications/PressReleases/2001/Free%20water%206000%20litres%2014%20February%202001.doc>. [2 December 2009].
- Department of Water Affairs and Forestry. 2001c. Regulation Gazette No. 7079. [Online].
http://ec.europa.eu/echo/files/policies/evaluation/watsan2005/annex_files/SA/SA1%20-%20South%20Africa%20Watsan%20Regulations.pdf. [31 March 2011]
- Department of Water Affairs and Forestry. 2002. Free Basic Water Implementation Strategy. [Online].
<http://fbs.dplg.gov.za/fbs/site/docs/DocumentLibrary/FBW/FBWImplementStrategyAug2002.pdf?PHPSESSID=4ff7407c9b0a1e8b99ae70b097632b94>. [14 December 2010]
- Department of Water Affairs and Forestry. 2003. *New Strategic Framework for Water Services*. [Online].
http://www.dwaf.gov.za/Communications/PressReleases/2003/New%20strategic%20framework%20for%20water%20services%2019%20Sep%202003_.doc. [30 March 2011].
- Department of Water Affairs and Forestry. 2009a. *Annual Report: 1 April 2008 - 31 March 2009*. [Online].
<http://www.dwaf.gov.za/documents/AnnualReports/ANNUALREPORT2008-2009.pdf>. [13 April 2010]
- Department of Water Affairs and Forestry. 2009b. *Water for Growth and Development. Presentation by Director General*. [Online].

- http://www.dwa.gov.za/WFGD/documents/2009Summit/DG_final.pdf. [31 March 2011].
- Diamond, J. 1997. *Guns, Germs and Steel*, London: Vintage.
- Dickens, P. 2000. 'Marx and the Metabolism between Humanity and Nature'. *Alethia*. 3(2): 40-45.
- Dickenson, D.L. 2001. 'Property and Women's Alienation from their Own Reproductive Labour'. *Bioethics*. 15(3): 205-217.
- A Dictionary of Marxist Thought* 1983. Cambridge, MA: Harvard University Press.
- Dieltiens, N. 2008. 'Prepaid Waters Declared Unlawful'. *Alternatives International Journal*. 1(2): 8-9.
- Donne, R.D. 2009. *Water meters for the poor: new name, old problems*, 22 March 2009. [Online]. Inter Press Service.
<http://ipsnews.net/news.asp?idnews=46226>. [8 May 2009].
- Drakeford, M. 1998. 'Water Regulation and Pre-Payment Meters'. *Journal of Law and Society*. 25(4): 588-602.
- Dugard, J. 2008. *The Phiri water case (Mazibuko and Others v City of Johannesburg and Others): Can human rights traverse the commercialization of water in South Africa?* [Online].
http://www.nottingham.ac.uk/shared/shared_cssgj/Documents/smp_papers/Dugard.pdf. [31 March 2011].
- Dugard, J. 2010. 'Civic Action and Legal Mobilisation: The Phiri water meters case'. Chapter 4 in Handmaker, J. and Berkhout, R. (eds.) *Mobilising Social Justice in South Africa: Perspectives from researchers and practitioners*. Pretoria: Pretoria University Law Press. Pp 71-100.
- Dye, C. 2008. 'Health and Urban Living'. *Science*. 319(5864): 766-769.
- Engels, F. 1975. 'Outlines of a Critique of Political Economy'. *Karl Marx & Frederick Engels: Collected Works*. London: Lawrence & Wishart. Pp 418-443.
- Feenberg, A. 1981. 'Reification and the Paradigms of Rationality'. Chapter 3 in *Lukács, Marx and the Sources of Critical Theory*. Oxford: Martin Robertson. Pp 59-86.
- Feuer, L. 1963. 'What Is Alienation? The Career of a Concept'. in Stein, M. and Vidich, A. (eds.) *Sociology on Trial*. Englewood Cliffs, N.J.: Prentice-Hall, Inc. Pp 127-147.
- Food and Water Watch. 2010. *Paris Reclaims Public Water*. [Online].
<http://www.foodandwaterwatch.org/factsheet/paris-reclaims-public-water/>. [22 June 2010].

- Foster, J.B. 1999. 'Marx's Theory of Metabolic Rift: Classical Foundations for Environmental Sociology'. *The American Journal of Sociology*. 105(2): 366-405.
- Foster, J.B. 2000. *Marx's Ecology: Materialism and nature*, New York: Monthly Review Press.
- Foster, J.B. 2004. 'Ecology, Capitalism, and the Socialization of Nature'. *Monthly Review*. 56(6): 1-12.
- Funke, N., Nortje, K., Findlater, K., Burns, M., Turton, A., Weaver, A. and Hattingh, H. 2007. 'Redressing Inequality: South Africa's New Water Policy'. *Environment: Science and Policy for Sustainable Development*. 49(3): 10-23.
- Geras, N. 1971. 'Essence and Appearance: Aspects of Fetishism in Marx's 'Capital''. *New Left Review*. 1(65): 69-85.
- Geras, N. 1983. *Marx and Human Nature: Refutation of a legend*, New York: Verso.
- Geras, N. 1986. *Literature of Revolution: Essays on Marxism*, London: Verso.
- Gleick, P.H. 1996. 'Basic Water Requirements for Human Activities: Meeting Basic Needs'. *Water International*. 21(2): 83-92.
- Gleick, P.H., Wolff, G., Chalecki, E.L. and Reyes, R. 2002. 'The Privatization of Water and Water Systems'. Chapter 3 *The World's Water: The biennial report on freshwater resources, 2002-2003*. Washinton DC: Island Press. Pp 57-88.
- Goldman, M. and Schurman, R. 2000. 'Closing the "Great Divide": New social theory on society and nature'. *Annual Review of Sociology*. 26(1): 563-584.
- Gosling, M. 2009. 'Province needs R6.6bn to fix water and sanitation systems'. *Cape Times*. 17 June 2009.
- Grant, D. 1991. The Politics of Water Supply: the history of Cape Town's water supply 1840-1920. History. University of Cape Town, Cape Town. [Unpublished].
- Greene, B. 1999. *The Elegant Universe: Superstrings, hidden dimensions, and the quest of the ultimate theory*, New York: W. W. Norton & Company Inc.
- Grundmann, R. 1991. 'The Ecological Challenge to Marxism'. *New Left Review*. 1(187): 103-120.
- Guelke, L. and Shell, R. 1992. 'Landscape of Conquest: Frontier Water Alienation and KhoiKhoi Strategies of Survival, 1652-1780'. *Journal of Southern African Studies*. 18(4): 803-824.

- Hall, C.G. 1939. *The Origin and Development of Water Rights in South Africa*, Oxford: University Press.
- Harvey, D. 1973. *Social Justice and the City*. London: Edward Arnold.
- Harvey, D. 1996. *Justice, Nature and the Geography of Difference*, Oxford: Blackwell.
- Harvey, D. 2005. *A brief history of neoliberalism*, Oxford and New York: Oxford University Press.
- Harvey, D. 2010. *A Companion to Marx's 'Capital'*, London, New York: Verso.
- Harvie, D. 2000. 'Alienation, Class and Enclosure in UK Universities'. *Capital & Class*. Vol. 71:103-132.
- Hemson, D. 2010. 'Winters of Discontent? Attitudes Towards Service Delivery'. in Roberts, B., Wa Kivilu, M. and Davids, Y.D. (eds.) *South African Social Attitudes, 2nd Report: Reflections on the Age of Hope*. Cape Town: Human Sciences Research Council. Pp 107-127.
- Hemson, D., Dube, B., Mbele, T., Nnadozie, R. and Ngcobo, D. 2006. 'Still Paying the Price: Revisiting the Cholera Epidemic of 2000 – 2001 in South Africa': Municipal Services Project.
- Hendricks, L. 2008. *Statement to Parliament on 'water crisis'*. [Online]. <http://www.dwaf.gov.za/Communications/MinisterSpeeches/2008/Parliament1Mar08.pdf>. [14 March 2008].
- Hochschild, A. 1983. *The Managed Heart: Commercialization of Human Feeling*, Berkley: University of California Press.
- Hromnik, C. 2007. 'Will 2010 Rob the Quena Again?' *Cape Argus*. 7 January 2007.
- Jameson, F. 1997. 'Five Theses on Actually Existing Marxism'. in Wood, E.M. and Foster, J.B. (eds.) *In Defense of History: Marxism and the postmodern agenda*. New York: Monthly Review Press. Pp 175-183.
- Johannesburg Water. (No date). *Johannesburg Water*. [Online]. <http://www.johannesburgwater.co.za/>. [17 January 2011].
- Joseph, B. 2005. *Environmental Studies*, Tata: McGraw-Hill.
- Josephson, E. and Josephson, M.R. 1973. 'Alienation: Contemporary Sociological Approaches'. Chapter 7 in Johnson, F. (ed.) *Alienation: Concept, Term, and Meaning*. New York and London: Seminar Press. Pp 163-181.
- Juuti, P.S., Katko, T.S. and Huuka, J.J. 2007a. 'Privatisation of Water Services in Historical Context, mid-1800s to 2004'. Chapter 18 in Juuti, P.S., Katko, T.S.

- and Vuorinen, H.S. (eds.) *Environmental History of Water*. London: IWA Publishers. Pp 235-257.
- Juuti, P.S., Katko, T.S. and Vuorinen, H.S. 2007b. 'Introduction: Early Cultures and Water'. Chapter 3 in Juuti, P.S., Katko, T.S. and Vuorinen, H.S. (eds.) *Environmental History of Water*. London: IWA Publishers. Pp 11-15.
- Juuti, P.S., Katko, T.S. and Vuorinen, H.S. 2007c. 'Part I: Early Systems and Innovations: Conclusion'. Chapter 7 in Juuti, P.S., Katko, T.S. and Vuorinen, H.S. (eds.) *Environmental History of Water*. London: IWA Publishing. Pp 93-96.
- Juuti, P.S., Katko, T.S. and Vuorinen, H.S. 2007d. 'Part II: Period of Slow Development: Introduction'. Chapter 8 in Juuti, P.S., Katko, T.S. and Vuorinen, H.S. (eds.) *Environmental History of Water*. London: IWA Publishing. Pp 99-102.
- Juuti, P.S., Mäki, H.R.J. and Wall, K. 2007e. 'Water Supply in the Cape Settlement from the Mid-17th to the Mid-19th Centuries'. Chapter 13 in Juuti, P.S., Katko, T.S. and Vuorinen, H.S. (eds.) *Environmental History of Water*. London: IWA Publishing. Pp 165-172.
- Lang, S. 2008. *Bleak future for the country's water*. [Online]. Inter Press Service, 30 June. <http://ipsnews.net/news.asp?idnews=43016>. [14 October 2008].
- Latour, B. 1993. *We Have Never Been Modern*, Cambridge, Mass.: Harvard University Press.
- Lemert, C. 2004. *Social Theory: The multicultural and classic readings*, Colorado: Westview Press.
- Lioudakis, G. 2001. 'The People-Nature Relation and the Historical Significance of the Labour Theory of Value'. *Capital & Class*. Vol. 73:113-140.
- Loftus, A. 2007. 'Working the Socio-Natural Relations of the Urban Waterscape in South Africa'. *International Journal of Urban and Regional Research*. 31(1): 41-59.
- Lukács, G. 1971. 'Reification and the Consciousness of the Proletariat'. *History and Class Consciousness*. London: Merlin Press. Pp 83-222.
- Luxemburg, R. 2003. *The Accumulation of Capital*, London: Routledge.
- Mäki, H.R.J. 2007. 'Development of the Supply and Acquisition of Water in South African Towns in 1850-1920'. Chapter 14 in Juuti, P.S., Katko, T.S. and Vuorinen, H.S. (eds.) *Environmental History of Water*. London: IWA Publishing. Pp 173-195.
- Mandel, E. 1970. *The Causes of Alienation*. [Online]. <http://www.marxists.org/archive/mandel/19xx/xx/alien.htm>. [30 March 2011].

- Mandel, E. 1971. *The Formation of the Economic Thought of Karl Marx: 1843 to 'Capital'*, London: New Left Books.
- Marsden, B. 2003. *Cholera and the Age of the Water Barons*. [Online]. <http://projects.publicintegrity.org/water/report.aspx?aid=44>. [26 November 2008].
- Martindale, L. 2004. 'Water Leaks Project: Harare, Khayelitsha, Phase One': Environmental Monitoring Group.
- Marx, K. 1904. *A Contribution to the Critique of Political Economy*, Chicago: Kerr.
- Marx, K. 1959. *Capital*, Volume 3. Moscow: Progress Publishers.
- Marx, K. 1967. *Capital*, Volume 3. New York: International Publishers.
- Marx, K. 1975a. 'Comments on James Mill, *Éléments D'économie Politique*'. *Karl Marx & Frederick Engels: Collected Works*. London: Lawrence & Wishart. Pp 211-228.
- Marx, K. 1975b. 'Economic and Philosophic Manuscripts of 1844'. *Karl Marx & Frederick Engels: Collected Works*. London: Lawrence & Wishart. Pp 229-346.
- Marx, K. 1976. *Capital*, 1. London: Penguin.
- Marx, K. 1994. 'Economic Manuscript of 1861-63, Continuation'. *Collected Works*. New York: International Publishers. Pp 9-253.
- Marx, K. and Engels, F. 1975. *Collected Works*, vol. 3. London: Lawrence & Wishart.
- Marsden, B. 2003. *Cholera and the Age of the Water Barons*. [Online]. <http://projects.publicintegrity.org/water/report.aspx?aid=44>. [26 November 2008].
- Mascarenhas, A. 2008. 'Conclusion: Water for the poor pays'. in Hemson, D., Kulindwa, K., Lein, H. and Mascarenhas, A. (eds.) *Poverty and Water: Explorations of the reciprocal relationship*. London & New York: Zed Books. Pp
- Max-Neef, M. 1991. *Human Scale Development: Conception, application and further reflections*, New York: Apex Press.
- McDonald, D.A. 2002a. 'The Bell Tolls for Thee: Cost-recovery, cuttoffs, and the affordability of municipal services in South Africa'. Chapter 8 in McDonald, D.A. and Pape, J. (eds.) *Cost Recovery and the Crisis of Service Delivery in South Africa*. Cape Town: Human Sciences Research Council Publishers. Pp 161-179.

- McDonald, D.A. 2002b. 'No Money, No Service'. *Alternatives Journal*. 28(2): 16-20.
- McDonald, D.A. 2002c. 'The Theory and Practice of Cost Recovery in South Africa'. Chapter 1 in McDonald, D.A. and Pape, J. (eds.) *Cost Recovery and the Crisis of Service Delivery in South Africa*. Cape Town: Human Sciences Research Council Publishers. Pp 17-37.
- McDonald, D.A. and Ruiters, G. 2005a. 'The Age of Commodity: Water Privatization in Southern Africa'. London and Sterling, VA: Earthscan.
- McDonald, D.A. and Ruiters, G. 2005b. 'Theorising Water Privatization in Southern Africa'. Chapter 1 in McDonald, D.A. and Ruiters, G. (eds.) *The Age of Commodity: Water Privatization in Southern Africa*. London and Sterling, VA: Earthscan. Pp 13-41.
- McKenzie, R.S., Wegelin, W., Mohajaneand, P. and Shabalala, S. 2007. 'Hidden benefits of public private partnerships: the case of water pressure management in Sebokeng'. *The Journal for Transdisciplinary Research in Southern Africa*. 3(2): 395-409.
- McKinley, D.T. 2008. *Water Struggles from Johannesburg and Beyond*. [Online]. Abahlali Press. <http://www.abahlali.org/node/3702>. [23 August 2008].
- McLellan, D. 1971. *The Thought of Karl Marx: An Introduction*, London and Basingstoke: The MacMillan Press Ltd.
- Meek, R. 1973. 'The Critique of the Marxian Labour Theory'. Chapter 6 *Studies in the Labour Theory of Value*. London: Lawrence & Wishart. Pp 201-242.
- Mészáros, I. 1970. *Marx's Theory of Alienation*, London: Merlin Press.
- Momberg, E. 2008. '(Untitled)'. *Cape Argus*. 17 February 2008.
- Morris, A., Bozzoli, B., Cook, J., Crankshaw, O., Gilbert, L., Lehutso-Phooko, L., Posel, D., Tshandu, Z. and van Huyssteen, E. 1999. *Change and Continuity: A survey of Soweto in the late 1990's*. [Online]. University of the Witwatersrand: Johannesburg. <http://www.ceroi.net/reports/johannesburg/csoe/html/nonjava/Actionbar/sowetoprofile.htm>. [30 March 2011].
- Muller, M. 2004. 'Turning on the taps'. *Mail & Guardian*. 25 June to 1 July 2004.
- Murdoch, J. 1997a. 'Inhuman/Nonhuman/Human: actor-network theory and the prospects for a nondualistic and symmetrical perspective on nature and society'. *Environment and Planning D: Society and Space*. 15(2): 731-756.
- Murdoch, J. 1997b. 'Towards a Geography of Heterogeneous Associations'. *Progress in Human Geography*. 21(3): 321-337.

- Nace, R.L. 1972. 'Man and Water: A lesson in history'. *Bulletin of the Atomic Scientists*. 28(2): 34-38.
- Naidoo, P. 2007. 'Struggles Around the Commodification of Daily Life in South Africa'. *Review of African Political Economy*. 34(111): 57-66.
- Ndaba, D. 2010. *No current water crisis, but warning bells must be heeded, department concedes* [Online]. Engineering News. <http://www.engineeringnews.co.za/article/there-is-no-national-crisis-avers-muller-2010-06-04>. [30 August 2010].
- Nettler, G. 1957. 'A Measure of Alienation'. *American Sociological Review*. 22(6): 670-677.
- Newsweek. 2010. *The New Oil*. [Online]. <http://www.newsweek.com/2010/10/08/the-race-to-buy-up-the-world-s-water.html>. [22 February 2011].
- O'Callaghan, D. 2008. *Water Activists across the African Continent: A View from the field*. [Online]. Law, Social Justice & Global Development Journal. http://www2.warwick.ac.uk/fac/soc/law/elj/lgd/2008_1/ocallaghan/ocallaghan.pdf. [07 January 2010].
- O'Connor, J. 1989a. 'Capitalism, Nature, Socialism: A theoretical introduction'. *Capitalism Nature Socialism*. 1(1): 11-38.
- O'Connor, J. 1989b. 'Political Economy and Ecology of Socialism and Capitalism'. *Capitalism Nature Socialism*. (3): 93-106.
- O'Connor, J. 1989c. 'Uneven and Combined Development and Ecological Crisis: A theoretical introduction'. *Race & Class*. 30(3): 1-11.
- O'Connor, J. 1998. *Natural Causes*, New York: Guilford.
- Oelofse, N. 2010. 'PetroSA to pump R80m into R200m desalination plant for drought-hit Mossel Bay'. *Cape Times*. 7 June 2010.
- Ollman, B. 1971. *Alienation: Marx's conception of man in capitalist society*, London: Cambridge University Press.
- Oosthuizen, L.K. 2002. 'Land and Water Resources Management in South Africa'. 18th ICID Congress. Montreal, Canada, 21-28 July 2002.
- Orange Farm Water Crisis Committee, Anti-Privatisation Forum and Coalition Against Water Privatisation. 2004. *Destroy The Meter / Enjoy Free Water*. [Online]. http://apf.org.za/IMG/pdf/orange_farm_prepaid_booklet.pdf. [03 February 2009].
- Page, B. 2003. 'Communities as the agents of commodification: The Kumbo Water Authority in Northwest Cameroon'. *Geoforum*. (34): 483-498.

- Department of Water Affairs and Forestry. 2001. Free Basic Water: Implementation strategy document. [Online]. [2 December 2009]
- Pauw, J. 2003. 'The Politics of Underdevelopment: metered to death - how a water experiment caused riots and a cholera epidemic.' *International Journal of Health Services*. 33(4): 819-830.
- Pearce, F. 2004. *Keepers of the Spring: Reclaiming our water in an age of globalisation*, Washington: Island Press.
- Peet, J. 2003. 'Priceless'. *The Economist*. 17 July 2003.
- Pepper, D. 1993. *Eco-socialism: From deep ecology to social justice* New York: Routledge.
- Petrović, G. 1963. 'Marx's Theory of Alienation'. *Philosophy and Phenomenological Research*. 23(3): 419-426.
- Polanyi, K. 1944. *The Great Transformation*, Boston: Beacon Press.
- Public Citizen. 2003a. *South Africa: National coalition against water privatization formed*. [Online]. AfricaFiles. <http://www.africafiles.org/article.asp?ID=3214>. [24 October 2008].
- Public Citizen. 2003b. *Water Privatization Fiascos: Broken promises and social turmoil*. [Online]. <http://www.citizen.org/documents/privatizationfiascos.pdf>. [8 April 2008].
- Public Citizen. 2010. *Water privatization backgrounder*. [Online]. http://www.citizen.org/cmep/article_redirect.cfm?ID=9589. [10 January 2011].
- Reisman, D. 1996. *Democratic Socialism in Britain*, London: Pickering and Chatto.
- Republic of South Africa. 1996. Constitution of the Republic of South Africa No. 108 of 1996. [Online]. <http://www.info.gov.za/documents/constitution/1996/a108-96.pdf>. [31 March 2011]
- Republic of South Africa. 1997. Water Services Act No. 108 of 1997. [Online]. <http://www.info.gov.za/view/DownloadFileAction?id=70766>. [31 March 2011]
- Republic of South Africa. 1998. National Water Act No. 36 of 1998. [Online]. <http://www.info.gov.za/view/DownloadFileAction?id=70693>. [31 March 2011]
- Rijsberman, F.R. 2006. 'Water scarcity: Fact of fiction?' *Agricultural Water Management*. 80: 5-22.

- Roberts, A. 2008. 'Privatizing Social Reproduction: The primitive accumulation of water in an era of neoliberalism'. *Antipode*. 40(4): 535-560.
- Robins, F.W. 1946. *The Story of Water Supply*, London: Oxford University Press.
- Roelf, L. 2007. *City introduces new water demand management system for residents*. [Online].
<http://www.capetown.gov.za/en/MediaReleases/Pages/CityIntroducesNewWaterDemandMana.aspx>. [5 May 2009].
- Rudin, J. 2008. 'Extending the Minimum Essential Amount of Water: Going beyond the High Court standard'. *Economic and Social Rights in South Africa*. 9(4): 8-12.
- Salgado, I. 2009. 'Invest in water or face 30% shortage'. *Business Report*. 24 November 2009.
- Schmidt, A. 1971. *The Concept of Nature in Marx*, London: New Left Books.
- Seeman, M. 1959. 'On the Meaning of Alienation'. *American Sociological Review*. 24(6): 783-791.
- Sindane, L. 2004. *Operation Gcin'amanzi enters new phase*. [Online]. Johannesburg News Agency. http://www.joburgnews.co.za/2004/march/mar4_water.stm. [30 March 2011].
- Smit, P. 2010. *Water security still SA's top challenge*. [Online]. Engineering News. <http://www.engineeringnews.co.za/article/investment-needed-to-secure-scarce-water-resources-2010-03-12>. [22 June 2010].
- Smith, J. 2009. *Social Policy, Welfare in Urban Services in South Africa: A case study of free basic water, indigency and citizenship in Eastwood, Pietermaritzburg, KwaZulu-Natal (2005-2007)*. Humanities. Rhodes University, Grahamstown. [Unpublished].
- Smith, L. 2006. *Neither Public Nor Private: Unpacking the Johannesburg Water corporatization model*. [Online]. United Nations Research Institute for Social Development. [http://www.unrisd.org/unrisd/website/document.nsf/ab82a6805797760f80256b4f005da1ab/79f48a7bdd5ca384c12571d100257095/\\$FILE/LaSmth.pdf](http://www.unrisd.org/unrisd/website/document.nsf/ab82a6805797760f80256b4f005da1ab/79f48a7bdd5ca384c12571d100257095/$FILE/LaSmth.pdf). [23 November 2010].
- Smith, L. and Hanson, S. 2003. 'Access to Water for the Urban Poor in Cape Town: Where equity meets cost recovery'. *Urban Studies*. 40(8): 1517-1548.
- Smith, N. 1984. *Uneven Development: Nature, capital and the production of space*, Oxford: Blackwell.
- South African Government Online. 2011. *National Departments*. [Online]. <http://www.info.gov.za/aboutgovt/dept.htm>. [11 January 2011].

- South African National Committee on Large Dams. (No date). *About Dams*. [Online]. http://www.sancold.org.za/dams_sa.php#top. [8 January 2011].
- Swatuk, L.A. 2002. 'The New Water Architecture in Southern Africa: Reflections on Current Trends in the Light of 'Rio + 10''. *International Affairs*. 78(3): 507-530.
- Swyngedouw, E. 1999. 'Modernity and Hybridity: Nature, *Regeneracionismo*, and the Production of the Spanish Waterscape, 1890-1930'. *Annals of the Association of American Geographers*. 89(3): 443-465.
- Swyngedouw, E. 2004. *Social Power and the Urbanization of Water: Flows of power*, Oxford: Oxford University Press.
- Swyngedouw, E. 2005. 'Dispossessing H₂O: The contested terrain of water privatization'. *Capitalism Nature Socialism*. 16(1): 1-18.
- Swyngedouw, E. 2006. 'Water, Money and Power'. in Panitch, L. and Leys, C. (eds.) *Socialist Register 2007: Coming to Terms with Nature*. London: Merlin Press. Pp 195-212.
- Tempelhoff, J.W.N. 2000. 'On Laburn's "mystery" query – A prehistory of the Vaal River as water source of the Witwatersrand (1887-99)'. *Historia*. 45(1): 88-117.
- The Water Wheel. 2006. *Water Harvesting*. [Online]. http://www.iwrm.co.za/resource%20doc/iwrm2/homestead_farming_and_rain_water_harvesting_guidelines/wrc_water_wheel.pdf. [30 March 2011].
- Theal, G. 1964. *History of South Africa Before 1795*, Volume 3. Cape Town: Struik.
- Tissington, K., Dettmann, M., Langford, M., Dugard, J. and Conteh, S. 2008. 'Water Services Fault Lines: An assessment of South Africa's water and sanitation provision across 15 municipalities': Centre for Applied and Legal Studies, Centre on Housing Rights and Evictions, Norwegian Centre for Human Rights.
- Turton, A. 2008. 'Three Strategic Water Quality Challenges that Decision-Makers Need to Know About and How the CSIR Should Respond'. CSIR Conference: Science Real and Relevant. Pretoria, 18 November 2008.
- Tvedt, T. 2001. 'A Journey in the History of Water': University of Bergen.
- Twining, J.E. 1980. 'Alienation as a Social Process'. *Sociological Quarterly*. 21(3): 417-428.
- Van der Zel, D. 1997. 'Sustainable Industrial Afforestation in South Africa Under Water and Other Environmental Pressures'. IAHS Assembly. Rabat, Morocco, April 1997.

- Van Wyk, S. 2010. 'Precious natural resource'. *Mail & Guardian*. 19-25 November 2010.
- Varis, O. 2006. 'Megacities, Development and Water'. *Water Resources Development*. 22(2): 199-225.
- Vuorinen, H.S. 2007. 'Water and Health in Antiquity: Europe's Legacy'. Chapter 5 in Juuti, P.S., Katko, T.S. and Vuorinen, H.S. (eds.) *Environmental History of Water*. London: IWA Publishers. Pp 45-67.
- Watts, M. 2005. 'Commodities'. Chapter 32 in Cloke, P., Crang, P. and Goodwin, M. (eds.) *Introducing Human Geographies*. London: Arnold. Pp
- Wennerlind, C. 2002. 'The Labour Theory of Value and the strategic role of alienation'. *Capital & Class*. Vol. 77:1-21.
- Williams, R. 1980. 'Ideas of Nature'. In *Problems in Materialism and Culture*. London: Verso. Pp 67-102.
- Winpenny, J. 1994. *Managing Water as an Economic Resource*, London and New York: Routledge.
- Witcombe, C. and Hwang, S. 1999. *H2O - The Mystery, Art and Science of Water*. Sweet Brair College. [Online]. <http://witcombe.sbc.edu/water/index.html>. [28 March 2009].
- Wittfogel, K. 1956. *The Hydraulic Civilizations*, Chicago: University of Chicago Press.
- Wittfogel, K. 1957. *Oriental Despotism: A comparative study of total power*, New Haven: Yale University Press.
- Worden, N., Van Heyningen, E. and Bickford-Smith, V. 1998. *Cape Town: The making of a city: An illustrated history*, Cape Town: David Philip.
- World Health Organization. 2010. *Access to safe drinking water improving; sanitation needs greater efforts*. [Online]. http://www.who.int/mediacentre/news/releases/2010/water_20100315/en/. [16 December 2010].
- WorldPress.com. 2010. *Update on desalination plant*. [Online]. <http://sedgefieldgardenroute.wordpress.com/2010/01/14/update-on-desalination-plant/>. [31 March 2011].
- www.alibaba.com. 2010. *Thusong Prepad Solutions*. [Online]. http://www.alibaba.com/product-free/246250068/The_Thusong_Electricity_Meter.html. [30 March 2011].

www.indymedia.org. 2005. *Independent Media Centre, South Africa*. [Online].
http://southafrica.indymedia.org/news/2005/04/8069_comment.php. [14
March 2009].

Xali, M. 2009. Email communication with Mthetho Xali, 3 December 2009.

Yuill, C. 2005. 'Marx: Capitalism, Alienation and Health'. *Social Theory & Health*.
3(2): 126-143.

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