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The Flow of Water, Power, and Ideas: Water Commodification in Cape Town, South Africa and the Stratified Experiences of Time and Space Compression

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Abstract

By painting a theoretical picture of world cities, I wish to complicate the dominant views of time/space compression and suggest that, much like development and arguably because of it, time and space compression actually becomes a stratified experience in the geographical space of a world city. When a city turns global and attaches into the international space, it detaches from its local context. In the core of the city, made up of its financial district, business sector, and wealthy neighborhoods, time and space are very compressed because they operate closely to the global network of exchange at highs speeds. However, along the periphery of the city populated by mostly working-class or unemployed people, time is actually experienced at a much slower pace than the global network and the peripheral space is kept remote, distant, and detached from the core. This stratification of time and space compression is then used as a further weapon of subjugation against those living along the periphery and intensifies the underdevelopment with which the stratification originated.

I use the neoliberalization of the water sector in Cape Town, South Africa in order to test this theory. I assert that the neoliberal economic practices of water commodification, business-friendly tariff policies, and prepaid management devices keep people along the periphery from accessing water, power, or ideas – thus causing a stratification of time and space compression between the core and the periphery.

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Introduction

The era in which we live is confronted with the ultimate paradox: our only unvarying attribute is that we are constantly changing. Our age is always on the brink of new inventions and technologies, ones that will reshape the way we interact with and think about our world. Never before have our connections to the other side of the globe been so quick, efficient, and widespread. A person in Dubai can call someone in New York City with the press of a few buttons. Entire business conferences can be conducted via Skype between people planted all over the world. Everyday a new technology is created or updated to bring us greater *connectivity*. The quicker our connections to the other reaches of the globe, the smaller the world seems.

Modernity has brought us to a place where time *feels* faster and space *feels* smaller. Through more efficient transportation methods and the creation of the virtual world, we can traverse the globe with an uncanny speed. This has a beautiful storyline to it: one where humans around the world can connect without the barriers of borders, cultures, and distance. However, despite recognizing the benefits of modernity, I believe there is another alternative narrative. It is the uglier side of modernity hidden below the surface.

The following thesis is designed to shed light on this other account. In order to do so, I use common theories of modernity – particularly that of time and space compression. I also argue Cape Town as an aspiring global city in the process of restructuring in order to appear more attractive to foreign investment. These urban aspirations to compete globally have caused individuals to experience time and space differently depending on whether they live along the periphery of the urban sphere (particularly in townships) or within the wealthier neighborhoods of the city center. As a

means to examine, I focus on water allocation of those living in Cape Town and how their stratified accessibility (or in some cases, in-accessibility) to clean and sanitized water creates an environment of differentiated experiences of time and space compression.

While globalization causes certain issues regarding water and distribution (shortages, climate change, privatization, etc.), I also use theories of modernity along with these discourses on water as a medium for painting a particular picture. Because water has an important and critical function within all of society, it is inextricably linked to modern life.

Water is both passive and powerful. It remains a force that constantly needs to be balanced on the smallest and grandest of scales. Too little or too much has the ability to devastate the biological world as we know it. Across cultures, over borders, and throughout history, water is used as a symbol for life. Yet its relationship to human existence extends beyond our biological necessities. Water soaks deeply into our economic, social, and political realms. And because of its indispensable and irreplaceable presence within civilization, water can also come to be a symbol for power.

Since the industrialization of the world, a high level of human agency has situated itself between natural water sources and human accessibility. This comes in the form of extraction, sanitation, and circulation. By playing resource broker, the intermediary force can usurp some of water's power to develop a level of authority over society. Thus social and political power begin to stream into its flows and water embarks on a political life.

There is a precursor to this relationship between water and political power. The prologue is the story of modernity itself. As societies industrialized, more changes were

forced onto the physical landscape. Through the extended use of large-scale dams, the rerouting of waterways, and the large amount of chemicals released into ecosystems, humans began to strengthen and harness their power over water. In other words, we *created* our own need for human agency between ourselves and water sources through the process of industrialization. As people flocked in large numbers to cities for employment, they became spatially distant from water sources. If a water source was available in an urban setting, they became polluted. Proper sanitization and plumbing infrastructure was then needed to supply the city's population with clean water. In this respect, it became a self-fulfilling cycle: the solution to the problems created by industrialization is more industrialization. Modernity's constant 'cure' for its self-made predicaments is always more modernity. This cycle can also be seen by the way the world market (arguably modernity's highest evolvement) repairs its self-made global water shortages with more global market control.

The Cause of Global Water Shortages

Year after year, the world is obtaining less fresh water through natural cycles. Over two billion people around the globe are affected each year by water shortages (Palmquist 2012). Unfortunately, the figures are worsening unless serious changes are made to human's massive consumption of fresh water. Otherwise, it's estimated that almost two-thirds of the world's population will experience extreme levels of water scarcity within the next twenty-five years (Barlow and Clark 2002).

The industrialization of the planet is causing enormous environmental degradation causing fresh water to dwindle. Pollution and destruction of natural water systems

happens through a number of ways. The dumping of human, radioactive, and industrial waste all have horrible consequences for rivers, lakes, and oceans (Barlow and Clark 2002). The building of dams disrupts entire ecosystems and has also lead to the displacement of millions of people ('*Flow: For the Love of Water'* 2008).

Human population growth also understandably puts a strain on the amount of fresh water used, as each human consumes larger amounts – either directly or through economic processes. And as the human population grows and environmental degradation continues, more people are flocking to cities to seek jobs and resources. It is estimated that over half the world's population already lives in cities and the number is growing (Sachs 2008).

Urbanization directly affects the way the earth is able to absorb water. Fresh water can only be renewed through natural circulation and rainfall. Concrete buildings and roads are not absorbent like soil. Instead, once rain hits the pavement, a majority of the water leaves the region as runoff and ends up in the ocean to be converted to salt water - rendering it undrinkable unless given a high-energy process of sanitation (Barlow and Clark 2002).

The rising of the Earth's overall temperature increases evaporation rates and causes droughts, making the land less capable of absorbing water when rainfall does come. All in all, global warming is making the planet *drier* while human water consumption rates skyrocket (Ward 2002).

At-Risk Populations

Water scarcity is a global issue, yet it is felt in contrasting realities. Some people

live in drought-ridden areas, while others live in flood plains. Some fill their large swimming pools with ease while others can barely fill a glass. These experiences have always occurred within civilization, mostly dependent upon the climate of the inhabited region. Yet now, different variables are determining who feels water scarcity more than others.

Global warming is felt harder in certain regions, affecting one area with droughts while the other's climate remains relatively normal. While different regions across the globe feel the strains of water scarcity in a more realistic fashion, within regions certain populations are suffering the most from severe shortages. Poorer socio-economic groups are taking the brunt of water scarcity because they tend to live closer to environmental degradation and are unable to afford neoliberal pricing methods. Because of this, limited access to clean water is becoming the new symbol of poverty (Schreiner 2010). With all these daunting realities, multiple theories have emerged of how to best conserve, allocate, sanitize, and access clean water for the world's thirstiest populations.

Privatization and Commodification

The exchange of water from one nation to the next has already begun in a huge way through global trading and transportation. Nations suffering more from scarcity can now purchase water from countries seemingly able to share. It is the world market's version of 'fixing' the scarcity issue. And, because the global economy is already a functioning framework for transnational trading methods, turning water into a commodity to be bought and sold, is happening almost 'naturally.' Large transnational corporations can buy complete water systems in order to sell and trade water in the global market.

Proponents of commodification believe it is an effective way of delivering water to areas of the world in desperate need. This way, water is given all the technological advancements and innovations the world economy has to offer in order for it to be efficiently transported and traded to other regions (Anderson and Leal 2001). With the macro-commodification of water on the global scale, it has lead to micro-commodification on the local level. Large transnational water corporations are buying water sectors from governments who are thought to be either too weak to provide proper access or financially struggling with the burdens of upgrades, installations, and management of infrastructure. The World Bank and the IMF are providing loan forgiveness and financial assistance to developing nations in return for the privatization of their public sectors (Shiva 2002). What water privatization means is that the government relinquishes (partially or completely) its control over public allocation of its citizenry. Private companies then allocate water prices on a for-profit sum and treat citizens as customers.

Critics argue the world market is only able to use water as a commodity because it in itself created situations that caused inaccessibility of water through natural processes. Opponents believe it could follow in the footsteps of oil extraction, meaning even greater environment destruction, large displacements of entire communities, and exploitation of developing countries by wealthy and powerful multinationals (Shiva 2002).

Another argument against privatization is the enormous negative impacts it has on poorer populations, keeping them stuck in cycles of poverty. Pricing under the private sector has no need to keep prices at a non-profit, welfare-oriented rate because they are not a governing body and providing for constituencies is, therefore, not a priority. *Profit*

is the goal, and the process would remain uncontrolled by electoral processes of democracies. If poorer populations do not have the economic means capable of buying clean water, they are simply cut off, leaving them extremely vulnerable to cholera outbreaks amongst other serious health issues, unsanitary conditions, and massive deaths from dehydration (Nleya 2008).

Global water scarcity and the subsequent use of privatization and commodification worldwide is part of an even greater process of globalization. Through examining modernity, the first section of the Literature Review details how the world has progressed to its current point of time and space compression. From there, I provide a brief history of the way neoliberalism has spread and propagated throughout the rise of the world market in the Global South, particularly the Continent of Africa. The next section discusses what 'time' and 'space' South Africa presently encompasses, from its placement in the international economic order to its own individual past of apartheid and democratization.

Understanding South Africa's context gives a proper backdrop for examining how water allocation, infrastructure, and privatization have come to exist in the landscape of Cape Town. Through the use of secondary sources and my own personal research while in the city, I investigate how the compression of time and space becomes stratified between the core and the periphery of the city. By analyzing the commodification of water, I argue the core experiences rapid speed and close proximity to the global market. Those living along the periphery in townships experience a slow pace of change and remain distant from economic growth. Ultimately, I argue that as the global city seeks

greater connectivity to the international sphere, it leads to enormous disconnection with the local.

The Analysis Section examines how the slowness and distance from the core experienced by the periphery is created by a set of *flow restrictors*. The core receives healthy amounts of water, power, and ideas from its protruded position within society and circulation of these concepts within the core occurs with little to no hindrance. Yet as the flows begin to descend down to the periphery a series of restrictions occur, cutting the periphery off to some degree from these precious resources and keeping it dry and parched. This leads to slowness and a growing distance from economic development.

The opening section of the analysis studies the *Physical Space* of the city and the factors that keep communities in the townships of Cape Town from obtaining water. The first flow restrictor in this category is water shortage and climate change. Briefly discussed above on the global level, this segment of the analysis looks directly at South Africa and how it is attempting to deal with the immense changes to its climate. The second flow restrictor analyzes the lack of faucets in businesses and homes in certain areas of townships. In order to access water, individuals are forced to stand in long lines at public standpipes and transport all of their water to their shops or homes manually. This obviously serves as a sever disadvantage to their lives, health, and abilities to run small businesses. The third restrictor is the lack or faulty infrastructure of the townships, leading to an immense amount of leakage that has cost both individual taxpayers and the state a large sum of money (not to mention environmental costs to the land). The last flow restrictor of the *Physical Space* category is the technology of prepaid water meters

and how the presence of these devices cut poorer populations off from being able to access water.

The second category of space introduced in the analysis section is the *Political Space*, meaning the social area where people either have or are restricted from the power to dictate state procedures and access to public services. The first flow restrictor examined is the corporate influence inherent in South African politics. Here, the government seems to be providing for its business sector at the very expense to its civil society. This part also examines how civil society's ability to fight for and obtain equal access to clean and sanitized water is limited. The second flow restrictor is the political high-jacking of the current township protests occurring over unequal public services. While the ANC Youth League has been known for inciting protests within the townships as a method of combating the DA (the party currently in power at the local level in Cape Town), the media has quickly picked up this battle between the two parties. In the articles I examined from *The Cape Times*, it appears the two political parties spend more time and energy pointing accusing one another for the responsibility of the protests. Meanwhile, the real issues of the communities in townships living with out constant access to water, employment, or proper sewage systems are lost or ignored. The final flow restrictor analyzed is the voice evaporation of civil society. The core continues to ignore the protests of inequality happening along the periphery and the people remain unheard.

The third category of space examined is the *Mental Space*, where ideas and knowledge can help to aid people in adjusting to the different factors occurring around issues of water access. However, with the flow restrictors set in place, the periphery is

kept from the knowledge it needs to properly adapt. The first flow restrictor is the lack of how-to guides for the prepaid water meters. As the state continues to install these devices within townships, they are supposed to educate individuals on how to properly use them. However, this is not occurring and the lack of knowledge on how the prepaid meter operates is leading to even more cutoffs. The second flow restrictor is a broad category of language. Here I examine how dominant languages of nationality, technical terminology, or government legislation used by the state creates barriers for people along the periphery and their abilities to communicate their issues of water accessibility. The final flow restrictor of the *Mental Space* category is what I refer to as the discourse hurricane. With an enormous amount of factors involved in people's relationship to water – from environmental to neoliberal, from equality to the technical upkeep of pipes and plumbing – all these rhetorics collide creating a storm of various factors circling around the issue of water.

Even with all these restrictions to the flow of water, power, and ideas, there is still a huge level of people and organizations fighting upstream in order to break open and remove the restrictions. These are a) the people themselves as they continually protest against their unequal access to water, b) a series of community groups and NGO's that have sprung up to assist in the battle upstream, c) progressive government programs created to educate people on water issues and d) water networks devised to fight for the human right to water across the country.

Literature Review

Introduction

As discussed in the introduction, our world is ever-changing with new developments and inventions. This process of modernity is having a profound effect on the spatial structure of our world and the speed at which things operate. It even saturates into human's relationship with water.

The following literature review is broken into two parts. *Part A*: *South Africa and Modernity* examines three different theories of modernity: time and space compression, world systems, and global cities. Through these three theories, the city of Cape Town is examined. First, I identify how its location within the African Continent has affected its present state. Through neoliberalism and structural adjustment programs enforced by Western nations and international organizations (such as the World Bank), the African Continent has had a complicated process of entering into the global market. Therefore, the following section focuses on the history of South Africa: its story of colonialism, apartheid, and finally the transition into democracy. The third section examines the current state of Cape Town, how it is arranged spatially by different racial and socio-economic groups living within and along the city borders.

Part B: the Power of Water analyzes the water sector as a reflection of the above social and spatial arrangements of Cape Town. The first section examines how the social divisions of Cape Town are displayed by the infrastructure of water (the piping, faucets, etc.) The following parts focus on the way neoliberalism affects the water sector through privatization and commodification. These two methods have had a profound influence on water pricing and metering and have caused massive disconnections to poorer

populations.

Part A: South Africa and Modernity

Theories on Modernity

Time and Space Compression

The process of modernity is theorized to compress our notions of time and space. Anthony Giddens (1990) defines modernity as the distinct mode of social life and organization born in 17th century Europe known as capitalism. This economic system spread across the globe in a process now referred to as globalization. As globalization spreads, it combines the world into one solitary economic method of exchange, opposed to individual nations having their own separate economic markets.

As this proceeds, researchers all over the world are trying to understand how cultures, nations, and societies are transitioning into this new technological, hyper-capitalistic age of globalization. And yet what of the individual? How is globalization affecting the ways people are experiencing their post-modern age?

There is growing literature to suggest that our perceptions of time and space are the portholes through which modernity enters into the human psyche (Giddens 1990, Harvey 1989). Because time and space have extremely powerful effects on our emotional and cerebral responses to conditions, it is important to examine the way modernity transforms the two concepts to understand the impacts on the individual.

Time is not merely minutes ticking around on the face of a clock. It is the repeated routines that make up our daily lives. It is the seasonal events that reoccur with their appropriate time of year. And, of course, it is the linear motion of moments

progressing and things growing older with age (Harvey 1989). Even within our minds, we have different categorizations for time: the past, the future, and that odd transitioning stage known as the present. Sometimes we live fully in the present, other times it remains in the shadow of its predecessor and successor. Through reliving memories, learning about history, or planning and acting in ways that are dedicated to our future, our minds are able to live in the past, future, and present simultaneously.

As for space, David Harvey (1989) believes its range is more complex than time. Space has dimension, shape, distance, and myriad of other traits most notable because they can be measured and "thus pinned down" (Harvey 1989: 203). Space can be easily dictated through the manipulation of these measurements and can have an enormous impact on our perceptions. For example, by lowering the ceiling of a room by a few inches, it would seem significantly smaller. This occurs even though the ceiling does not directly impact the way we interact with the room (so long as it is not lower than our height). The room has not technically gotten smaller in terms of square feet, yet it still has the power to manipulate our emotional response to how we *feel* in our environment. The architecture of rooms, buildings, and even greater spaces, such as cities, has a massive power over the human mind in ways that may remain unnoticed in everyday life.

Harvey (1989) also recognizes another form of "space" that cannot be measured yet is infinitely important and influential: our mental space. The place where we imagine, fantasize, and create a living space that is neither real (as in it does not exist in the reality of our present moment) nor fake (as it exists somewhere, if only in our mind's eye). This space puts meaning and context onto physical spaces, such as the imagined boundary between nation-states or neighborhoods within a city. Mental space causes the

territorialization of physical space: boundaries that exist only because we believe they do.

Therefore, how does modernity affect our mentality or "our conceptual apparatus" (Harvey 1989: 204) through its manipulation of time and space? Harvey (1989) and Giddens (1990) argue capitalism as the driving factor of modernity that serves to *compress* our notions of time and space. The compression of time occurs through the dramatic increase to the pace of change through massive technological innovations as it accelerates the speed at which things operate.

For Harvey (1989), this was accomplished through the acceleration of the labor process. By speeding up the rate of turnover time, he argues this escalates exchange and consumption. The compression of space occurs through this acceleration as products, capital, ideas, technologies, and people are able to cross over large distances in increasingly shorter amounts of time (Harvey 1989, Giddens 1990). Capitalism feeds off economic *growth*: an appropriate term as it has both a time and space existence. Growth in time is motion into the future (growing, aging). In space it expands, consumes, and inflates out from its original form.

Giddens (1990) too argued time and space compression happened through capitalist mechanisms but attributes it to two occurrences: the invention of clocks (instrument of time) and the drawing of world maps (instrument of space). Giddens (1990) argues the binding of time and space lead to their compression. Clocks began to separate time from the physical landscape as people no longer had to consult environmental variables in order to tell 'what time is it?' This lead to time being measured in universal variables (days, hours, seconds, milliseconds) and zones (the working day, weekends, etc.). This way all cultures and societies would have the ability to sync into

one time structure regardless of location.

With the mapping of the world, humans grew conscious of another space in existence, one independent of place or region. This was known as *international space* and existed 'out there' full of 'absent others' who were physically absent yet present either through technological advancements that came later or through the mere idea of them.

Since then our ability to access consumer products, technologies, knowledge, and information at increasingly high speeds has advanced the rate of change things are 'turned over.' Our ideas of these products also have a high turnover rate as our hyper-consumerism leads to always wanting the latest, up-to-date fashion or accessory. In essence, we have become a throw away society- an idea first coined by Alvin Toffler (1970). In this culture, society has become obsessed with instantaneity. We easily dispose of the objects that are used, outdated, or no longer hold our interest. We also transgress rapidly through ideas, values, relationships, and styles. The excessive simplification of knowledge, over-stimulation of senses, information overload, and complete lack of reflection leads us to what Toffler (1970) and Harvey (1989) refer to as a fragmenting society. With the compression of time and space, we become a culture thrown into the whirlwind of speed and forever shifting spaces.

The internet has created the perfect environment for this type of behavior. It can constantly take us from our present time and space and put us into different dimensions instantaneously by establishing a new type of space never experienced before the modern era. As my friend Andrew Hanauer put it one class, "The prophecy of space exploration in future generations turned out to be virtual space." In other words, our Star Wars ended up being Facebook. Giddens (1990) characterizes the absence of presence as dis-

embedding. "[By] disembedding I mean the 'lifting out' of social relations from local contexts of interaction and their restructuring across indefinite spans of time-space" (Giddens 1990: 21). The internet helps to dis-embed individuals from the present, taking their central nervous system out of their local environment and placing it into the global realm (Harvey 1989).

Time and space have been 'overcome' by modernity in some respects. Globalization is now able to move at rapid speed through huge distances, successfully making region-to-region communication easier. However, because it is an ever-accelerating, ever-expanding phenomenon, it leaves our mental spaces (amongst other things) in a constant state of chaos.

World Systems Theory

World systems theory is the rebuke to modernization theory. After colonialism, newly freed nations were thought to be at the beginning stages of economic development, similar to the historical stage of developed nations pre-capitalism. This is known as modernization theory and because of this 'beginning stage' idea, post-colonial nations of the Global South were instructed by the Western world that if they followed a prescribed route of free market ideology, they could linearly progress to economic prosperity.

World systems theory, however, rejects this timeline given to development. It disagrees that underdeveloped nations are at the 'beginning stage'. Instead, it argues developing countries are at their *own* stage of development because they are already competing in a global market against far more developed nations (Wallerstein 2011), Frank 1969). Therefore, underdeveloped nations are not at a starting point, somehow

untouched by globalization. Instead, they have already entered the international stage of economic competition, albeit at a more undeveloped point due to colonialism.

World systems theory argues every nation is already entrapped within the global economy and thus belongs within a hierarchy of economic power. The top tiers consist of the highly developed nations of who gained a great amount of wealth from colonialism. These nations consist of mostly Europe, the US, and Canada and are considered *the core* as they are at the ground zero of economic activity. Every country below them on the hierarchy is known as *the periphery* located along the edges of economic wealth and activity. The periphery consists of underdeveloped nations geographically located in what is now referred to as the developing world or the Global South and consist of most nations in Latin America, Africa, Eastern Europe, Asia, and the Middle East. (Wallerstein 2011, Frank 1969).

Because of globalization, the core can now use peripheral regions as their own economic playground, creating a relationship of dependency for the periphery. This has caused a severe stratification of wealth and development among countries. It works similarly within these nations as well, creating an elite group and a starving working class (Amin 1976). Global cities are the sites where this core and periphery are internally created.

Global Cities

James Ferguson (2005) asserts globalization does not sweep over an area and engulf it the way it is sometimes portrayed. Instead, it touches down in certain areas in specific ways. These points of entry for the world market are considered 'global cities'

as they hook into the international sphere and lift out of their local. Harvey (1989) characterizes 'world cities' as communication centers that are equipped with the technology and infrastructure (such as airports, financial districts, and fixed communication links) in order to communicate easily across borders with other world cities. These international nodes are able to capitalize on the compression of time and space, coordinating with other modern cities across long distances in rapid time links them all into a global web. Similar to the way the internet takes our minds out of our physical local, each global city dis-embeds itself from its own cultural context. In essence, world cities are the nuclei for the global market, perfectly constructing themselves into an environment for international trade and exchange (Harvey 1989).

World systems theory places nations into a hierarchy of core and peripheral countries. Global cities create hierarchies within their own state - a gradation within a gradation. Here, populations that live in the city center make up *the core* and everyone else forced to live outside this bubble of accumulation is *the periphery*.

Global Cities and State Sovereignty

Sassen (2000) argues state significance has decreased over time and its power has been transferred to its urban economic spheres (the world city). This brings into question: who is in control of these spaces, the nation-state or the global market? Sassen (2000) argues globalization effectively weakens the state system because of the growing power of the financial sector. Multinational companies easily transcend over borders and take capital flow with it. If the business sector decided to relocate, it would immediately put the state at an economic disadvantage in a world becoming increasingly more

competitive. The power the economic sector has over the fate of the state causes governments to attempt to keep their space attractive for businesses sometimes at the direct expense of civil society.

Because cities are the hub of economic life, their financial sector is gaining authority and influence on issues of governmentally. Globalization has changed the role of the corporate world in politics. The world city is created as a way to 'unhook' from local contexts and allows the urban sphere to 'pull up' into a global network (Taylor 2009, Sassen 200, Harvey 1989, Giddens 1990). World cities then begin competing amongst themselves. Any cities left outside of this economic entanglement sink into squalor (Davis 2006).

'Africa': Perceptions and Realities

There is a destructive common practice in the West to lump together all the nations of the African Continent as if they were a singular being. James Ferguson (2006) accomplishes the difficult task of rebuking the negative effects from this type of homogenizing while, at the same time, examining how nations in this continent share similar international struggles, especially through the Western prescribed economic policies of structural adjustment programs. These programs are believed to have caused African countries to polarize into peripheral red zones (areas of abject poverty) and core green zones (prosperous economic hubs) (Klein 2007).

Perceptions and the World Systems Hierarchy Exposed

Ferguson (2006) argues whenever the West speaks of 'Africa,' it is as one solitary

space, as if it was a region easily defined through a single narrative. In reality, Africa is an enormous continent full of different countries, cultures, and climates. Along with this homogenizing, 'Africa' is usually referred to in negative terms when spoken of in the Western world. Poverty, 'tribal' warfare, corruption, instability, failure or crisis (both moral and economic) are terms constantly highlighted. In light of this, Ferguson (2006) believes the Global North treats and thinks about 'Africa' as its other: the shadow to its own robust, developed self (Ferguson 2006).

The West subtly propagates images of this. The infamous NASA picture known as '*The satellite photo of earth at night*' captures the world's electricity consumption as seen from space (See Photograph A). The US, Europe, India, China, and Japan are lit up and sparkling like the corona of an eclipse, while the rest of the world has only a few scattered spots of light. The African Continent is the most striking aspect of this photo with its massive size shrouded in darkness (NASA 2012).

Ferguson (2006) believes the negative perceptions and singular clumping of 'Africa' have caused greater underdevelopment in the region by making the entire continent appear unattractive to foreign investment. Economically successful nations in Africa have been tainted for existing in the Continent as if punishing them for their geographic location. Misunderstandings and misinformation have lead to poor expectations from the international community of the global market. They then give lower amounts of foreign investment and cause a decrease in economic opportunities (Ferguson 2006). In this respect, "social perceptions don't just misunderstand social reality; they also shape it" (Ferguson 2006: 7). The mental space of the international community reveals how the power of its belief system dictates economic realities in other

regions.

When foreign investment reaches certain mineral-rich nations in Africa, the political elite of the state typically consolidate the wealth for personal economic gains instead of creating a stable state with proper infrastructure, public services, or greater distribution of wealth amongst all its citizens (Ferguson 2006). This has created a massive discrepancy between the rich and the poor- leaving the same people who suffered under impoverished conditions during colonial rule only to sink deeper and deeper into poverty in a post-liberation setting.

The West's perceptions of 'Africa' continue to tell what it is lacking and what it is not but never quite defines what 'Africa' is- its existential being (Ferguson 2006, Mbembe 2001). Instead, Africa is still referred to as backwards, primitive, pre-modern, and tribal. Modernization Theory's use of a timeline stems from this idea that 'Africa' is not as modern as the Global North and therefore must be at a past state of development: one the West has long transcended and grown from. Ferguson elaborates: "The effect of this powerful narrative was to transform a specialized global hierarchy into a temporalized (putative) historical sequence. Poor countries (and by implication, the poor people who lived in them) were not simply at the bottom, they were at the beginning" (Ferguson 2006: 178). The idea is then put into a matter of semantics: if the developing world could 'progress' towards modernity, they can reach a level of development equal to the West.

The Global North continues to place Africa within a space and time outside of modernity, as if it were a detached ligament in the global makeup. The reality is the African Continent has already become part of a heavily entrenched world system of economics, one that puts them at a severe disadvantage. Ferguson (2006) therefore argues

Africa is not pre-modern or stuck in a premature state of the West. It is, instead, in its *own* alternative state of modernity (see section: *World Systems Theory*).

To summarize, it would appear the development schemes- toted by the Western World and strong-armed through their international monetary agencies, the World Bank and the IMF- are not properly placed within the economic space and time of African nations. This has drastic adverse effects leading some countries into further economic exhaustion, weak state governments, and huge increases in poverty conditions. It would appear it is the Western method of economics that is backwards, as it implements programs that actually exacerbate, instead of relieving, poor living conditions in countries struggling with poverty.

Ferguson (2006) breaks the old development theory out of its time and space embalmment and reevaluates what is underneath. Where once there was one road to one ultimate stage of modernity, there can now be many different routes and stages. These are not governed by a 'modern progression' through development. Instead they are dominated by fragmentation and contingency. That one ultimate state of modernity is stripped of its promise and the global hierarchy "sits raw and naked" (Ferguson 2006: 186). Within the categories of the global hierarchy, each nation is ranked and separated by the success and power of their economy. The old development theory does not outright deny this international gradation but it treats the relationships between each category incorrectly. Where old development theory promised ladders and stairways, Ferguson (2006) asserts they are actually made up of exclusionary walls and high security fences. Therefore, real, true development should no longer be a question of time sequences but of space interferences- "edges, walls, and borders" between the core and

the periphery in the form of structural adjustment programs (Ferguson 2006: 189).

The African Debt Crisis and Structural Adjustment Programs

Ferguson (2006) discourages the clumping of 'Africa' into one singular identity. However, he acknowledges the Continent does share similar experiences in regards to its treatment by the Western world. The entire Continent at one point was divided up amongst European powers. Since then, the control has shifted from colonial rule to economic control. The US-induced African debt crisis has lead to stipulations from the Global North known as structural adjustment programs (SAP's) that were indiscriminately forced onto states throughout the African Continent (Ferguson 2006).

The debt crisis of Africa in the '80's came from "the Volcker Shock," the term used to describe the decision made by the US Federal Reserve Chairman Paul Volcker to dramatically increase interest rates (Klein 2007). This was felt harshly all over the world but particularly on the Global South with nations still carrying the debt from colonialism as Europe made sure to leave their former colonies in ruins as a part of their exit strategy. A huge increase in interest rates meant countries would have to give higher payments on foreign debts, sometimes only able to do so by taking out more and more foreign loans. This instigated the birth of the debt spiral (Klein 2007).

After finally releasing from their colonial past (and any subsequent dictatorships that followed), these nations found themselves thrown into the Ouroboros snake of debt crisis and already having to compete in "the increasingly volatile, deregulated global economy" that created the crises to begin with (Klein 2007: 202). Because the US and international monetary organizations such as the IMF and the World Bank owned their

debt, developing countries had no means of fighting against the situation. This lead to the structural adjustment programs that Klein refers to as "the dictatorship of debt" (Klein 2007: 202).

"Emboldened by the desperation of developing countries" (Klein 2007: 205), the Global North decided to use this opportunity to liberalize African. SAP's were originally recommendations from international monetary agencies. However, with the debt crisis, they became cemented stipulations. SAP's are changes a country must implement to their economy in order to receive a loan from the World Bank or IMF. They follow a very strict set of neoliberal orthodoxies that entail liberalizing their markets, privatizing state-owned industries, and inducing free trade. In essence, SAP's force the nation to sell off their assets and allow large multinationals, usually from Europe or the US, to set up shop in their country and compete within their local markets. Otherwise, they would be forced to go bankrupt and thus nations were pressured to decide between bankruptcy or SAP's. As one World Bank member explained, they were forced to either "privatize or die" (Klein 2007: 205). In the world of SAP's, a country would have to sell off its assists in order to remain afloat, completely dictated and controlled by the US and Europe through Western methods and principles (Klein 2007). SAP's were and still are a potent apparatus for pushing neoliberal philosophy onto nations around the world and creating means of control over the economic lives of these regions.

SAP's were originally toted as a means for growth in stagnant economies. Privatizing state assets and liberalizing markets would supposedly change a nation's economic fate and increase growth. Instead foreign investment never arrived and the country's infrastructure and basic institutions collapsed (Ferguson 2006). Only in the

field of resource and mineral extraction has foreign investment appeared in the African Continent. However, mining contains a large amount of 'risk' not found in other softer forms of exports. The state must now either cope or absorb the cost of repairing immense environmental degradation. Benefits to the common people remain very small. Wealth created by mining rarely trickles down and is instead absorbed by the corruption of the state government that keeps the wealth in tight spheres of accumulation (Klein 2007).

SAP's have proven to create negative consequences on political and social lives while also not bringing the type of economic growth promised. SAP's are never introduced as a social influencer with deep political connotations. They are, instead, phrased in what Ferguson (2006) calls "economic correctness" (78). In this technical language, the neoliberal programs act as though economics is purely a science, something that is indisputable and impartial, effectively omitting any discussion on its disputed practices. This way, morality and social issues can be stricken from the conversation by simply changing the tone of the language to a cold, calculated, scientific factualness (Ferguson 2006).

Red Zones / Green Zones: The Global City

In her novel, "The Shock Doctrine," Klein (2007) examines what occurred as US authored neoliberal programs were rolled out in Chile under Pinochet. She argues this type of situation has been repeated all over the world (including South Africa.) In Chile, SAP's created an airtight urban bubble of extreme wealth and profit-making within the country's economy. Anyone outside the bubble of accumulation was completely excluded, left to rot along the periphery in a landscape reminiscent of the Great

Depression (Klein 2007). By creating these privatized spheres of exclusion, huge disparities began to deepen between wealthier populations and poorer ones. This created divergent realities of wealth and poverty existing right beside one another. In an article in *The Atlantic*, Klein (2007) calls these sections *red zones* and *green zones*. Ferguson notes a similar occurrence in Africa:

> "Usable Africa gets secure enclaves- noncontiguous 'useful' bits that are secured, policed, and, in a minimal sense, governed through private or semiprivate means. These enclaves are increasingly linked up, not in a national grid, but in transnational networks that connect economically valued spaces dispersed around the world in a point-to-point fashion" (Ferguson 2006: 40).

The regions outside of these points of global access in the world city become severely detached from the wealth created by participating in the global market. Along the periphery in the red zones, forms of policing can fall back into war-lordism or gang life. While the green zone enclaves are secured against this type of violence through high security walls and heavy policing.

> "[T]he 'global' we see in recent studies of Africa has sharp, jagged edges; rich and dangerous traffic amid zones of generalized abjection; razor-wired enclaves next to abandoned hinterlands. [. . .] It is a global where capital flows and markets are at once lighting fast and patchy and incomplete; where the globally networked enclave sits right beside the ungovernable humanitarian disaster zone. It is a global not of planetary communion, but of disconnection, segmentation, and segregation- not a seamless world without borders, but a patchwork of discontinuous and hierarchically ranked spaces, whose edges are carefully delimited, guarded, and enforced" (Ferguson 2006: 49).

The underdevelopment of regions in Africa is just as much an operation of globalization as development, not just a negative side effect.

The global city sets the stage for this stratification of development and red zone/ green zone formation. These urban spheres allow extreme wealth, modern amenities, and information technologies to circulate in one area. Meanwhile, these areas are surrounded by the periphery in a sea of shortage, lack, and scarcity (Ferguson 2006**).** The green zone of wealth bubbles are not developed because their inhabitants are somehow farther along

than the red zones, it is because they are on top of the modernity spectrum (Ferguson 2006). Global cities have become significantly more militarized and exclusionary with the use gated communities and walls as a method of security from those living in the periphery. The image of walled up cities, excluding those outside, is the perfect analogy for the global city. It is a space delicately and purposefully connected to the global sphere through technologies of massive communication and speedy transportation yet detached from its local sphere by walls and intense security.

The South African Context

In order to properly understand the dynamics of time and space compression, it is necessary to place Cape Town within its own time and space: as a city in South Africa and aspiring to compete in the global market. In regards to its time- I briefly analyze Cape Town and its historical background of colonialism, apartheid, and its more current transition to democracy. Through its different periods of time, spatial arrangements of the city have been manipulated and categorized around the spheres of racial segregation and have broken the city into red zones and green zones, of core and periphery. Race in particular has played a major role in how neighborhoods and the city in general were architected. This essay examines the creation and continued functions of townships along the periphery of the city. It also situates Cape Town within its economic context of one being located within the Global South and aspiring to compete in the world market.

From here, I examine the history of post-apartheid South Africa and how its new relationship with the world economy has pushed structural changes in the water sector. Water privatization and commodification has had a series of effects on the people subject

to these policies, especially those that live with moderate or limited economic income. Pre-paid water meters, infamous for exacerbating water poverty, are now being implemented across Cape Town and the number is rising. What happens when this type of technology is situated between people and their access to water? In my analysis, I argue that privatized or commoditized methods of water allocation restrain people from obtaining water. Ultimately, it also keeps individuals who live along the periphery (both physically and economically) at a slower pace and at a larger distance from the financial core of the city, leading to further economic subjugation and poverty.

Colonialism and Apartheid

Cape Town holds a symbolic representation to its nation's history. Originally labeled the 'Mother City,' it was the first site of European colonialism by the Dutch during the age of discovery (Worger 1997). During apartheid, the city of Cape Town became the heart of racial segregation. In the 1950's, it was declared 'Whites only' and over 60,000 of its Coloured and Black inhabitants were forcibly removed from within the city limits to exterior townships that still remain intact today (District Six Museum 2008).

Townships were originally used as black labor camps back in the days of diamond mining. The use of them eventually grew as a space to put non-white races and to keep them on the periphery in both an economic and physical sense. These areas were infamous for their serious overcrowding, lack of services and infrastructure, and overall, deplorable living conditions. However, even with the issues of poverty, townships were also the place of protest and resistance against the oppressive apartheid regime.

"The cornerstone of apartheid was the division of all South Africans by race."

(Worden 2007, pg. 105). Under apartheid, the population was divided into four racial categories: White (European decent), Coloured (mixed ancestry), Asiatic (Indian and Indonesian[1]), and Native (which later became Black or 'African.') (Worden 2007). All of the people expelled from the city ended up in race-specific townships where the state kept them economically oppressed. The Black African population of Cape Town was especially targeted for removal not just from housing but employment as well. A campaign began for "colored partiality" as the preferred labor force (Lemanski, Landman, and Durington 2008).

> "The presence of the Colored population group ensured that White residential areas were far removed from Black African areas, using railway lines and Colored group areas as buffer zones. Thus, Cape Town's White population was more secluded throughout apartheid than in other cities, with significant spatial and social distance from other races, particularly Black Africans." (Lemanski, Landman, and Durington 2008, pg. 141).

In the 1990's, boycotts and protests in the townships were so widespread and powerful that liberation became eminent. Negotiations by the government with the African National Congress (ANC) finally lead to the end of apartheid. A constitution was drafted for a new democracy where all citizens reserved a right to vote and run for office. Nelson Mandela was released from prison and elected President in 1994, effectively ending the brutal period of racial oppression in South Africa (Worden 2007). Or so it seemed.

The Transition to Democracy

When African nations started to decolonize and set up their own systems of governance, this rang warning bells to the international community of the global market. Klein (2007) explains:

[1] Asian populations in South Africa were descendants of slaves imported by the Dutch.

> "In 1989, history was taking an exhilarating turn, entering a period of genuine openness and possibility. So it was no coincidence […] that the World Bank and the IMF chose that same volatile year to unveil the "Washington Consensus"- a clear effort to halt all discussion and debate about any economic ideas outside the free-market lockbox. These were democracy-containment strategies designed to undercut the kind of unscripted self-determination that was, and always had been, the greatest single threat to the Chicago School crusade." (Klein 2007: 231).

Here, with the use of World Bank 'experts' and SAP's, the neoliberal world order was able to infiltrate the transition process of post-colonial nations by weeding out the potential for the nation to choose a more socialist or welfare form of governance. Communities who had long fought for freedom and democracy were immediately put under the strict control of the global market. Its rules and guidelines cut through the new ethos of freedom. South Africa's transition from the apartheid government to democracy in 1994 was a perfect example.

In the early 90's, with the success of the anti-apartheid movement, it was apparent the apartheid government was on the way out. Instead of having the country fall into a violent civil war, the National Party began to negotiate with a political prisoner, Nelson Mandela.

Mandela was a member of the African National Congress (ANC), whose mission statement is a document called the *Freedom Charter* and is based on the rights of all South Africans to be able to compete in the economy, have decent housing, and be free of prejudice and racism. It also had a more socialist bent calling for the redistribution and the sharing of wealth and land the white elite had acquired under apartheid. As Klein relates:

> "[Apartheid] was an economic system that used racism to enforce a highly lucrative arrangement: a small white elite had been able to amass enormous profits from South Africa's mines, farms, and factories because a large black majority was prevented from owning land and forced to provide its labor for far less than it was worth" (Klein 2007: 248). It was this factor that lead to the powerful link between race and class in South African socio-economic categories; something the Freedom Charter along with the entire

> anti-apartheid movement wished to remedy. It was an equalizing measure designed to cure the enormous disparity between the living conditions of white and non-white populations. One of the ways to do this would be the nationalization of banks and mines (Klein 2007).

This step in the socialist direction was obviously not well received by the neoliberal camp or the white elite of South Africa. Mandela's admiration and popularity around the world as a fighter against racism, oppression, and inequality were virtually untouchable and might have set an example to other transitioning countries. In this respect, Klein (2007) argues the ANC had a very unique opportunity to reject the neoliberal agenda and strive to create their own system of economic rule. He could also use his international fame and recognition to argue the national debt amassed under apartheid rule should be forgiven.

Mandela was set to make a break from history like no one has ever done and finally free his country from the oppressive ideologies of elites. Instead, the National Party, with the help of IMF and World Bank 'experts', was able to swindle this vision right out from the ANC's hands (Klein 2007). It brought South Africa into the global fold under neoliberal rule, exacerbating instead of relieving the enormous inequality between its rich and poor populations, continuing to divide a country at a time when they should be seeking unity and reconciliation. "Today, the country stands as a living testament to what happens when economic reform is severed from political transformations" (Klein 2007: 202).

Similar to the way colonial nations wreaked havoc as they were forced to leave newly freed nations of the Global South, the National Party was able to cause destruction on the way out the door. Not through crop destruction, smashing farm equipment, or carrying out all they could carry like the Portuguese did to Mozambique in 1975. Instead,

the National Party was able to accomplish this through the negotiation process and political bargaining (Klein 2007)

Thabo Mbeki, Mandela's right hand man[2] was in charge of the economic negotiations. The white elite began to put large amounts of money and energy into these particular meetings that were always closed off from the media. The white elite brought in economic advisors form the World Bank and the IMF to act as supposed impartial mediators. Klein (2007) believes the National Part had a two-fold system for stealing the reigns of power from the ANC. They acted as if the "Washington Consensus" (backed fully by their 'impartial mediators') was the only way to run an economy strong enough to compete on the global level. These strategies were always propagated as neutral, factual, technical solutions as if the administrative aspects of the economy were without any sort of social profile or political agenda. Once these 'experts' had gained the trust of the ANC, they were able to make the ANC literally sign away its economic rights of the country through tweaks in constitutional law around business and international trade agreements, and through SAP's (Klein 2007).

The result was the white elites of South Africa and the international community were able to create an insurance plan against any Freedom Charter proposals to redistribute wealth accumulated during apartheid. By doing this, they also heavily restricted the ANC's ability to govern its new democracy. The Central Bank did not nationalize and ended up remaining in the hands of old apartheid government employees. According to Klein (2007), the ANC were not aware of the magnitude of what it would mean to lose the Central Bank during the negotiations.

[2] Mbeki succeed Mandela as President and would later have to resign due to charges of corruption.

After the negotiations, the ANC ended up stuck with the debt from the apartheid government while the big players in the apartheid regime and economic system were able to keep their wealth and their land untouched. In some cases, members of the apartheid government were even allowed to keep their positions including the Central Bank president and the Finance Minister. Without access to wealth or land, and now dealing with an amassed debt it did not create, the ANC was effectively restrained from pursuing its socialist promises. Any attempt to implement social programs and help alleviate poverty created from apartheid usually came into conflict with international treaties and deals signed during the economic meetings. To make matters worse, in order to pay off the debt, the ANC was then pushed to sell its public assets and services to private entities. This would have devastating impacts on poorer populations, especially on their access to services such as electricity, housing, and clean water (Klein 2007).

Now that the World Bank and IMF had successfully opened the doors of South Africa's economy to the world market through the implementation of SAP's, the new democracy could now be subject to punishment if it strayed from the neoliberal orthodoxy. This was accomplished through crashes in the South African Rand, cuts to aid programs, or capital flight from white businesses, and any other economic shock therapies. In essence, before they could even begin they were already chained.

At one point, the ANC had a time and space where a second liberation movement could ignite against the neoliberalizing of their economy. Instead, once in power, they acquiesced under the pressure from the international community of technocrats who made sure to send significant messages through shocks to South Africa's economy and "sending the Rand into a free-fall" (Klein 2007: 261). If they did not comply "traders in

New York and London would bet against the offending country's currency, causing a deeper crisis and the need for more loans with more conditions attached" (Klein 2007: 262). This strong-arming succeeded in terrifying Mandela into accepting the dominant neoliberal logic of free-market-ism. The new government could do nothing but hope the wealth would trickle down and create more attractive spaces for foreign investors. In the end, this still failed to attract long-term investment and ended up devaluing the Rand (Klein 2007).

What happened to the people living in townships along the periphery who had fought so tirelessly for equality? They continue to reside on the periphery of the city in the crumbling townships. They still experience extreme cutoffs of electricity and water services due to faulty infrastructure or inability to pay service bills. All the big money industries and attractive land continues to remain in the control of the white elites (Klein 2007).

The situation grew so bad that even monetary reparations to victims of torture and extreme oppressive measures during apartheid were paid by the new government, not the old oppressive regime of the past. The National Party also created a high pension payment system during negotiations. In other words, the new democracy incurred the expense of apartheid while the actual apartheid government was bought off yet still retained all the power of the Central Bank and the wealthy industries in South Africa. "In the end, South Africa has wound up with a twisted case of reparations in reverse, with the white businesses that reaped enormous profits from black labor during the apartheid years paying not a cent in reparations, but the victims of apartheid continuing to send large paychecks to their former victimizers. And how do they raise the money for this

generosity? By stripping the state of its assets through privatization" (Klein 2007: 269).

Cape Town Today - An Aspiring World City

On the one hand, Cape Town is a city of culture and beauty, the legislative capital of the nation, a location rich with history for all its populaces. Nelson Mandela made his public speech symbolizing the end of apartheid from the balcony of its City Hall in 1990 (Worden 2007). However, on the darker side of Cape Town's history, it was the original location of colonial supremacy in the region and has an irrefutable legacy of racial segregation. It was the white space of rule, the geographical position of power where the core could concentrate and accumulate its wealth (Miraftab 2007).

Now, the laws of apartheid have been dismantled for well over a decade. How has the city changed its racial spheres since the end of that oppressive era of segregation? Some would say simply ‘it hasn't’ (Lemanski 2005). "South Africa is [still] frequently described as the most unequal society in the world and it is Cape Town where the cancer of injustice, racial segregation, and bitter division is often described most vividly" (Smith 2011). Wealthier (white) neighborhoods continue to be out of reach for the poorer (colored and black) citizens who still largely reside on the periphery of the city. (Miraftab 2007.) And a new phenomenon has recently sprung up to further these exclusionary practices.

Many of the wealthier citizens of Cape Town are moving into what are known as security villages: large residential areas surround by high walls, secured by private companies, and gated at the entrances to either allow (or reject) entry (Lemanski, Landman, and Durington 2008). Gated communities create extended spheres of exclusion

and are perceived as "informal apartheid" (Miraftab 2007).

Even if it is not fully considered a global city, Cape Town has high aspirations to be a contender in the world market. It has begun restructuring itself and already holds characteristics of other global cities. With the use of gated communities, it even uses the global city's classic exclusionary walls and privatized spheres of accumulation.

Western economic principles largely dominate the way in which global cities configure themselves. As Lemanski (2006) argues: "Global City theories and discourses are predominantly dictated by Western approaches and use Western economic definitions of success. Thus, the concept itself is situated in a specific economic and geographical realm rather than an international model of urban achievement" (Lemanski 2006: 449).

Lemanksi (2006) complicates the empirical definition of Global Cities by examining how Cape Town might qualify even though it is not recognized as such by the dominant criteria. I also argue that the city of Cape Town fits into the global city label for it attempts to restructure itself in order to compete within the world market. As Lemanski (2006) puts it, Cape Town is not a global city per say but has "the consequences of the drive for global competitiveness" (Lemanski 2006, 449). She also argues there is a need for a new global city model. A new model would allow cities within the Global South to be adequately examined within the world city context because their actions have caused specific consequences from attempting to morph into the perfect mold and compete on the same level as Tokyo or London. This occurs much in the same way developing nations reshape themselves in order to take on a more dominant space in the world system hierarchy through market liberalization.

Urban spaces make themselves more attractive to foreign investment by updating

and modernizing their infrastructure and property located within already-affluent areas, "while poorer areas within the city remain under-resourced, forgotten, and increasingly marginal in the chase to move up the global city hierarchy" (Lemanski 2007: 450). Lemanski (2007) argues this is felt harsher by countries located within the Global South as they are more likely to have a severe disparity already existing between different socio-economic groups leftover from the colonial era. This has particular resonance to South Africa, who also has to recover from the apartheid legacy of exclusionary spaces.

When a city decides to reshape itself for global competition, it begins an even greater process of polarization between its core and periphery. The city focuses towards attracting foreign investment than addressing the needs of its varied socio-economic populations (Lemanski 2007). Instead of redistributing the wealth or equalizing populations who have long suffered severe disparities from colonial structuring, these cities enact policies that actually cause greater social and spatial polarization.

> "This is particularly the case in cities of the South where planning and investment patterns have historically segregated different groups and spaces. By investing in core areas of the city that are already affluent in order to demonstrate global strength for both the outside observer and internal elite (to encourage further investment), existing segregation is deepened. In the context of scarce resources [and budgets], investment in core areas occurs at the expense of poorer areas, thus resigning them to ever-increasing poverty and distinction from the city's attractive spaces" (Lemanski 2007: 450).

The city divides further, sending the majority poor urban population deeper into poverty and giving the small minority of wealthy elites benefits and upgrades to their areas. "The potential for Global City status to increase inequality and segregation is particularly problematic in South Africa where the legacy of apartheid already provides a strong infrastructure, both spatially and socially, of inequality and division" (Lemanski 2007, pg. 451).

Lemanski (2007) lists Cape Town's significant changes in order to compete

globally: for one it has developed new strategies in real estate, tourism, and business. It has also and built up its ICT infrastructure in order to connect to different global affiliates. Philip Morris and BP have their head offices for the Southern region of Africa in Cape Town. JP Morgan also has one of its two headquarters located there (the other being in Johannesburg) (Connect'd Cape Town 2012). Multinational transportation is a large indicator for global city-ness and Cape Town's international airport was significantly expanded for the 2010 World Cup (Newton 2009). While it is still no London, Lemanski (2007) argues it is beginning to resemble Global Cities elsewhere with its significant growth in financial and commercial sectors and heightened global status.

Development in global cities is area specific. The townships on the city's edge are given very little in terms of investment. And they are still suffering from issues of poverty with failing infrastructure, poor services, and high crime rates. Massive relocations of people and informal businesses also have helped to push the poor "and their problems" out of the inner-city, much like apartheid, in order to preserve the appearance of the city's core for incoming foreign investors and the enormous international tourist industry (Lemanski 2007: 456).

Even though this type of polarization is common in other Global Cities located outside the Global South, Cape Town in particular has amplified the distinctions because apartheid fused race and class - leaving predominantly White areas close to the city's center in nice, beautiful neighborhoods with developed infrastructure, good schools, and commercial areas. Black and Coloured areas on the other hand, remain on the outskirts of the city to deal with massive unemployment and high poverty levels. Here the wealthy

are largely able to continue to access and benefit from resources and goods of the global market while continuing the exclusion of the poor.

> "For in a world of non-serialized political economic statuses, the key questions are no longer temporal ones of societal becoming (development, modernization), but spatialized ones of guarding the edges of a status group- hence, the new prominence of walls, borders, and processes of social exclusion in an era that likes to imagine itself as characterized by an ever expanding connection and communication" (Ferguson 1999, Ferguson 2006: 192).

Lemanski (2007) argues in her conclusion the polarization of the city proves entering the global market does not alleviate poverty. In fact, Cape Town's economic growth parallels the increasing levels of people living in poor living conditions. Lemanski (2007) claims global city restructuring causes a further fragmentation of society.

Part B: The Power of Water

Introduction

Water and its essential position in human life connect us to our environment. Because it is a natural resource, it can only be replenished through ecological cycles. Humans – no matter how industrial, technological, or digital our lives become – must always remain at a place of constant access to it. In this respect, water must continuously be in an eternal state of *time and space* with one's life. There can never be a permanent dry period and water must always be located in close proximity. With water's powerful yet delicate position in society, it can reveal larger social narratives.

Using Cape Town's water sector as a microcosm, I argue like a still lake, water reflects back at us certain social realities. Cape Town's water sector is shaped by the nation's neoliberalization, its restructuring towards global city-dom, and the unequal

development between its citizen groups. It also reflects the nation's history of racial divisions through the physical space of infrastructure (pipes, plumbing, meters, etc.) from faucets to catchment level. What may appear as a still lake has violent undercurrents beneath the surface, causing ripples and waves through society.

By literally diving below the surface, the beginning of this section examines how the colonial and apartheid history of South Africa is encapsulated by its infrastructure. The following part addresses how the entrance of neoliberalism and Cape Town's government restructuring in the water sector has lead to the commodification of water. This means it is priced along neoliberal principles and has caused the implementation of prepaid water meters along racial lines in poorer socio-economic neighborhoods of townships. All of these factors have had serious effects on the people of South Africa and their sense of citizenship. I conclude by discussing how the latter situations have lead to massive water disconnections in poorer socioeconomic areas, and how this creates a mental disconnection between citizens and their state.

Pipes, Plumbing, and Prices

Social Divisions in Water Infrastructure

This section demonstrates how infrastructure acts as a mediating force between people and natural water sources. In a setting such as South Africa with long histories of oppressive authority, the infrastructure built by these regimes tells a story of the past. This sheds light on how uneven development drastically happened between racial groups in Cape Town. Apartheid has been dismantled for almost twenty years, therefore this section also covers how (if at all) the present infrastructure has changed and what the

remaining challenges are.

Citizens access the state through their everyday encounters with it (Bawa 2011). Water allocation is a prime example. Because people living in cities must access their water through urbanized methods of extraction, sanitation, and plumbing – it requires a mediating force between people and water sources. As stated earlier, the social mechanism regulating water accessibility has a high level of authority and control over its society (Moss 2008).

While it may use water as a means of controlling its populations, the human mediating force's position with water is forever evolving (whether that means addressing scarcity, confronting growing needs from populations, finding new water sources, building infrastructure, providing sanitation, etc.). Putting this into context helps to better understand the state's relationship to water, as it has historically filled the mediating space created between water and people. Because of this state-power-water triage, Moss (2008) asserts that while it is sometimes treated as simply a state responsibility, the enormous amount of social and political power streaming along water's physical flows should be greater understood outside its usual technical process examined by engineering, managerial, and economic systems.

Mosse (2008) argues water infrastructure should be viewed as something inherited from its past. This has serious social connotations particularly in spaces with a colonial history such as South Africa. Von Schnitzler (2008) asserts that colonial city planning was designed to benefit those in power. Meanwhile, the limited infrastructure built for the African and Coloured populations in the townships were mainly designed as a means of control. Especially in the urban spheres, it "both attested to the reluctant

acknowledgment of [the township's] presence and simultaneously signaled their disavowal and subjection." In other words, infrastructure became "the material embodiment of apartheid" (von Schnitzler 2008: 909). The discrepancy in service allocation by both colonialism and then later apartheid is one of the main reasons for the unequal development and stratified living standards experienced between the racial groups in South Africa.

Therefore, not only does water connect citizen and nation, it also links modern states to their colonial past. The physical landscape itself tells a specific story of the past by mapping its history and inducing its cultural divisions to be literally written on the land. Present day infrastructure, which is potentially attempting to fix the inherent inequality, cannot deny its current infrastructure is built off of the old colonial network. Social divisions are encapsulated into the physical landscape until they can be completely remedied (Moss 2008). In essence, infrastructure must be repaired and equalized in order to correct the segregation of the past.

Smith and Hanson (2003) attest during apartheid, white neighborhoods were well connected to water infrastructure. Coloured areas had some facilities, albeit limited. But black African areas had extremely rudimentary access to water in the form of public standpipes and boreholes (if they were given access at all). Because the racial divisions from apartheid still remain heavily in Cape Town, service allocation is in extreme need of equalizing and the state must now update decaying infrastructure. This would finally bring all of its citizenry onto one network of allocation. That has not happened on a large scale. Certain townships are still forced to use public standpipes in order to access water. Infrastructure continues to rot and decay, and massive disconnections are occurring in the

same areas that fought so hard against the apartheid regime in order to be equally connected to the state (Smith and Hanson 2003, Ruiters 2007). Why, if apartheid has been defeated since the 90's, are people still without equal access to water?

Enter Neoliberalism-

After the historical election of 1994, the African National Congress (ANC) came into power and was given the enormous undertaking of extending public services to reach populations who had been largely excluded under apartheid. While the ANC campaigned in the 1994 elections on a more social-welfare oriented platform, the country has since shifted to a free-market logic (Nleya 2008). Because of this, South Africa has developed a different approach towards service allocation than previously promised, particularly around access to clean water in townships.

This section reveals how South African's equal and full access to water is being affected by the neoliberal practices of privatization and water commodification. The first part addresses how free market logic maintains the deep and entrenched social divisions within South Africa by shifting the financial burden for upgrading and installation of infrastructure onto the poorer populations. It also treats water as a commodity, rendering citizens as merely consumers no longer protected under democratic rules and values. In a country where race and class are still closely linked and an enormous inequality exists between the living standards of wealthy and poor citizens, this type of behavior places an *a-historical* model of service delivery onto a highly politicized terrain. It undermines the new ethos of South Africa's democracy and struggle for equality.

When the ANC campaigned in 1994, they developed the Reconstruction and

Development Program (RDP), which linked growth and equity. This program's policies and philosophies sought to heavily reduce chronic poverty and rid South Africa of the apartheid social imbalances. However, the RDP came under serious scrutiny from both the white business sector of South Africa and the World Bank (Nleya 2008). Through the transition process in the 90's, the ANC was eventually pressured to abandon the welfare-oriented slant of the RDP and adopt a new program entitled GEAR, a structural adjustment program.

> "[The] ANC policy underwent extensive remodeling from its socialist leaning towards a market friendly stance more in tune with prevailing global tendencies. [This] reinforced the supremacy of the market system as the dominant development policy. The policy choices were to yield to market orthodoxy or to expose the economy to the wrath of the markets that punish countries who do not make themselves more attractive to capital inflows" (Nleya 2008: 271).

GEAR was the first step of many to commoditize water and privatize the public sector.

1. Privatization

"Privatization of state assets, especially those relating to infrastructure and services, is an essential element of neoliberal economic development policy and a key strategy in the counterrevolution against state intervention" (Narsiah 2008: 22). Privatization is the incarceration of neoliberalism on the ground. By sifting through various articles on water services in South Africa, I found multiple references to one particular article written in *The New York Times* (2003). According to the article, the South African government has shifted the financial burden onto urban townships in order to fix and manage inefficient water utilities created under apartheid. This is occurring through the use of privatization, a method put in place to balance budgets and encourage conservation. However, because of the legacy of apartheid, privatization is continuing racial divisions under the new guise

of economic status. "'Privatization is a new kind of apartheid,' said Richard Makolo, leader of the Crisis Water Committee, which was formed to resist the privatization effort in a township called Orange Farm, 25 miles south of Johannesburg. 'Apartheid separated whites from blacks. Privatization separates the rich from the poor.'" (*The New York Times* 2003). The struggle for access to water and other services inherent under apartheid have now transformed to the struggle to pay for them. The reason for this articles notoriety is because it captures a global process occurring around the world: the replacement of racial/ethnic/cultural inequality with class inequality, tracing the same lines of the historical. In other words, class has become a new category of unequal social structures with roots still largely embedded in racist regimes of the past.

Privatization has particular ramifications for poverty levels in the Global South. Over one half of the population in South Africa lives in extreme poverty. This has a direct link to an individual's ability to access clean water (Nleya 2008).

> "The mere lack of clean water is a manifestation of poverty, with serious ramifications for livelihood capacity for individuals and entire communities. This is especially relevant for poor urban communities whose lack of access to treated water exposes them to the dangers of polluted water in urban rivers" (Nleya 2008: 269).

Privatization directly affected the health and welfare of poor populations from its onset. Nyela (2008) cites the outbreak of cholera and its fatal effects in parts of KwaZulu Natal being the initial result of cost recovery methods in water. The civil uproar from this lead to the government allocating a small amount of Free Basic Water (FBW) to be supplied every day to everyone, rich or poor.

2. Commoditization and Cost-Recovery Methods

Equity in public service delivery was proposed to be the 'reversal' of the apartheid

legacy. When the moment for democracy arrived in the nation, an enormous local government restructuring occurred. With its new water privatization bent, large multinational water companies began rolling in to the South African landscape.[3] While they have not necessarily taken over the water sector in the city of Cape Town as they have in Johannesburg, the entry of the private sector has definitely influenced the country overall and brought in an influx of foreign 'experts' to peddle advice and create discourse aligning with their neoliberal agenda (Narsiah 2008).

Cape Town may not have the full-force privatization like other urban spaces in South Africa, but it has corporatized its services, meaning the government agency now runs as if it were a business using full cost recovery methods of billing (Smith and Hanson 2003). Cost-recovery methods (which will be discussed at further length in the *Pricing Structures* section) work to commoditize water, treating it as an economic good instead of a civic right (Smith and Hanson 2003). It reconfigures state and civil society relations by turning citizenship into a clientele, customer base and thus, "a function of the market" (Narsiah 2008: 27).

"[Neoliberalism] sought a popular resonance by re-claiming the market as a sphere of non-discrimination and abstract equal treatment set against the racial discrimination of the past" (Ruiters 2007: 504). The market is not an apolitical association as it claims. Instead, neoliberalism is an outside influence, conflating the West's own self-image of supremacy by trying to force the rest of the world to become its mirror image (Narisiah 2010). It depoliticizes the government by acting as if it works in an a-historical setting, instead of the reality that it operates in a space still suffering from deep social inequalities

[3] This included Vivendi and Lyonnaise des Eaux, two of the largest water tycoons in the world.

easily aggravated in a free market society. Moss (2008) forewarns that an a-historical model for analyzing an extremely politicized agency such as water will have extreme consequences to its practical operations within society and negatively alter the state's relation with its citizenry.

3. Effects on Democracy

Dawson (2010) argues the classic liberal approach to citizenship believes civil and political rights should be allocated to the entire population equally, regardless of specific variables. In this theory, it turns the state into the duty-bound actor. However, Dawson (2010) states the neoliberal system treats the citizen as the duty-bound agent, having to pay taxes and participate in a specific manner in order to *earn* their rights. In context of South Africa, rights were born out of struggle and this should not be separated from theories of citizenship. She writes:

> "Recognition of history, context, and the agency of the oppressed should thus be central in any debate about citizenship. [. . .] The rights that are associated with citizenship are neither formed in a vacuum, nor do they constitute a tidy package of freedoms to be bestowed upon citizens only when they perform certain duties for the state" (Dawson 2010: 383).

Service delivery itself becomes a linchpin for clashes between the classic liberal definition of citizenship and neoliberalism. On the one hand, the classic liberal version believes service allocation is a responsibility of the state. However, especially with the implantation of GEAR in 1996, the burden of responsibility shifted back to the citizen who now may only access their services if they perform the civil duty of payment.

Because privatization and commoditization treat citizens as consumers whose duty it is to pay in order to participate, social realities of the nation and their long history of struggle are completely ignored. Therefore, service provisions are caught in the middle

of a tug-of-war between neoliberal roll out initiatives set by global market operations and the South African community's desire for equality in a post-apartheid landscape (Narsiah 2010). Privatization, in essence, creates a space- a disconnect - between neoliberal ideals and democratic practices (Bawa 2011).

The neoliberalization of water means water should be treated by the private sector because it is thought higher in efficiency and that state intervention should be minimized (Narisiah 2010). However, Narisiah (2010) argues against this logic as there is empirical evidence that proves the private sector actually does not operate more efficiently as a whole. And the public sector has better accountability devices because corruption is regulated through electoral processes. Welfare is a bigger priority to democratic institutions than corporate, and prices reflect true social costs of water, not market fluctuations. Private and public spheres have different values - one for the wellbeing of the constituency and one for profit. Narisiah (2010) argues the only time commoditization of public services is successful when it is monitored and regulated by a strong local government. However, Smith and Hanson (2003) ascertain that Cape Town has a relatively weak local government, leaving the urban poor at risk. Commoditization shifts decision-making to Western technocrats who are unable to handle larger social issues affected by economic policies, especially in a highly divided city such as Cape Town (Smith and Hanson 2003).

Privatization and commoditization not only undermine democracy, they also undermine the power of the government (Narsiah 2008). "The privatization of basic services became a serious option during the 1990's as restructuring on the local government scale left municipalities in a tenuous situation when it came to financially

sustainable delivery. These conditions, coupled with the influence of private sector consultants, created the space for the development of a peculiar sub-discourse on the local level" (Narsiah 2008: 22). Privatization infiltrates into local governmental space (through the use of experts and the national economic agenda's use of SAP's) to create a shadow government, one that has its own discourse and logic outside the realm of democratic practices. It is thus the market's version of governance.

Pricing Structures-

Pricing structures are another way neoliberal ideology hides within state allocated measures. The way the government prices their water is highly political yet appears incorrectly as if it is only a mathematical matter of cost measurements. In fact, they are fully saturated with neoliberal logic. This section details the way South Africa's water sector has implemented full-cost recovery methods, treating water as an economic good opposed to a service provided to the public. Instead of supplying water at the actual cost to the government, it is accomplished in a for-profit structure. The next part then examines how pricing tariffs became expensive for individual usages in order to remain cheaper on the mass-consumption level. This all contributes to an environment where struggling populations are left vulnerable to speculative pricing, high tariffs, and unaffordable water.

I mentioned previously that privatization could sometimes cause a shadow government: one built off economic principles instead of democratic values. However, this does not always mean a change in ownership. Instead, it may create new spaces in the government that are not necessarily creating different institutions. Instead, new

techniques are used by the state to mimic the private sector, such as marginal cost recovery and full-cost recovery methods (Narsiah 2008).

Through these two forms of water pricing, privatization is "made sensible and authoritative" (Narsiah 2008: 23). Narsiah defines marginal cost recovery as the method used to retrieve full cost recovery from the consumer by completely removing any subsidy systems and by 'ring fencing.' 'Ring fencing' is a system that keeps profits and costs into a single account with no transference to other activities. This is done in order to calculate the fixed and variable costs and to scientifically determine profit (Narsiah 2008: 23). The cost of production is revealed and a full cost recovery strategy can then be implemented. While marginal cost recovery methods are used for governments to determine the price of public services and tax accordingly, privatization turns this act into profit-seeking behavior (Narsiah 2008, Beckwith 1995). Smith and Hanson (2003) believe there are serious implications of cost-recovery on people living in poorer areas of townships. Because cost-recovery acts as if everyone is now equally able to pay for water services, this ignores the realities of poverty devised by apartheid. And a rational of this nature causes even greater poverty.

While the cost of water is delicately determined, environmental costs are never accounted for- leaving a system in place that treats its product as a stable quantity in the future even when the world is experiencing dramatic decreases. The water sector is thus built on "insecure foundations" (Narsiah 2012: 24). It also puts the timeline of cost for water into a speculative industry, forcing consumers to pay for future costs instead of actual costs of water (Narsiah 2012).

The shift into commodification has created three categories of service allocation,

from rudimentary to well-established. Citizens are then slotted into levels based on abilities to pay. This changes what should be citizen rights into a strategic consumerism, allocating different communities into economic niches (Narisiah 2010). The three categories are determined on a fixed rate of tariffs and not on percentage of income. Each tariff is felt financially harder on low income houses, who may now only access basic services as it is the affordable level of service allocation. Rising tariff blocks, throughout the Global South, are thought to have serious negative consequences on poorer populations (Boland & Whittington 2000, Narsiah 2008). And, in spaces like South Africa, this results to service level quality falling along racial lines.

Even with the allocation of Free Basic Water (FBW), Bond criticizes the inequality caused by rising tariff blocks. The pricing for consumption after the allocated FBW is completely unaffordable for most people living in townships along the periphery of urban areas. It has caused massive water disconnections, the very thing FBW was supposed to help alleviate. As for FBW in general, it is considered too low and favors smaller families because it is allocated as a flat rate per household. Bond argues it should be per person and the pricing block after the FBW should not rise as steeply. To make matters worse, the price tariffs flat-line once they reach a certain rate of high consumption, a tactic used in order to make Cape Town more business-friendly and attractive to foreign investment. This means squeezing the poor in order to keep the prices low for the wealthy and the business sector. He argues the current tariff structure is also harmful for conservation efforts as it encourages massive water use to occur at a lower price.

Bond gives an alternate pricing option for water distribution, one that is both pro-poor and pro-environment. He suggests the pricing curve should become concave instead

of convex. That way prices increase drastically with the amount used. This would be felt less harsh on individual families as the pricing blocks are more affordable per household in a cross-subsidization effort. Currently, the tariff blocks may even be a reversal in subsidizing, with poorer, larger families subsidizing smaller, richer households (Bond).

The Need for a Pro-poor Pricing Approach

As specified in the *Introduction,* water scarcity or lack of access to water is felt disproportionately by poorer populations around the world. Poorer populations live in a more realistic experience of environmental degradation than wealthier populations, who can use their money in order to be first in line for depleting resources. Because of uneven pricing structures (like the ones listed in the latter section), they are even able to obtain them at a cheaper price. The following section seeks to make the link between the need for a reversal in this type of resource allocation and poverty alleviation.

Schreiner (2010) heads the Water Strategy team for the management consultancy organization in South Africa, the Pegasys Strategy and Development. She also serves as an advisor to the South African Minister of Water Affairs and Forestry. This company offers advice to both the public and private sector. Schreiner (2010) offers a unique perspective: one with a business-oriented lens that does not fall into the neoliberal camp.

Schreiner (2010) argues providing better water access to poorer populations will help boost the economy from a bottom-up strategy. Along with better individual health, communities will be able to start small businesses, grow better personal crop gardens, and thus aid in alleviating poverty as a whole. By allowing grassroots economic growth, this has the potential to help close the enormous wealth gap within the country, leading to

a better stabilized and functioning society (Schreiner 2010).

In essence, without actually addressing the neo-liberal philosophy head on in this article, Schreiner (2010) offers a counter-argument to the idea that water rates should be kept low for businesses (not individuals) in order to generate economic growth in a top-down structure. In her bottom-up strategy, economic growth could be created within the communities of South Africa instead, or as well as, foreign investment. Ideally this approach would shrink the wealth gap, oppose to exacerbating it, and empower local communities that have long been kept economically stagnant under apartheid history.

Without a bottom up approach, poverty levels will increase under neoliberal pricing structures and continually keep poorer populations from being able to access the vital resource of water. In another article entitled "Agricultural Water Management and Poverty Linkages" (Namara et al., 2010), the authors make assertions that water scarcity has actually created its own *type* of poverty they refer to as water poverty. For one, water scarcity exacerbates poverty while also posing a serious threat to individual health and poverty reduction efforts. It sucks more people into poverty and then makes it far more difficult to escape. When people of low-income categories are given proper access to water, it helps support agricultural entrepreneurship - an industry continually described as the best pro-poor approach because it provides food and livelihoods simultaneously (Ansoms 2011). If that opportunity is taken away, it not only has a drastic effect on human health but on economic health as well, creating an even more cumbersome situation for grassroots growth in communities that need it the most.

Prepaid Water Meters - Neoliberal Technology

South Africa is the only country in the world that has a right to water listed in their constitution. However, in behavior which leads some academics to refer it as 'schizophrenic' (Ruiters 2007), the South African government also pioneers a very controversial technology regarding water allocation: prepaid water meters. These machines, which are installed to people's meters, have caused major uproar across the country. Because of their negative effects on people's lives, citizens took their case against prepaid water meters to the South Africa Supreme Court in a five-year trial in order to have them abolished (see: Phiri Water Rights Case). The court, however voted for the continued use of prepaid water meters, and state usage of these devices continues to grow (Bond).

Prepaid water meters are toted by the state as something that increases efficiency by replacing bureaucratic processes with a machine. For one, no meter reading is needed in neighborhoods (townships) thought to be dangerous for meter readers. Also, it is believed to be more cost efficient because it has no postage requirements and the prepayment methods boosts municipal cash flow instantly. The state has also begun linking prepaid water meters with debt deduction, allowing customers to relieve harrowing debt levels (Ruiters 2007).

By replacing the duties of state employees with a machine, there is less connection and disconnection hassle between state employees and citizens. The state also alleges, prepaid water meters help 'empower' customers by teaching them to economize their own budget. It is argued to aid in conservation efforts of a precious resource in a time of scarcity (Ruiters 2007, Tewari and Shah 2003). The conservation rhetoric is one-sided as

massive luxury water consumption remains unchecked and inexpensive (Bond). The logic may be that it is the poorer populations responsibility to conserve water because they are usually the ones who suffer most from environmental degradation.

This section discusses the controversy behind common state arguments for prepaid water meters. For one, they are only used within Black African or Coloured neighborhoods- while wealthier, white neighborhoods are allowed to keep their regular metering system with a normal, monthly billing system. I argue prepaid water meters are a depoliticizing tool, taking away a citizen's space for both contesting their bills and protesting against the state. Subconsciously, they end up turning citizens into calculative beings and attempt to morph the culture of townships into one more hospitable to neoliberal practices. In essence, they are used as a way for domination and control, thus severely affecting the relationship between citizens who live within townships and their state.

1. Immediate Disconnection

Prepaid water meters were originally invented in Great Britain only to be outlawed because they were found to be extremely hazardous to health. These devices are however being installed in townships across South Africa (Bond). Prepaid water meters dispense the FBW. Any water needed after that small amount is only dispensed when credits can be purchased and inserted into the machine. Middle to high-income households have a regular metering system and are allowed to pay on credit. If their bill is not paid on time or if the taxpayer believes there is an error with the billing, they are given plenty of notice before disconnection to dispute their claim to the municipality (von Schnitzler 2008). The

prepaid water meter thus inserts a technology between a citizen with low-income standing and their access to water, allowing for immediate disconnection once FBW is used for the day.

This has had devastating effects on, not only personal health and dignity, but community life as well. Dawson (2010) argues it ruins the social fabric of communities as people are restricted from hosting social visits, parties, celebrations, or memorials. Personal family farming and small business endeavors are heavily confined. Not to mention the strains put onto relationships between neighbors and within households when water has to be meticulously calculated. Dawson states: "The research furthermore revealed a strong link between the erosion of culture and community life and the installation of prepaid meters" leading to what he calls "a new economic apartheid" (Dawson 2010: 288).

2. A Space for Protest

In her article, "Citizenship Prepaid: Water, Calculability, and Techno-Politics in South Africa," Antina von Schnitzler (2008) examines the logic of prepaid technology within urban townships in context of the 1980's payment boycotts of service provisions. Townships were places of great and successful protests against apartheid, particularly around "material issues" (Glaser 1997: 6). Boycotts targeted townships' lack of services, decaying infrastructure, and extremely poor living conditions as a means to protests inequality in the system. These boycotts were extremely effective and lead to the great unraveling of the apartheid state. In this sense, townships can be seen as the physical

space for the anti-apartheid movement and boycotts against service provision as their tool. As von Schnitzler (2008) writes:

> "It is unsurprising then that while the antiapartheid movement became most visible in its national campaigns for political rights, it was often organized around localized protests and boycotts, which took infrastructure as both the terrain and the object of struggle" (von Schnitzler 2008: 909).

Because of this, von Schnitzler (2008) believes the real 'logic' behind prepaid water meters is to strip away the township's ability to boycott payment, even though this was used as a successful civil society technique in order to bring down oppressive state structures. In this sense, prepaid water meters do more than just immediately disconnect a citizen from water: it takes away an important *space* for protest that has been historically successful. It also has become a severe cause of frustration for people because the state labels these devices as tools of 'empowerment' when they are the very opposite. It strikes a very tender cord within township culture as the technology is "inscribed with history" (von Schnitzler 2008: 909) to become a very effective depoliticizing tool against people living along the periphery of South Africa's urban spheres. The prepaid meters turn what otherwise would have been a space for political debates into an administrative question. In other words, by making water meters prepaid, the ability to protest or contest was revoked by the technology itself (von Schnitzler 2008).

3. From Non-Payment to Calculations

Due to the protests of the 1980's and 90's, urban townships were labeled for their exercise of nonpayment, as if it were a *cultural* aspect. In this sense, von Schnitzler (2008) argues prepaid water meters are attempting to change the 'culture of nonpayment'

into one of calculative citizenship. Because disconnection is a permanent feature within prepaid technology, it changes the relationship with the state from rights of citizens to one of an economical payment/consumption dynamic (von Schnitzler 2008).

> "Concomitant with the widespread notion of [this label], non-payment was seen to emerge out of a '*sense* of entitlement', a particular '*attitude*'. Having identified the problem in this way, government efforts to encourage payment were couched in a moral-pedagogical language aimed at reforming the *culture* of township residents, and, most centrally, at establishing a new conception of civic duty" (von Schnitzler 2008: 906).

Von Schnitzler (2008) argues prepaid water meters are devices that teach individuals to become calculative in order to stay within the Free Basic Water amount. Any 'overuse' would lead to the first pricing tariff block for water discussed earlier as extremely high for individual use. Therefore, daily habits are forced to reshape around units of measurement in order to stay within the FBW: making individuals scrupulously count, measure, and evaluate every time they turn on their faucet or flush their toilet. It forces people to constantly delegate how water should be used throughout the day in normal household activities and produces daily habits of calculation (von Schnitzler 2008).

In essence, prepaid water meters attempt to change the culture of people living along the periphery and their daily practices. It is the reformation from the 'culture of nonpayment,' one that has been historically successful in their methods of revolt, protest, and civic stronghold against oppressive regimes into calculative citizens. These citizens are now controlled and self-contained by their own necessity for measurements and thus become embodied by their own acquiescence to state control. In light of this, it would seem the government is attempting to change the culture of townships to a model that submits to state authority. By fastening citizen-ness with commodity payments, it shifts the relationship of the state with its citizenry from a rights-based relationship to one of a

fiscal association.

4. Technology and the State

Control over peripheral populations through the use of technology is not a new concept within neoliberal settings and can be seen within the water sector. Loftus (2006) writes:

> "There are few places in the world in which domestic water users are so heavily regulated and controlled by technological infrastructure as they are in South Africa. Much of this technology is now directed at *limiting* the water supplies of poor residents" (Luftus 2006: 1024).

While the government has allotted an FBW, it also has been putting in place new restrictions for poorer or unemployed populations, meticulously controlling their access to water.

The state promotes "a commodifying 'civilizing' mission: teaching the poor a modern commercial form of rationality in the age of information technology" (Ruiters 2007: 490). And because this 'modern commercial form of rationality' has huge Western influences and is, indeed, mimicry of a Western way of life in the form of modernity, there are serious colonial undercurrents to this type of state behavior. It also allows the state to detach itself from the "lived realities of services" (Rutiers 2007: 451). This leaves the responsibility of payment problems in situations of poverty to the very populations suffering from economic stagnation. As Ruiters (2007) explains, "Remote, depoliticized, and impersonal, prepaid meters displace the poverty 'problem' from the state to the individual household" (Ruiters 2007: 499). The state then has less of a human presence within the townships (in the form of meter readers, etc.) replacing its self with technological instruments instead.

Bawa (2011) believes this has put a significant amount of distance between people and their government. Because infrastructure is citizen's direct link to the state through public services, placing a pre-paid meter between people and their water access creates a technological *space* between citizens and state. This space is then used to connect or disconnect based on the capitalist principles the device was created to manage. While the device is a depoliticizing tool, it is in no way apolitical. The state and economic actors can hide behind these impersonal technologies while still imprinting their political agendas into the functions of the prepaid meters themselves. In this sense, the *space* created between citizens and state is then filled by an instrument with hidden inscriptions of neoliberal logic.

Even with all the backlash within its own nation, South Africa has become a pioneer for this type of tech industry. It is currently the largest exporter of prepaid water meters in the world, often sending them to other African nations. And, according the UN, South Africa has become the global model for the usage of these devices (Ruiters 2007).

Disconnections-

Glaser (1997) believes the public outcry from the active, post-apartheid civil society is increasingly anti-capitalist with a large socialist bent, something the government no longer supports. The need for protest still boils down to the same problems experienced under apartheid: poor living conditions and terrible service provision by the very state put in power to reverse these situations. Apartheid legality is no longer the blocking mechanism for increased equality. Instead, neoliberalism and its ideals of unfettered capitalism have replaced apartheid and, as wealth is inheritable, kept

many of the social structures of the past intact (Glaser 1997). It is no wonder, then, that prepaid water meters and other neoliberal mechanisms are becoming the new focal point of the struggle for rights in the post-apartheid landscape.

Therefore, state-citizen interaction can be seen not only through the *connections* of infrastructure and services, but also through *disconnections*. Bawa (2011) elaborates:

> "Sometimes, the state appears in the form of the pipeline man to propertied residents and slum dwellers alike, threatening to disconnect them from the municipal piped water supply if his demands are not met. At other times, the state is the politician and his party workers who deliberately disconnect poor people from municipal water in order for their private water supply business to thrive or to enforce loyalty and political support" (Bawa 2011: 492).

In other words, when an individual has their water shut off or disconnected, they are quite literally being disconnected from the state.

Service delivery is heavily influenced by nuances of councilor dynamics: who they align with, what government and/or private entity hierarchies are at play, etc. With the restructuring of public/private services, the power and entire process become infinitely complex, making it difficult to contest or fight because of the confusion of where the power actually lies within all the imbedded institutions (Bawa 2011). The questions of "who is the state? where is the state" (Bawa 2011: 491) begins to way heavily on people's ability to communicate with the state, causing large rifts and giant spaces between people and their government. Even their ability to approach and contact administrative agencies and government officials in order to make appeals for better access is severely limited (Bawa 2011). With the unequal access to clean water, it is clear that the state acts differently from one constituency to the next dependent upon variables of race, class, and "historical positioning in society" (Bawa 2011: 492).

In what is referred to as ‘the culture of nonpayment,’ people living within

townships have incurred debt through nonpayment of water bills and have been consequentially cut off from water services. The most common reason stated was the inability to pay the high tariff pricing block after the FBW due to conditions of poverty incurred through the apartheid legacy and extreme levels of unemployment in the current state (Smith and Hanson 2003). The other reasons Smith and Hanson (2003) cite are: a) frustration at the injustices of water service discrepancies that fall along racial lines, b) frustration with the unmet promises of the post-apartheid government, c) a lack of basic understanding on how to read water bills or the billing system in general, or d) a belief that water should be free because it comes from natural systems (common among people moving from rural areas). However, *everyone* questioned cited the lack of communication with the government over water allocation and the changes to the system as a large factor for nonpayment and frustration.

Smith and Hanson (2003) address why the amount of water cutoffs have increased so dramatically in the post-apartheid landscape. For one, water cutoffs have become the new form of debt-collection management for the government. However, the urban poor of Cape Town could have incurred massive debts through a number of ways sometimes without fault. For one, the payment boycotts in the 1980's and 90's in townships lead to unpaid bills. Even though this was a method to bring down apartheid, the debts accumulated were not forgiven in the transition to democracy.

There have also been recorded problems with billing. Because townships have informal settlements within them due to the rapid urbanization occurring in Cape Town, this creates a difficult situation for billing residences. Also, there could be multiple households per property due to the enormous backlog in housing and the immense over-

crowding conditions of townships. Because of this, sending out correct bills to the right addresses is directly related to the difficulties the local municipalities have had integrating townships to the system. Sometimes the bills would go to an incorrect address and citizens would not be aware of the debt they were incurring over years. "The combination of years of non-payment for political reasons, non-existent customer relations, and problematic billing demonstrates the weak level of communication between local authorities and service users in African and low-income Coloured areas. Township communities were penalized for these poor relations by being entrenched in accumulated debt" (Smith and Hanson 2003: 1537).

Illegal connections have begun as resistance to credit control (Smith & Hanson 2003). When a prepaid water meter is shut off through either leaks or an inability to pay, the person's need for water obviously does not turn off as well. Instead, they are either reduced to serious health and social damages from lack of water, are forced to drink from contaminated sources like polluted rivers, or resort to 'criminality' by removing the prepaid mechanisms on their meter, illegally reconnecting their water source (Ruiters 2007). This leads to a further disconnection with the state. It puts individuals into a position where they either must disengage from the state and operate outside the law or, by staying within the law and retaining the 'integrity' of their citizenship, are forced to suffer from the absence one of the most vital resources of life: water.

Methods

The *Analysis* Section of this thesis is a makeup of the qualitative fieldwork I did while in Cape Town, South Africa. The total amount of time I spent in the region was six

weeks, beginning from the middle of July through August 2012. While there, my research question dramatically shifted, resulting in me taking a wider sample than I had originally intended. However, I believe this greatly added to my findings as I was given a greater breath in opinions discussed in the sample section.

Through contacts I made, I was able to attain an invitation to attend a meeting of the South African Water Caucus local section in Cape Town in August of 2012. The University of Cape Town was also nice enough to let me sit in on a lecture about social activism in the course on Geographic Thought. The protests around service delivery also interested me but I was advised not to attempt to attend them as it could be dangerous for a foreigner. Therefore, I collected newspaper articles from *The Cape Times*, the newspaper of Cape Town, over a three-week sample period from July to August (excluding weekend papers) in order to try to identify how frequently protests occurred and how they were organized. I also wanted to identify the way the media was portraying them and what kind of reaction they were getting from the government and other involved parties.

I also went into the township of Langa with a guide in order to see the dynamics of this particular township, as it has both nicer family-sized homes with faucets to shack dwellings with public standpipes. I also went into another township, which I will keep anonymous to protect the identity of the person whom I interviewed, where only public standpipes were available for access to water. The other township I went into was Delft, where all houses have internal access to water but every meter has an attached water management device otherwise known as prepaid water meters.

My research is largely qualitative, dependent on what information I obtained

through interviews and observations I made while in the city of Cape Town. Through the things that were recounted to me and from those that I observed, my thesis was born. I did not take any theoretical standpoint while conducting interviews, as my research question shifted once on the ground. That came later after I had thoroughly read through all of my notes.

Sample

When I first touched down in Cape Town in July 2012, I was already full of anxiety. Trying to obtain preliminary contacts with individuals doing work on water issues in South Africa had produced a very short list of about two people before arriving on the ground. Even with all the modern devices of our age: the internet, emails, phones – attempting to get in touch with people at the Southern tip of the African Continent while I was over on the Western edge of North America proved extremely difficult. Searching websites of NGO's or organizations who worked with water and acquiring emails through this method usually either responded with a bounced back email saying the address was invalid or had no response at all.

Therefore, for collecting a sample I used the snowball method of gathering once on the ground. My initial contacts were people who worked for environmental NGO's. They eventually passed me on to Members of the South African Water Caucus and I was able to attend a meeting, collect information, and obtain new contacts. I also got in touch with students and faculty at the University of Cape Town and the University of the Western Cape.

A few of my best contacts, however, were made through friends I made at my hostel. One put me in touch with an activist they had met who used to work for a progressive government program in the townships that focused on alleviating community water problems. Another friend of mine was interning in a township with a restaurant that had no running water in its facility. I accompanied her there one day and interviewed the owner and staff. That is the beauty of research: even our daily interactions with people we meet can lead to better sources and greater information. I gained a whole range of knowledge just by speaking with my South African friends about their experiences. Even if this is not included in my *Analysis* Section, their insight helped me to conceptualize the South African context more in full.

Below is a brief list of my sample with their given alias that will appear in the *Analysis* Section:

Naresh is the leader of an environmental NGO who works directly on climate justice issues. Susan and Daluxolo I met at the Water Caucus Meeting. They are also employees of environmental NGO's, however not the same one. Professor M works in the Environment and Geographic Studies (EGS) Department of the University of Cape Town. Professor L, also part of EGS, helps to staff the African City Center (ACC) on campus. Nthona and Lungelo are both EGS students whom I met at the Geographic Though lecture I attended on campus. Leela was at one time a project manager for the progressive government program, "Raising Citizens' Voice in the Regulation of Water Services." I met her through a friend and from there, Leela introduced me to Naledi whom the program trained as a community leader when it was still running. She lives in the township of Delft that has widespread use of prepaid water meters. And finally, I also

met Mere through a friend. She is the owner of a restaurant that she built from scratch in a township.

Alias	Employment
Naresh	Environmental NGO
Susan	Environmental NGO
Daluxolo	Environmental NGO
Professor M	Environmental and Geographic Studies Department at University of Cape Town
Professor L	African City Center at University of Cape Town
Nthona	Student at University of Cape Town
Lungelo	Student at University of Cape Town
Leela	Project Manager of "Raising Citizens' Voice in the Regulation of Water Services"
Naledi	Community Leader of "Raising Citizens' Voice in the Regulation of Water Services"
Mere	Restaurant Owner

Analysis

> "We're this funny microcosm of the planet: geographically, climactically, class, racially, history, all of those things. You show me a problem in the world and I'll show you the South African version" [Naresh].

Introduction: The Stratification of Time and Space Compression

Giddens (1990) and Harvey (1989) believed globalization is causing a compression of our concepts of time and space. Through the use of transportation and communication technologies, larger spaces are being transcended at greater speeds. What that translates to is physical space and distance feeling smaller and time seeming faster. However, because globalization touches down into physical spaces around the world in an inconsistent manner (Ferguson 2006), I believe this causes a *stratification* of time and space compression. Dependent upon where an individual is located in the global cityscape of either the core or the periphery, this will determine whether they experience time quickly or slowly and space as being easily transcended or extremely hard to overcome due to immense distance. I wish to examine my theory by taking world cities as the touch down point of globalization and the water sector as the means to determine the stratification of experiences.

I argue world cities are connected to the international network through knowledge, information, and technology. When a city reaches into the global sphere, it lifts out of its local context, causing quite literally a stretched demography. Differentiated experiences occur between the people living at the 'top' core areas and the people living at the 'bottom' along the periphery. At the core, there is a hyper-connectivity to the world while at the same time, a disconnection to its local and the people living on the outside of its globalized point of access (See in Diagram A.)

I believe these contrasting levels of development lead to a stratification in the experiences of time and space compression felt by individuals depending upon whether they either live in or out of the core. The 'top' has speedy connections across great spaces while the 'bottom' works on a slower kilter and drastically feels the greater space and

distance between it and the core, both on the local and the global sense. While uneven development leads to the stratified experiences of time and space compression, this divergence effectively locks the periphery into a constant state of underdevelopment in a viscous cycle. As a model for this theory, I concentrate on the water sector in Cape Town and how geography determines how an individual *feels* the concepts of time and space. In order to best describe this stratification concept, I have created a metaphorical model - one that will help to visibly grasp the situation and to help structure the flow of this analysis.

The main purpose of this visual, which can be seen in Diagram B, is to convey how people at the top-core are able to access water, power, and knowledge in greater amounts than people on the bottom- periphery who remain dehydrated. If world cities are lifted protrusions that reach into the global sphere, (See Diagram A) imagine the international space as a giant pool. Drinking right from the lip of this pool is the core, accessing and benefiting from its raised position in order to obtain all the water it necessitates. As this water enters into the city structure, it flows as if like a waterfall down to the bottom. And yet before it can reach the periphery, there are a series of dams and constrictions along the way, each one cutting off to a certain degree the flowing movement and the amount of the water able to transpire. What happens at the bottom, then, is a trickle where there should be a stream, leaving the land parched and dry (See Diagram B). As the water flows from top to bottom, from core to periphery, time seemingly becomes slower and space appears more vast.

I group this stratification process of time and space compression into three different spatial categories- physical space, political space, and mental space. In the first category

of geographical Physical Space, water symbolizes itself and its restrictions literally cut off people's access to sanitized, clean water. The second category is the Political Space, where the flow of water symbolizes power and how its restrictions cut the periphery from empowerment through having a voice in state issues of water. The final category is Mental Space with water symbolizing knowledge and information with the different mechanisms listed that keep people on the bottom uninformed about how to handle their own water issues.

With the gravity of water, power, and ideas being restricted, the bottom is left dry and brittle with little opportunity for growth. Much like the real global situation of water scarcity, the other half of the water-renewal cycle is missing where the water on the ground is supposed to return to the air and then replenish rivers and lakes. There is a backlash, however, occurring on the bottom of those attempting to break open the restrictors and free the flow of water against all the odds. The final section concentrates on a few various groups: NGO's, progressive political programs, water networks, certain academic institutions, and, indeed, individuals themselves who have dedicated their lives to the battle upstream for the equal access to water.

Category #1: Physical Space

> "In Cape Town, people are separated- not into two racial groups, but a whole spectrum of things. They are stratified racially, economically, and even geographically." [Naresh]

The initial thing I noticed about Cape Town as my cab drove me from the airport to my hostel that first day was the stunning landscape. A vibrant urban sphere nestled between the ocean and gray mountains lined with hooded trees, the city seemed to give the best of all worlds. My first impression was how beautiful it all seemed. And then

immediately the view changed. It filled with shack dwellings sitting right beside the road, looking ugly and unnatural against the beautiful landscape. They remain a stark reminder that the fight against apartheid may be won but the fight against poverty is far from over. And yet this is not the only story to this urban sphere. Instead, it is only one side of the coin. As I traveled further into the city, the neighborhoods began to morph; the yards began to grow. Large facades of houses and tall, flowering trees stuck out over walls lined with barbed wire. If I had made it all the way to the Waterfront that first day, I would have seen mansions that could rival Beverly Hills lined along a riviera with adjourning yachts attached to decks, all behind guarded gates and walls. If I had not known any better, looking at the enormous wealth, I would have thought I was in a completely different city or even country from the shacks not twenty minutes down the road. The only thing they seemed to share was a view of Table Mountain.

Cape Town sometimes felt as if I was constantly flopping between two realities, continually flipping a coin and seeing the two different sides. There is a reason it has such an infamous reputation for being divided. Even its many descriptions seem to contradict one another. Cape Town is known for its beauty and yet known for its ugliness; its wealth and its poverty. It is a city moving forward yet still inscribed with the divisions of its past.

Even within and between the townships along the periphery of the city, life varies. In Langa Township, a row of beautiful condominiums is built not a hundred feet from shack houses[4]. When I was walking around that particular township, I watched as a row of young men were washing their cars with a hose hooked up to someone's sink coming

[4] My guide informed me these have actually remained empty for six months. He did not know why. Meanwhile, overcrowding is immense in Langa Township.

through a window. My guide informed me this was a usual weekend ritual for the residents. In some townships, people can wash their cars while in others, the inhabitants have to measure and calculate washing dishes just to make sure they do not run out of water for the day. Some people living in townships have to use public standpipes while others have free-flowing faucets in their homes; some people have water management devices, some do not. Each township has its own chronicle and within townships, that story varies depending in what part one lives. It is almost as if geography were fate. And with each area, comes its own set of issues.

This section discloses only a few of those issues in terms of water allocation. Returning to the waterfall visual, I examine the different constrictions or dams that limit people from accessing water. The first restrictor is the ecological situation of water shortage. The next analyzes what issues are behind the use of public standpipes. The following restriction deals with homes that are plagued by decaying infrastructure and also addresses how the government handles these situations. The final restrictor in the category of physical space is the prepaid water meter and how they affect people's access to water in a further analysis of the former section on these devices (see Section: *Prepaid Water Meters - Neoliberal Technology*).

Restrictor #1 - Water Shortage and Climate Change

As mentioned previously, climate change has had an adverse effect on the level of fresh water available worldwide (See Section: *The Cause of Global Water Shortages*). This is especially true for drier countries such as South Africa. In fact, when interviewing a University of Cape Town student, Nthona informed me:

> "I think South Africa's biggest issue is water. In Cape Town and if you go west of here, it's water-stressed. And they have these boards [along the road] that say 'use water wisely' and that type of thing. So I think it is definitely water."

Certain neighborhoods that have these signs are, to my knowledge, more about geography than wealth of the area. And yet, I also believe wealth has an impact on how people feel environmental degradation and how they feel water-stress.

When speaking to a leader of one environmental NGO, Naresh related to me:

> "[W]e were taught save the tree, save the rhino, which is great of course. It's critical. Ecosystems are at risk and we need to defend them. But issues that impacted *people*, like waste and pollution: the economy was designed specially so these impacts happened mostly on poorer neighborhoods. Which in South Africa, means black people. Even today I think the figure is 98% of landfills sites are in or near poor black neighborhoods in South Africa" (Unanimous Interview conducted *date*).

And while he did not speak of water or water scarcity directly, I believe that all environmental degradation is felt hardest on poorer areas. Another student at the University of Cape Town highlighted how climate change and water issues affect townships:

> "In Cape Town I've seen the biggest change in weather ever. Especially with the amount of rain. It's all crazy but the floods are probably the biggest thing in Cape Town, by far. But then we have no water for drinking. Because we have so much water, like it's pouring, yet there is a problem with water management and people getting [drinking] water in townships" [Lungelo]

As another employee for an environmental NGO and who lives in a township told me:

> "You know all the floods in the townships? The government lets that happen. It's surreal that it still exists. People living in swimming pools. But that's normal for us" [Daluxolo]

Therefore, there is a stratification of space that occurs, if in reverse of my theory. In this instance, the people living in the periphery are *closer* instead of farther, if only to the adverse effects of climate change. The core remains relatively untouched. The communities on top can use as much water as desired for their homes and industries at a low price and never have their houses flooded. Seen in this light, maybe the stratification

of space is not a matter of closer-farther, which I argue previously, with the core having compressed space and the periphery being distant. Possibly, it is a matter of being positive-negative, with the core being closer to the positive impacts of globalization while the periphery has to suffer the negative (like environmental degradation and water scarcity). The flooding puts poor people in the ironic, horrible situation of being surrounded by dirty water flooding their homes and yet at the same time, not having any clean water flowing from their taps.

And while these communities are struggling with the issues of their current situations, industries are already planning for the future in terms of climate change. As Professor M in the Environmental and Geographical Science Department (EGS) of the University of Cape Town informed me:

> "I think lots has changed just looking at how people operate in the water escort, how they view climate change. Some people think that we need to address current development challenges and focusing on climate change shouldn't be a priority. While others feel you have to have that long term thinking if you're planning now."

People in the industry are able, on some level, to plan ahead. This causes stratification of time in terms of management. People in the periphery are forced to constantly struggle with the present-day situations of climate change while people in the core are given the time to plan for the future and thus adapt better. Meanwhile, the level of adaption on the bottom remains stagnant and slow. It is difficult to adapt to flooding if you are not able to move out of the flooding regions because of financial restraints. Townships are usually built on land that floods and does not have the infrastructure built to assist with flooding (drains, gutters, water guards, etc.) [Lungelo]. In this case, the periphery is far from the infrastructure and space where water is present in pipes under their houses instead of in their homes under their feet.

In the literature (see Section: *Prepaid Water Meters - Neoliberal Technology*), whenever water management devices are installed or are propagated one of the aspects constantly highlighted is how they lead to better conservation efforts of fresh water. Large businesses use massive amounts and are never reprimanded by the government. In fact, they are encouraged as prices for massive consumption remain low (see Section: *Pricing Structures*). A program, called "Raising Citizens' Voice in Water Allocation" (covered in full in Section: *Flow Liberator #3 - Progressive Government Programs*) set up workshops for people in townships. They were made to educate individuals on a number of issues on water access and how to better conserve in context of the scarcity issue affecting the planet. As Leela, a past employee of this program informed me:

> "We train on the water cycle, you know the ecology. How water evaporates and all of that so people could understand that water is a scarce resource and that it cannot be man-made for us. It needs to be protected and not wasted. We teach how climate change affects water. Tornados and floods and so on and then we will explain how your water comes from the dam to your house, so the purification part. That way people understand that there is a cost factor involved for you and why you have to pay. And then we add to that water savings, how you save water and why you must fix leaky taps and all those kinds of things."

Because the price is so high for individual users, it becomes people with lower incomes who must change their lifestyles and start conserving. The responsibility becomes pushed onto them through market mechanisms, such as pricing methods. Therefore, scarcity is felt harder on the people who are forced to adapt to life with limited clean and sanitized water.

Restrictor #2 - Lack of Faucets in Homes and Businesses

As I mention previously, even the townships vary from one another on the types of water access the residents have. A friend of mine was in a work-study program where

she volunteered with a restaurant operating in a township outside Cape Town. She asked me along one day because she thought it might be interesting to see the business and interview the owner- a friendly, lively woman whom I will call 'Mere'- about the fact that her restaurant has no running water and must use a public standpipe.

The restaurant is made out of shipping crates that are fused together to make the kitchen area. A plastic roof protrudes out of the 'L' shaped shipping crates and provides an eating area for the customers. My friend and I walk past a few people eating who glance at us inquisitively. We stand out a little, both being obviously not South African with my friend's French accent and my American one and the fact that we are the only white people I saw while in the township. Once in the kitchen area, the staff greets my friend affectionately and everyone welcomes me. Indeed there is no faucet in the kitchen. Only a large sink where they clean the dishes with a complicated-looking assortment of jugs attached to the drains. I was introduced to Mere who embraces me warmly and pulls up a chair for me to sit next to her while she works the register.

Everyone buying food knows Mere by name and she asks about their families and laughs with them about inside jokes. When the interview began, Mere was all smiles. She told me about how her business had started eighteen years ago with only one shipping crate and a few paper plates. Back then, Mere was the only employee and she sold her plates of food for 8 Rand (about 1 US dollar). Since then, the business has expanded. She now has a full staff that is able to do delivery as well as cook. More shipping crates were added and a friend of Mere's built her the roof over the eating area. There isn't much room for more expansion because of the other businesses on either side of Mere’s but she has high aspirations of building a second story for her restaurant.

"When you come back to visit, this place will have *stairs*" she tells me, smiling. Now her plates of food go for about 32 Rand and the few hours I was there, it was constantly full of people.

When I ask her about the water situation she says "Yes, we have to fill up buckets from the standpipe. But it's not that far away." She has one of her employees show me what they use to fill up water. There are pulleys that can take one large bucket, about three feet tall, and it takes one person to wheel each to the standpipe. The employee offers to show me where it is located. The standpipe is about two hundred meters (roughly 600 feet) from the business. It is attached to the side of a building and there is a small line of people forming to use it, all holding pots of food or buckets. The employee tells me that the line can be quite long sometimes and it can take awhile. Especially when the restaurant is extremely busy, they may have to fill the buckets as many as ten times a day.

Once back at the restaurant, I sit next to Mere. I decide not to pick my notebook back up because I have a feeling my note-taking was making her a little nervous. And it was either because the notebook no longer stood between us or because she had started thinking about my questions that Mere's mood had completely changed. She looked somber and told me the government has done nothing to help in 18 years. She said the politicians come around every time there is an election and make promises that never materialize. When I asked why that was, she replied simply: "They don't care." Mere then went on to tell me how difficult it is to run a restaurant with no running water and how time-consuming it is to have to get water from a distant standpipe. Her language even changed. In the beginning of the interview, she called the standpipe "close by."

Now she used the term "far away." She told me about how the electricity they were hooked up to was for a house, not a business, and they would have to unplug the refrigerators in order to use the fryers. After that she told me "In Khayelitsha [a different township], they have taps in their businesses, but here we struggle." And then she said, "It's f-ed up" (*swear word exempted from text*.) My friend informed me later that in the three months she had been working there, she had never seen Mere visibly distraught like that moment and had especially never heard her swear.

With this shift in mood, one could visibly see how deeply this issue affects her, her business, and her community. It makes grassroots economic growth difficult because of the distance between people and their access point to water - in this case the public standpoint. It is also time-consuming to have to send employees for water four to ten times a day. Here space is more vast and time is slower opposed to the core, where everything is close at hand and quickly accessible. Because of this stratification of time and space, growth is inhibited for true entrepreneurs like Mere. The landscape is literally dry and brittle, making grassroots economic growth more difficult.

Meanwhile, large businesses are able to access massive quantities of water at a cheaper price - the logic being that this top-down model will attract foreign investment and create economic growth for everyone. Yet these principles completely underestimate or ignore the ability for economic growth to start at the ground in a bottom-up, grassroots approach. Individuals like Mere are therefore forced to overcome these obstacles in order to retain a thriving business.

Mere and her business also expose another stratification in terms of time. The rate of change at the top is quick, with the ANC now being in charge of the national

government. Since apartheid, many things have changed: the leadership, the dismantling of apartheid laws, and the ability for Black and Coloured people to take office and create legislation. Yet on the bottom, change since apartheid is slow or completely stagnant. People in townships are still struggling to access the state through infrastructure. The government put in place to change the difficult living situations created by apartheid continue to ignore the needs of the people.

Restrictor #3 - Faulty Infrastructure

Of the interviews conducted during my research, the biggest issue everyone stressed to me was not the prepaid meters. This surprised me because it seemed most of the literature I reviewed was largely concerned with that. And maybe it is because Cape Town does not yet have the same level of usage of the water management devices as say Durban or Johannesburg. The biggest problem raised over and over again had to do with the infrastructure. When asked what Cape Town's biggest problem is in the water sector, everyone's answer was not prepaid water meters, was not pricing methods, was not commodification or privatization. Instead, it was overwhelmingly "*leaks*" [Leela, Naledi, Susan, and the Water Caucus Meeting]. As another environmental NGO employee related to me:

> "Cape Town probably has the most progressive tariffs in the country but the main issue with tariffs is around bills and billings. Most people have very high bills but its not really around high tariffs. It's mostly around high levels of leaks. We've done a lot of research on it for the last 10 or 15 years, looking at how it disproportionately affects people in poor communities. That has to do more with poor planning and a whole range of stuff to do with infrastructure [than tariffs]." [Susan]

When I went to talk to people in one particular township, which had water management devices put in throughout, a woman I interview named Naledi, informed me

toilets are especially notorious for having poor infrastructure. Some people living within townships have acquired massive debt because of leaks- "making their account very, very high" [Naledi]. The government's response to these issues is extremely slow, Naledi imparted to me. It can take anywhere from about four or five days to a couple weeks to have the leaks addressed. What this means to people with the water management devices is that they are losing their daily Free Basic Water (FBW) to leaks and are often forced to rely on their neighbors who also have restricted water use.

At a Water Caucus meeting I attended in August 2012, a community leader explained in her township, leaks and leak-related debts are an extremely serious problem. Leak detection is slow because people do not know how to properly identify if they are experiencing leaks. The community leader echoed Naledi and informed us the government is extremely slow in responding to issues of leaks. They can take such a long time that people are forced to hire their own plumber: costing more money to the taxpayer that the government should be addressing in an area where people generally have lower incomes or are unemployed [Water Caucus Meeting].

The issue of leaks is a direct reflection of the poor infrastructure of townships caused by apartheid. Here, space is stratified because people are placed further from strong, updated infrastructure. Instead, they remain at the bottom, having to undergo the consequences of the country's historical inequality. The core is maintained and constantly updated so that it remains in a position to compete on the global level. On the bottom, individuals remain detached from upgraded, modernized infrastructure that would give them equal access to water as the core.

Also, people may not recognize they have leaks for an extended period as they may

not be able to properly read their bills and identify whether they are experiencing leaks or not. The government response is painfully slow as well, leaving many people without water for long periods of time. Even though, according to Leela: "There's [national] legislation that says your water supply cannot be interrupted for more than 48 hours. If your water is interrupted for more than 48 hours than the municipality must bring tents to that area and supply the water free of charge." However, this rarely happens because of the slow government response. And people are forced to pay for the upgrades themselves leading to a stratification of time.

Because failing infrastructure is widespread throughout townships, serious backlogs have accrued since apartheid. According to the same community leader from the Water Caucus meeting, the government has attempted to fix leaks and start fresh, but the number of people who need updating is overwhelming [Water Caucus Meeting]. Because the infrastructure was inherited from apartheid, the current South African government must now play a constant game of catch-up in updating. The top has already been given proper infrastructure and therefore does not need as much maintenance. Having poor infrastructure on the bottom because of underdevelopment leads to serious backlogs and slows the government's ability to update and the people's ability to progress**.** As Leela informed me:

> "Sometimes people have burst pipes and [they] burst too often, which means the infrastructure must be replaced in that area and the municipality must fix it. Now there's also a whole lot of issues: the backlogs even in apartheid, some people didn't have water and it's, in my opinion, my view, it's a fiscal task unlike other things. Water infrastructure is a very costly exercise because you are left to take your water from some source and give it to people. That's very expensive. And there's such a vast backlog, it's going to be awhile to address it" (Interview conducted -).

Yet it is not only the cost and the backlog that keeps the government response to leaks slow. It is sometimes their unwillingness to address current problems. Here Leela gives

a story of how she attempted to implement a forward thinking program to update leaks that would, in the end, save the government money:

> "The leaks are, I think, from infrastructure and I also think it's from ignorance. I've been saying to the municipality, 'let's use the budget to fix the toilettes.' [. . .] In one area that we went into we found lots and lots of water running away and huge water bowls which the municipality will have to righten because people are not able to pay for it. I suggested that we do a fixing of those people's toilettes because it would cost 100 to 200 Rand. People are having 1,000 to 2,000 Rand bowls of good water that the municipality has put in a lot of money to purify. That water is just running away. They could have fixed the problem and created a job opportunity for the people [in the community]. But they didn't listen and now I've seen the National Water Department wants to do a leak-fixing [program] in exactly the same way I proposed to do five years ago. I don't know why they didn't do it, there wasn't a budget restraint. I identified the funds to come from the national budget and there was money for it. But I don't know what it was: if it was political. There was no insight to the real problem, no willingness to implement, no new ideas."

Along with the enormous backlog and budget restraints, there appears a level of unwillingness to address the problems of failing infrastructure in the townships. All of this results to slowness at the bottom, as things remain unchanged and are left to worsen. People along the periphery are then left to acquire greater and greater amounts of debt, aggravating their economic struggles, while wasting clean, sanitized water. The costs of this are immense to both individuals and the government who spend energy and money in order to clean and purify the water. There is also an enormous environmental cost as well in context of water scarcity issues.

Restrictor #4 - The Technology

It takes about twenty minutes to get to the township of Delft from my hostel. Even once inside, it takes us another fifteen minutes to attempt to navigate the roundabouts and unmarked roads. Naledi has to wait for us on a corner so she can take us to her home. Once there, we go inside. Unlike housing in other townships, Naledi has sinks in her residence and a toilette. She also has the prepaid device attached to her meter.

Naledi was originally part of RCV. During our interview, she informed me that

prepaid meters were first being installed in 2007 and has since spread throughout the entire township. The prepaid devices are put in place by subcontractors who are hired by the city. As they put the meters in place, the subcontractors are supposed to check for leaks but often times fail to do so. They also do not always install the devices correctly, leading to constant machine malfunctions that leave households without water for extended periods of time. Naledi explained that sometimes the prepaid meters installed were not turned "on" and people came home to not being able to access water at all because the management mechanism was not activated. Much like the leaks situation, according to Naledi, the government is extremely slow to respond, even when it means people are living without water.

Aside from these negative aspects, Naledi believes the meters are a good way of alleviating debt for people who are unlikely to pay them off otherwise. This is important because the rate at which water is charged is increasing as meters are installed. With the prepaid water meter, the owner is able to "start fresh" [Naledi].

After the interview, Naledi took me on a walk around her neighborhood to show me the 'blue-tops' or the prepaid device put onto the meter. Every two or three houses, Naledi would point to a home and discuss an issue the families had with the device. It was usually with malfunctions of the meter, some breaking down completely and some not being properly installed. There were a few leak issues with the infrastructure as well. After a couple minutes of Naledi explaining all these deficiencies, I asked how many people had experienced problems with the meters and leaks after the devices were installed (something the contractors were supposed to correct). Naledi responded simply "most of us." At one point, a neighbor of Naledi's was out in his yard. She informed me

he had been without a proper working meter for two years. After we were introduced, the older gentleman informed me his prepaid water meter had been broken for two years and the government still had not come to replace it. He is still able to access water but now the rates are too high because of the rising tariff put into place once the prepaid mechanism was installed. This has lead him to not being able to pay off his debt and, instead, has caused it to increase significantly.

The issue of prepaid water meters and debt payoff was also raised at the Water Caucus Meeting. One of the community members related a discussion that had occurred during the "Water Dialogues" between city officials and community members. The city had promised to finally intervene in terms of fixing faulty infrastructure but asserted that people would have to install the prepaid water management devices as the only means of correcting their water debts, regardless of how those debts were accrued. Even if enormous debts were created from heavy leaks that were not detected for long periods of time, the individual taxpayer would still have to pay those off. Other debt issues included faulty billing on behalf of the government (bills being sent to the wrong address, etc.) or if the person was not able to properly read their bill.

Leela also explained to me more about the prepaid meters, how they were installed, what neighborhoods they were installed in. In our interview, she said:

> "Before [the subcontractors] were supposed to install that thing, they were supposed to fix the leaks and in some cases, they didn't fix them. And sometimes, the thing would malfunction, you know, it didn't work so people were without water for quite awhile but the municipality denied that people were without water. And [they denied] that this thing would malfunction because they wanted to push this device. [. . .] They're still being installed here in Cape Town mostly just in townships. And that was the other big fight. They claim it wasn't, but it was. It was just installed to poor people, punishing people for being poor. And I agree with that [argument], because if you look at where they were installed, it was to poor people because they couldn't pay. And the ones they claimed they have installed in the suburbs, those weren't put on a restrictor. They would put [the meter] in but the water would flow as normal. [. . .] I do believe there was racism and

> economics that played into how they are accessed water. They installed them quietly because they were unpopular. People didn't even know that the meter was put in sometimes because their meter is outside in the street. And typically the meter belongs to the municipality. It's *their* instrument to measure how much water you use so they can bill you."

The government pushes these devices and spreads them quickly and quietly. However, they are extremely slow in responding to malefactions or leaks (sometimes taking years) and causing a stratification of time. The stratification of space is apparent as well, with the prepayment mechanisms only being installed onto the meters of people living within poorer areas that, in Cape Town, has a large racial connotation attached to it. Poor people are thus, as Leela says, being punished for being poor. They are forced to pay for the faulty infrastructure inherited from the apartheid system, established in the form of debt-accumulation from leaks and other billing structures. Thus, the very people who were subjected during apartheid are now paying, both literally and figuratively, for the injustices of the past. What the stratification of space and time really reflects is a continuing gap of inequality, with the periphery being made distance and slow due to the unequal infrastructure and limited access to water.

The technology itself, which is being pushed onto poorer communities, is faulty and malfunctions often. It causes greater distance between citizens and their government, as they continue to look at their state as a body that does not work on their behalf. The fact that the government comes in to install them quietly and will install them when called to fix leaking infrastructure that is not always completely fixed, shows a growing space between people and the state. While citizens begin to feel distanced from their government, the state actually encourages programs that distance it from the people. The technology is given a governmental function of managing households' intake and billing of water without needing any type of bureaucratic structure or human presence in the

communities. Thus, the technology causes a growing space between civil society and the democratic system they fought so tirelessly to obtain. On the other side, the business sector of Cape Town is well looked after by the government and reaps the benefits of their status in the heart of the city (see Section: *Cape Town Today - An Aspiring World City).*

I believe there is another stratification, occurring with that of time and space compression: the benefits of technology itself. Technology is the ultimate tool of modernity. It is the driving factor for the compression of time and space. I also believe it is the driving factor for the *stratification* of the experiences in time and space compression from the core to the periphery, from top to bottom. Modernity acts as if technology is a mechanism that only causes positive changes, greater networks, higher levels of connectivity, and a betterment of human life. Technologies are invented under the guise that they are here to serve societies in one function or another.

Like modernity, there is a serious underside to the use of technology. While it creates amazing connections throughout enormous spaces in lightening speed on the global scale, it also serves as a space-creator and time-prolonger in the local sphere. This is usually dependent upon where an individual is located in the core/periphery equation. Therefore, it brings up the question: who does the technology work for? Poorer populations along the periphery lack access to solid infrastructure and to good education. They lack access to electricity and water for their households and small businesses. The technology the state is so eager to put into place is not there to aid these neighborhoods. Yes, it aids with debt, but sometimes that debt was acquired through situations out of the control of the taxpayer. This is not a tool for empowerment or education. It is a

mechanism of control. One that triggers disconnections instead of creating networks through time and space in the periphery.

The process of stratifying time/space compression is twofold. The technology is built to disconnect people based on neoliberal principles of payment: causing a slowness to life as the lack of water inhibits growth in an ecological, biological, and economical sense. It causes space by cutting off people's access to water and thus disconnects them from their state. This occurs when it actually *functions*, operating in the way it was designed to. The twofold process happens when the device breaks and malfunctions as well. Technology is fragile, and even if the individual is properly managing their water according to the device's rules, they are still not able to access water. When user errors and installation errors are added to the list, it becomes a nightmare of cut offs, ones only the poorer neighborhoods experience. While the core is able to access technologies of greater communication and connection, the poor are given technologies that cause massive disconnection.

Category #2 - Political Space

In Category #1, I quoted Mere and her feelings that the government does not care about her or her community. This did not come as a surprise to me at the time, however it reminded me of something I contemplated when I originally began reading about water privatization in South Africa. This happened when I was under the misinformed impression that since the human rights international superstar, Nelson Mandela, had taken over and apartheid was dismantled, that human rights and equality would be at the forefront of South African politics. Therefore, when I first started hearing about accounts

of water privatization exacerbating poverty and prepaid water meters being installed along racial lines, I did not understand why or how the state could allow something like this to commence.

Even though I am more than certain there is still a plethora of complexities I do not fully understand, I attempt to piece together the things people have told me and give some semblance of an answer to this question. From here I tie my theory of the stratification of time/space compression into this larger dilemma.

I believe it feeds back to a lot of what was discussed in the literature review. The neoliberal world order enters into a space through the global city, brining in technologies, wealth, information, and resources. However, these amazing attributes largely stay circulating in the core of the world city, never seeming to extend down the pipeline to the peripheral spaces. This section is dedicated to examining how the water sector reflects the way power flows from the top but is limited as it travels to the bottom.

The first blockade, which I argue inevitably leads to the preceding restrictors, is the tye between corporate life and politics in South Africa. This then causes money to be a priority of the government and not the people they were elected to serve. When civil society tries to capture some of the power back for itself, politics delude the issues by high jacking the debate and causing the next restriction: the misconstruing of the service delivery protests occurring on the outside of Cape Town with party politics. The final part explains the lack of education and communication between the government and the periphery. All of this leads to a slowing of the periphery and a distancing from the core in a stratification of time/space compression.

> "[What] happened here as has happened in most countries, [potentially] all countries, is an unholy alliance between corporations and politics against civil society. It should be

> civil society and politics against industry: politics working for us and industry having to push for things instead of the other way around" [Naresh].

This restrictor of "Corporate Influence" happens at the very top of the power flow. It then causes the other restrictors listed. Therefore, my diagram is not quite accurate as there is more connectedness between the restrictors than is shown (see Diagram C). As the next few are listed, they occur in order. Meaning restrictor #1 occurs first at the 'top'. Restrictor #2 takes place in the middle ground, where the government and civil society interact and mingle, and restrictor #3 transpires on the bottom. The latter gives a view from the bottom, with civil society looking up into the underbelly of the system.

Restrictor # 1: The Corporate Influence

As Nthona informed me, "Corporate life and political life mix a lot [in South Africa]." In another interview with Naresh, he expressed: "Our government is too neoliberal. They shifted to the right really fast." Here is a clip from his interview that explains why the government that was put in place to be a government of the people, abandoned their socialist platform so quickly:

> "People forget that the ANC was always a middle class organization from its founding in 1912, a hundred years ago. It was always middle class. […] It already hinted at a different ethos to mass poverty struggle. Then, of course, over time the masses supported the ANC quite rightly. But of all the liberation movements, they were the most conservative. […] More progressive [parties] were far more Africanist, more black power, more black consciousness. [The ANC] were never socialist, that was never part of their platform. […] Patrick [Bond] used to sit next to Mandela as he was drafting policy- you can't get higher up than that in this country. And he heard Mandela say 'oh we mustn't put that in, it will frighten the markets.' But what we should have done was frighten the sh*t out of them because we have the resources and potential markets. So we just very quickly fell into that. I'm not blaming Mandela. But he's a politician. And politicians by they're very nature are dealmakers. We did no favors to us to have Thabo come next. So they're thinking was neoliberal anyway."

Daluxolo explained that the thing about South Africa's transition is that it was done peacefully without an armed conflict. Which was good in a number of ways but also left

a lot of room for negotiation with the apartheid government. Daluxolo told me the thing you do not hear about Mandela is that he was chosen as a person who would be a good negotiator, not a hardliner. "You don't go from being a prisoner to president without being willing to work out a deal" [Daluxolo].

He also said the ANC campaigned originally with a socialist orientation, wanting to nationalize the mines. The ANC toted them selves as pro-poor [in the 1994 elections] because they needed 'friends' in order to gain power. The reason the party became a worker's party, a grassroots movement, was when decolonization began to pick up. They united "because all the whites hated us." But apartheid was not just a system of race, it was also systematic of gender, wealth, and resource control. "The ANC for it's first 30 years was a gentleman's club. That's the roots of the ANC. When it got back to power, it got back to its roots" [Daluxolo].

When the ANC came to take over the state, it had already been sold off before they could take power. Rights to water, land, and reservoirs were then traded off to the highest bidder. Then the SAP's came in and changed how they handle their economy. The ANC started to end the isolation from other parts of the world. They wanted South Africa to be accepted and be part of the international community. Therefore, they thought they had to do what they were told, as there was only one 'sender of money.' And "where do you run if you piss off the sender?" That's when the private sector got a bigger role [Daluxolo].

"Privatization hit this country very hard. Still does." As private companies began coming in, they made the government look ineffective. "The businesses thought they could run the country better than our democracy." What ended up happening was that the

black elites of the country started making a lot of money. "Socialism faded and business minds began to take over. That's when things began to wobble" [Daluxolo].

Black empowerment became an affirmative action campaign, instead of a socialist one. It was an idea of management, to give black people the chance in the economy instead of reconstructing society. "With that came corruption. It became a of struggle of middle class interest and not about alleviating poverty" [Daluxolo].

The ANC, it appears, was specifically picked by both the international sphere and the old bureaucratic government of the past. Naresh stated in his interview, it was not a revolution, a break from the past, just new players sucked in to the old system. The ANC continued along with the neoliberalization of the state arguably because they were the elites and the new-old system allowed a small portion of Black and Coloured people to benefit (financially) while leaving the rest to fend for themselves. What it did was suck a small amount of people into government and industry (the top) at the expense of those on the bottom.

In this regard, the corporate space either moved (or arguably remained) in the political space, allowing the new government to drink in some of the power and other positive attributes from the international sphere. In return, the government abandoned its promises of a better life to the rest of the populations by placing them at the mercy of privatization, commodification, and the space-creating, time-slowing technology of prepaid water management devices. For the water sector, a list of priorities was set up with business and industry at the top of the list and citizens at the bottom. This format follows along the configuration of the diagram used to argue this case and one that unearths the rather unequal structure of allocation (see Diagram C). Therefore, the

amount of power allowed from top to bottom is largely dependent upon the priorities of the government.

When I was attending the Water Caucus Meeting, two government employees from the Water Department attended in order to open better lines of communication with the Caucus (for a more detailed description see Section: *Flow Liberator #4 - Water Rights Networks*). They informed the meeting that the government has a responsibility to prioritize in terms of the economy, making sure that big businesses are the first to have access to water. The energy sector in particular was mentioned because it is very water-thirsty and provides electricity for the entire nation. However, they stated growth and development were large government priorities as well. Once the government employees had departed, the Caucus members discussed this priority dilemma. They said within existing national legislation on water, it is written that people and the environment should come first, even over business. However, this is not the reality as demonstrated by the use of the Department's rhetoric.

This reflects the pull the states feel between corporate priorities and civil society. However, the state is either forced or acquiesces to lean heavily to one side. As Naresh told me:

Restrictor #2 - Political Highjacking

Over a three week time period, I collected the *Cape Times Newspaper* to find articles on protests happening in townships over inadequate service delivery. Out of the fifteen days from Friday, July 27, 2012 to Thursday, August 16, 2012, there were seven days that wrote about these service delivery protests, speaking of their common

occurrences within the township areas of Cape Town.

According to an article written on 27 July, 2012 - two protests erupted in the township areas on the outskirts of Cape Town, causing road closures, tire burnings, and destroyed street lights, costing the city money to rebuild[5]. Unequal service allocation in townships was the reason stated for the protests in the area. A Community Leader was quoted to say: "Our people don't have proper toilettes, running water, decent housing and roads. Our councilor ignores us" (Felix and Hartley 2012).

As discussed in Section: *A Space for Protest*, protests had an important role in township history for bringing down the apartheid regime. It is a common tool, which South African civil society uses in order to communicate, when they feel the government is ignoring them. However, over the two week period, the main response I saw from both the Democratic Alliance Party (DA)[6], and the ANC[7], were to blame one another for the protests. In my opinion, this has distracted the real issues at hand (poor living conditions that persist in townships) and has allowed party politics to highjack the real debate.

In an article on 30 July 2012, the Mayor of Cape Town, Patricia De Lille, accused the ANC for instigating the two protests in the township regions listed above. She asserted these are propagated in order to pursue the ANC agenda of destabilizing Cape Town under DA control. This destabilization method is being termed 'Operation Reclaim': a statement by the ANC Youth League propagated to make Cape Town ungovernable and thus diminish the chances of another DA victory in the 2014 elections (Koyana et al., 2012)

While De Lille acknowledges some protests as "legitimate," her main sentiments

[5] Damages have reached about 2.6 million rand in just two weeks (roughly $325,000).
[6] They are the ANC's opposition. They currently only hold power in the Western Cape.
[7] They are in power in the national government and all other provinces except the Western Cape.

were that the poor are being used to progress the will of the ANCYL. In fact, in her editorial on the same day, she says "This is not a conspiracy theory- it is the real frustration of a government dealing with those individuals who would destabilize our society because they have no faith in the ballot box and so must resort to violence." She then goes on to insist that the government is dealing with many complications of the divisions in society with limited resources, and this leads to some individuals feeling unsatisfied (De Lille 2012).

The ANC denied any responsibility for inciting the protests, saying instead that they are ignited over the poor living conditions in the townships, mainly lack of service provisions. One individual from Khayelitsha was quoted for saying the ANC had nothing to do with it and that it was the will of the people, "The protest was by the community, not the ANC. People have real problems." In fact, the protesters even held demonstrations outside the home of the ANC councilor, Amos Komeni, who lived in the area (Koyana et al., 2012).

Every article I found during this sample period had a back-and-forth between the ANC and the DA. From interviews I have conducted with a few people (Lungelo, Daluxolo) it does appear that the ANC is known inciting people into protesting. However, if this is true, it would not be very difficult to instigate them. The extremely poor living conditions force people to live with limited access to clean drinking water and proper toilets while at the same time having water surrounding their ankles. And yet when the political parties battle against each other, it continually undermines the real issue: that people are still suffering serious inequalities 18 years after apartheid.

On 15 August 2012, a person from the Social Justice Coalition was quoted with his

idea of what was happening: "The protests are genuine and the politicians are being opportunistic by advancing their own agendas." Another individual quoted in the interview asserts inequality is even worse now than in 1994, especially in the Western Cape (Ndenze et al., 2012). This is largely due to the enormous flooding that happens in townships. As UCT Professor L told me: "People wake up to floating on their mattresses."

With the political parties fighting against one another over who is to blame for the protests, they have effectively high jacked the real debate, on why people are still living under such conditions in the townships. What is happening in Cape Town, I assert, is that the political parties have high-jacked the narratives of these protests in order to push for their own power, thus squeezing off the power that should be allotted to civil society's ability to assert its own voice. Even the tone of the articles seems to be consumed with the political back-and-forth instead of the real issues, how they came to be, and why they still remain.

However, there were a few opinion articles during the sample period that attempted to address the real issue: what happens when communities are forced to live on the periphery of economic development. An opinion article on 3 August 2012, did not address the protests directly but instead painted a valid picture of the challenges facing people who have to live in townships and whether the politicians actually care. The author writes that black youth have to deal with high unemployment rates because, even though they are qualified, are still largely ignored by the corporate world. The article goes on to say: "What this is saying for me is that we are once again running the risk of having the majority of the people in this country living on the fringes of the economy.

This will perpetuate the economic domination of these people by other races (especially those currently controlling the economy.)" The article calls for better opportunities and education in townships. Otherwise, the country may run the risk of continuing the deep, racial poverty and inequality that was suffered under colonialism and apartheid (Zungu 2012).

Another op-ed spoke of the peripheral status of townships in context of the protests. This article on 14 August 2012 slammed the ANCYL for their militant tactics. The author was a past league member but has since rejected their policies and practices. The article states: "Today's unrest spoke volumes of what the league has disintegrated into: a home for hateful incitement, racist name-calling, hooliganism, and unbridled anarchy." The article then goes on to say the need to confront poverty is something that should be done collectively instead of burning the city. The author specifically suggested confronting the economic sector. "This is a battle that is best taken up with the executives of corporations. Yes, multi-nationals get disproportionately high profits on the backs of our national resources, but this is something we must confront with thought and consideration." Not militancy and violence (Salasa 2012).

The last two cited articles attempt to locate where the ‘blame should be placed. They both point mostly at the economic structure of Cape Town and how it leaves people on the periphery. Another spatial point of reference is that fact that the protests physically occur along the periphery. While in Observatory (a little outside the city center) I had no idea protests were even occurring, even when they shut down the N2 (the highway running into the city). As far as I could tell, they could have been thousands of miles away instead of a ten minutes drive down the road. The point of this story is that

the protests do not seem to reach the people they are meant to. The people protesting are physically distant from the city center and government offices. This leaves them mentally distant to the government and their aim at communication. While the business sector is, by nature, at the heart of the city and the ear of the government.

Restrictor #3 - Voice Evaporation

Over the course of conducting interviews in Cape Town, one emotion was repeatedly expressed to me by the people interviewed who live in townships: the feeling of being ignored. The two restrictions listed above are mainly about the government's attitudes towards civil society or about how they interact in the public eye. This restriction seeks to determine what is happening on the bottom, which makes people feel as if their voice is not being heard by the core.

After the government employees had left, the discussion in the Water Caucus Meeting began to examine how civil society networking with the government had been killed by "unceremonious ways." The budget was the large disclaimer used by the government. However, the Members argued the true reason was that the government had stopped giving people a voice in how they raise their own issues about water access.

Another reason stated was that civil society does not understand how the government operates. As Member said "people don't know where things fit." The discussion continued on how complex the Water Departments design is and how this can be especially confusing when people are not able to accesses this information (through mechanisms as say the internet). Members raised the issue that the service department is "not on the front line of communication with civil society." Instead, it needs a

department within the water sector whose soul purpose is to "talk to the people beyond gazettes" and set up workshops to unpack issues for the public.

However, during my interview with Leela, she explained that the RCV largely did what the Water Caucus had been advising and yet they were eventually shut down by the Department:

> "We explain how the three spheres of government work- the national government, the provincial, and the local- and [teach] whose function is what. The reason we do that is because people can become very frustrated if they are sent around from post to post. But if they know where to go, it will make it easier for people [to report problems] so we tell people who deals with what. […]We also took the issues from the community into the correct department and when in council we had to present and fight for the issues of the community. [. . .] There was always tension between our project and the people installing the water management devices because we would come in and say this is not working and they would deny it because they wanted to push this and say that this is the best thing. So there was always tension. [. . .] And of course the Mayor was supporting the device and so our project wasn't very popular [with the government] so they closed the project down."

Naledi elaborates more on the issue of the project's termination. The city said the program ended because it no longer had the funds to pay the facilitators. However, Naledi does not agree with that reason. She believes the government wanted the subcontractors to take over what the RCV was doing, even when a lot of the problems the community was having was due to subcontractors. The issues the RCV was reporting back to the departments were about leaking infrastructure, malfunctioning devices, and uniformed communities, all things the subcontractors were supposed to address. Therefore, the state pulled the RCV's funding and kept the subcontractors in place because they supported the installation of the prepaid device.

As Naledi and I were walking through her neighborhood, looking at all of the broken meters, she informed me that even though she has not been paid by the state for a few years, people in the community still called her about issues they were having with their water services. Naledi continues to help identify leaks and teach people how to use

the meters because the subcontractors do not. They also go to Naledi because she is physically located in the community as a neighbor and friend. The subcontractors live in other communities outside of the townships.

A few issues were raised that I believe are tied together. One is that the people do not quite understand the water sector and how it operates. Even after having a few people explain it to me, I am still not fully sure of how the bureaucracy operates. There are two different departments and they both report back to each other. Its complexity makes it largely inaccessible. People are not sure whom to call when they have problems and become frustrated after being bounced around from department to department. This causes a slowness in having issues addressed.

Even when the government was implementing programs like the RCV that taught people how to access the municipality and argue their case, they were shut down because the people were telling the government things they did not want to hear. This is particularly true about malfunction issues of prepaid management devices and the fact that the subcontractors were not doing the essential leak-checks and education required. In essence, the government refused to listen and then took away a program designed for better communication with civil society. The periphery's inability to be heard causes slowness and distance. Having a democracy is supposed to allow people a voice whom otherwise would not. When apartheid was dismantled, the central promise made to all the people of South Africa was that they would finally have a voice. So what happened?

During my interview with Naresh, he explained it: "What happened to us was we lost a layer of leadership in civil society that moved to government. Left a big vacuum behind." It would appear that when civil society has a strong voice, the government has

ways of absorbing the leadership level, bringing them into their fold and out of civil society. In my interview with Mere, she told me that she does not feel like she can communicate with the government: "They're too high up." Showing that the higher one is, the closer to the core, the greater the space from the periphery physically, mentally, and politically - even with a democracy.

Nthona elaborates:

> "We had a lady come in [to one of our classes] and she talked about what it means for her to be a protestor in [post-apartheid] South Africa. One of the students asked her 'Do you feel like the government has changed since 1994?' What she said was 'Yes, government has changed slightly. Pre-1994 government wouldn't listen to you. Now they will listen to you, they just won't do anything about it. So you have a voice. But no one is taking your requests and doing anything about it.' And I agree with her."

People do have a voice they did not under apartheid, the problem is they have no one to listen because of the webbing between the corporate and political spheres. Again, there is no full cycle on the Diagram -, no point where the bottom is able to reach the top through natural circulation. Instead civil society's voice literally evaporates into thin air.

Category #3 - Mental Space

Harvey (1989) believes the mental space is something immeasurable, intangible, and yet extremely influential. It is the space where our ideas, knowledge, communication, and relationships exist. This category may potentially be the most powerful kind of space, for it largely dictates the other two spatial categories examined in this piece: physical and political space. It not only dictates them, it *shapes* them. It is the space that shapes other spaces. And yet, with its power, it is the most difficult to define as it is a sphere with no definite space. It cannot be easily measured and, therefore, remains hard to pin down, grasp, or conceptualize because it *is* conceptualization. Like

philosophizing about philosophy or writing about writing, thinking about thinking is- in essence- a process of reflection. Accordingly, this point of my analysis has proven the most difficult to write. The difficulty being that it is sometimes hard to explain exactly what this illusive space is and how it functions in society. Also, because of its reflective nature, it has made me examine myself and how I fit into this sphere as an academic, a writer, and an individual.

Water too is reflexive, as discussed earlier. Therefore, examining mental space and its relationship with water has been a bit like running through a house full of mirrors. Sometimes I would turn the corner into what I thought was another section only to run smack-dab into my own reflection. The mental space components of ideas, knowledge, and information have comparisons to water. And (like water) ideas, knowledge, and information flow through society. They can also be dammed (or at least heavily restricted) at certain points from top to bottom. All the ideas swirling around in the core do not always reach the minds of the periphery, leading to a stratification in mental space. This section is dedicated to trying to identify the intellectual restrictions that cause the stratification of time/space compression from the core to the periphery.

While being finished for almost twenty years, apartheid still remains heavily within the minds of people in South Africa and continues to block individuals from accessing information and knowledge. The first intellectual restrictor is the government's failure to educate the public on general water maintenance issues, particularly on how to properly use prepaid water meters and identify leaks. The next restrictors will be designed to examine the actual space that remains between civil society and info-generators of the core (legislative government, researchers, academics, think-tanks, etc).

This will mostly pertain to language of both dialectic and terminology. It also soaks into Foucault (1979) and Said's (1978) idea of discourse. However, I do not wish to fully examine all the different discourses emerging but how the emergence of all the different discourses about water causes greater complexity and confusion on the bottom in the final part.

Restrictor #1 - No How-to Guides

According to Naledi, as the prepaid devices were attached to meters, the government was also supposed to be educating the people on how the device worked, how to use it properly, and how to check for leaks. This did not occur on a massive level leading to "a lot of confusion in the community" [Naledi].

Leela explained one example of how insufficient education can lead to an individual acquiring less access to water:

> "[The subcontractors] were supposed to do education first on how this meter works. Because if you don't know how the meter works, you will run out of water. From the first of the month, the meter starts ticking. So say you go out of town and you only use 200 liters for the day, the balance then gets carried over to the next day. […] If you know the first [of the month] is on Monday, then surely you should wash your washing on Sunday or Saturday so you can use the surplus water that has accumulated [over the month]. But say you wash on Monday [instead], you may run out of water but you wouldn't have run out of water the day before. So there needs to be proper education."

Therefore, as the core begins to roll out these programs in the periphery, such as prepaid devices, a level of education must happen in order for the periphery to adapt to the new environment. This again reveals the stratification in the benefits and use of technology. Here the device does not bring more information to the periphery, as say a computer lab would. Instead it *requires* more information and education that is not being given by the government. This leads to more 'technical' problems opposed to less. Not being able to

understand the present situation leads to slowness. It causes people not being able to acquire water and it makes their lives progress at a decelerated rate, as they are not able to adapt as quickly as the core. With this slowness of progress, it creates a greater distance between the core and periphery in the levels of development.

I believe the system itself renders the stratification of information with the 'gravity' of how information is generated in the core and then must be delivered to the periphery. Feed back from bottom to the top, much like the ecological water system, is not occurring. This happens because people living with prepaid meters are usually not (here I am generalizing) the same people making legislation, researching water issues, or creating policies on water. In this light, the system itself is a barrier, or at least the gravity of the system is with its top-down direction of information circulation.

Even when certain groups try to reverse this, giving civil society a greater voice, they are met with significant challenges. The Water Caucus Meeting (which will be discussed more in Section: *Flow Liberator #4 - Water Rights Networks*) was created in order to give a platform for community leaders from townships to come and share information with people working in the water sector. Generally the people on the periphery are not the same people in the boardrooms, in the think tanks, in the classrooms or in the government who are creating discourse. There is a lack of connection between the top and the bottom, between civil society and the 'authorities' of issues. The challenges they face with this type of format is mostly around top-down power dynamics (gravity), language, and discourse.

Restrictor # 2 - Language

At the point of the meeting when community leaders give accounts of what is happening in their communities, everyone was a bit quiet. A few individuals would give a short response and then stop. Eventually one woman stood up and struggled to phrase her sentences. Finally, she stopped trying to speak in English and switched to IsiXhosa, even though some of the NGO employees and us researchers could not understand her. Once this happened, to me it seemed the side of the room with the community leaders lit up. Once able to speak in IsiXhosa people were more willing to give accounts with greater descriptions of the issues in their communities.

Eventually one of the NGO employees, who also spoke IsiXhosa fluently, began translating for the English speakers. He said the community leaders attend the meetings to be empowered and then walk out feeling disempowered as the documents distributed and the meetings are held in English. Also some of the terminology and language used in the documents is confusing, which I hypothesize means it is written in either too technical or too academic a language. The community leaders attended the meetings to have a voice on how the water sector shapes life within their neighborhoods, only to have to use English as the language to convey this.

Once the meeting was changed to IsiXhosa, people started responding more positively to questions by speaking in IsiXhosa and having someone else translate. This occurrence opened my eyes to how dialects themselves are a form of power dynamics that have adverse effects on the periphery. English was the original spoken language of the meeting because it is the one that everyone present could understand to some degree. It is also the language that the documents, legislation, and information are written in. Yet

this places people within the core at an advantage from the periphery, as they are usually more educated in English than the people living within the townships, who are first taught in their native languages. While this was only one meeting I observed, it occurred to me that this may be a greater microcosm of how language of the core keeps the voices of the periphery silent and at a disadvantage.

Therefore, the Water Caucus set up a number of recommendations on how to better address the power dynamics of the language barrier. If documents are to be circulated before the meeting as a way to bring everyone up to speed on the issues, these documents should be translated and better unpacked through the technical language.

I believe there are several different types of languages that work together to create a "core language" which is harder to decipher by the periphery. Not because they are somehow less intelligent. Instead, the dialects are screwed against them as they speak a native language more fluently than the hegemonic language of English or other colonial languages. Also each discourse has its own type of language wrapped up in its terminology and expressions.

Language is multi-layered. Therefore, the core language is the makeup of lots of different other dialects. While peripheral languages may overlap in some areas with the core, it can also remain in a space not as easily comprehendible. The language barrier keeps individuals out of the 'flow' of information and knowledge, slowing down the adaption process for the periphery and spacing them further from the core.

Restrictor #3 - The Discourse Hurricane

Another aspect that causes a mental stratification of time and space compression is

the enormous amount of discourses which swirl around water like a hurricane. All the rhetorics on issues of environmentalism, neoliberalism, South African politics, and even just the technical, engineering aspects of water implementation (the nuts-and-bolts of the industry) all converge and create a terrifying amount of discourse.

Even within the Environmental and Geographic Studies Department (EGS), Lungelo thought his first year was boring because it did not cover the aspects of EGS he found interesting:

> "I liked geography so I found EGS. But the first year is boring, really really boring. It doesn't link up [to social issues]. You learn about homo-Sapiens and carbon dating. You kind of get lost in the science."

And while that student got lost in the science, I was getting lost in the discourse. I could feel it too. I would go into an interview and the person I was interviewing would take me down one path of discourse and I would follow without thinking about it. Only to realize later I did not know where I was going.

Even at the Water Caucus meeting, their curriculum was extremely long and covered an enormous breath of information on water. Trying to be the point of entry for civil society to gain knowledge on issues of water can be extremely difficult with the high level of details accompanying the various discourses. Some of the key issues they touched on were water policies in the government, environmental issues, development and growth opportunities, commodification, and the need to engage civil society. Beneath it all, the issue of morals was raised. How do we instill morality and ethics into all of the swirling discourses in order to give people equal access to water? I believe in this way, the massive amount of rhetorics swirling out from the core disadvantages the periphery- always keeping them one step behind and their presence far from where the information is being generated.

The Battle Upstream

Even with gravity forcing the flow of water, power, and ideas to be a top-down model (with many restrictions along the way), there is still an enormous amount of work being done to battle upstream and break open the restrictors. Through the fault of my use of metaphors, I am afraid I have given the impression that 'the bottom' is a dry, desolate wasteland; one where water, power, and ideas are shut off and the parched land is a space where no life can grow. However, while restrictors (put in place by the top) cause the bottom to be disadvantaged for the opportunity of growth. This is not to say there is no life there, no resistance, no hope. When in fact, there are multiple levels of people both in peripheral communities or operating in the core who are working to break down the dams and free the flow of water, power, and ideas. However, the mission does not end there. They also seek to reverse the flow- where the bottom is able to communicate their own voice and issues to the top. There are many, many examples of these Flow Liberators, however, I have only identified a few to examine.

The first is the protestors from the townships who continue to fight for equality. The second examines the enormous amount of community organizations and NGO's working towards loosening the restrictions on water and power. The next flow liberator is the progressive government program described in above sections - called “Raising Citizens' Voice in the Regulation of Water Services.” And the final part analyzes the network created around South Africa to better address disadvantaged communities difficulties in water access.

Flow Liberator #1 - Protestors

As Section: *Restrictor #2 - Political High-jacking* discussed, a high level of protesting still occurs in township areas. And while they are sometimes politically high-jacked, they are still a form of expression for communities that no longer believe their governmental system provides a platform for communication and a neutral space where they can present their own issues. Protests are spaces that show unrest in the community. They reject the daily flow of complacency and instead attempt to communicate to the top that they acknowledge the restrictions cutting off the flows to their communities.

Either an act of defiance or simply to regain access to the necessity of water, in some cases citizens took it amongst themselves to physically remove the prepaid water management device. As Leela explained: "Because of the malfunctions, there was uprising in the community. People began pulling the device out." Here the protests serve two purposes in the battle upstream: one to communicate to the top through the actual act of protesting about issues created to restrict the bottom. The second is to actually physically remove them.

At the Water Caucus meeting, Members even identified strategies of going to the "hot spots, the sites where tires are burning" and bring those communities into the fold for discussion about water issues. These actions on the ground prove that while the top may constrict the ability of growth and voices of the bottom, communities will continue the battle upstream and continue to enlist the protest spirit that brought down apartheid.

Again some of the metaphors I use may be mistaken in making the bottom seem like a dry wasteland so very far from the truth. Communities along the periphery are full

of life. What I mean when I show the bottom as a desert-scape, is not that there is no life. Instead it is the full ability for growth that remains dry and thirsty.

Flow Liberator #2 - NGO's and Community Groups

There is a high level of community organizations within the townships, all dedicated to helping their neighborhood from issues that arise in poverty. As the professor from the African City Center informed me:

> "[The ACC] hosted a competition for a German foundation which every second year has an award called the Urban Age Award. They go to a new city and look for really good projects which are helping the poor. Then they give an award and it's huge, it's hundreds of thousands of US dollars. We [Cape Town] got it last year and we an enormous response with 214 groups submitting applications saying 'this is the work we do as a small group of people who build something or do something'. […] [T]here were 214 groups of people doing this amazing, self-supporting, limited-funds work. […] It's amazing that these people, in the belly of the city come in and address this. It was wonderful. There's enormous amounts going on, some of it known, some of it recognized some of it not so much. It's also a reflection of the energy of people trying to better their own conditions."

From the bottom, there is a pushback. Even with all the restrictions that lye above and the gravity of the flow, people are still trying to create life and challenge the top through everyday community action.

There is also a high amount of non-governmental organizations working in South Africa on climate justice issues or issues of poverty. For one, because environmental degradation is usually suffered hardest by poorer populations, the issues of environment and humanitarian endeavors become tied together. As Naresh told me: "It's a fascinating terrain, the NGO terrain in South Africa. At one time, we had 100,000 NGO's in this country. We include community level organizations. The vast majority are volunteer. There are some groups that have nothing and they still help people. Especially amongst the poor, a big charity ethos amongst the poor." Below are a few examples:

EarthLife Africa Cape Town (ELA CT) is a non-profit NGO that exists across the African Continent. Its main goal is to promote development which does not harm the environment and which brings all populations into the fold, not just a small minority and conducts research on issues negatively impacting both the environment and humans alike. The Environmental Monitoring Group is a non-profit NGO that creates relationships between individuals, organizations, and government in order to promote sustainable resource management, especially water. The Anti-Privatization Forum has branches that exist in most South African cities including Cape Town. The APF is designed to unite struggles against privatization in the different sectors (housing, water, electricity, etc.), because it believes privatization negatively affects the poor (Anti-Privatization Forum 2012).

All of these organizations are built through either volunteers or through charitable donations. And they all form together to fight back against the restrictions put on people's ability to access water, doing the difficult work of fighting upstream.

Flow Liberator #3 - Progressive Government Programs

Even though it has been shut down since 2010, the "Raising Citizens' Voice in the Regulation of Water Services" (RCV) was developed by the Department of Water Affairs and Forestry to be a public education initiative within townships of Cape Town. It promoted citizens' engagement with the government over their issues of water accessibility and leaks-monitoring. This bottom-up strategy trained individuals on their rights and responsibilities pertaining to water access. It also set up "User Platforms" where civil society and the municipality could meet every week to collectively problem

solve and monitor growing problems within water allocation. Through this, partnerships and relationships were built or strengthened between civil society and the government: opening up new lines of communication and giving people a voice on water issues (Water Information Network - South Africa).

Leela informed me RCV took care of the main issue people were having with water service – leaks:

> "The other thing we did taught people was how to read your meter and how to use meter reading as a way to identify leaks. And then we showed people, if you close all your taps and then come back in an hour and there is a change in your water level, there is a leak. So people could identify their leaks and how to identify problems. It was a very good project."

Once the leaks were identified, RCV employees took the information to the correct department or they educated people which department they should contact. In other words, RCV taught people how to properly access the department. Leela informed me they also taught people within townships their rights in national legislation on water and how they could apply for poverty assistance. Other responsibilities included training people in the townships on how to repair and address issues in their communities so they could work for the municipality [Leela].

This progressive government program seemed to address many of the complaints from previous sections, particularly how to address leaks, how to use the prepaid machines, and how to access the government. Yet, because the program exposed the truth about the devices (that they malfunctioned and that the contractors were not addressing leaks before installation) the program was cancelled in 2010.

An interesting spin on this story is that while attending the Water Caucus Meeting, the government employees from the Water Department stated the reason for being present was to run an idea past the Water Caucus. They said the relationship

between civil society and city government had died and they wanted to resuscitate it around connections in the water sector. The city government apparently was toying with the idea of coming up with a structure where representatives in communities would "become the eyes and networks" for communication with the government. They did not elaborate but, in my personal opinion, it sounded very similar to "Raising Citizens Voices."

Flow Liberator #4 – Water Rights Networks

The South African Water Caucus (SAWC) was created after the 2002 World Summit on Sustainable Development and has been meeting regularly since. The Water Caucus is a national network that encompasses about twenty organizations who focus on issues of water. Meetings (both on a national and a local level) are held regularly in order to discuss policy and processes of implementation. These issues usually pertain to environmental concerns around water ecosystems, resource strategy, water pricing, tariffs, prepaid water meter devices, and regulation. SAWC has subsections in different provinces. These local caucuses are set up in order to engage with local civil society and community groups about their issues on water access (Water Information Network).

In their manifesto it states that a) water is a human right; b) the water sector needs accountability to the local level on equal access to water; c) the health and preservation of ecosystems should be respected; d) privatization and commodification of water should be rejected (as should the US, multi-nationals, and any other outer-state agencies who push this agenda); e) that SAP's should be discarded; f) a greater amount of communication with social movements should lead the debate; g) that true sustainability should be

achieved; and h) that education and raising awareness to mobilize communities should be propagated (Environmental Monitoring Group 2012).

The meeting I attended gave me great insight into the operations of the Water Caucus at the local level. I was able to better understand the types of challenges they face and how civil society engagement may be a bit more nuanced than it would appear. I believe the Water Caucus gives a critical voice and a space for civil society to bring their own issues to the forefront and an alternative sphere for discourse on water rights. The Water Caucus continually fights upstream to break open the restrictions that keep people from accessing water, power, or critical information needed on water.

Conclusion

Water does more than just hydrate our biological beings. It ties us to our environment; it replenishes our economy and keeps our planet alive. Water soaks deeply into our lives, our human existence. It is odd to think humans have created circumstances causing individuals worldwide to be cut off from this precious resource. Climate change, environmental degradation, pollution, and then economic practices of privatization and commodification all block people's access to water. And because of urbanization and the need for sanitation, the state has had a growing and advanced role in providing clean water to its population through modern infrastructure and policies.

In South Africa, because of the legacies of colonialism and apartheid, failing or limited infrastructure keeps people living along the periphery of cities or in the rural parts of the country from having clean drinking water available within their homes and

businesses. This occurs while wealthier neighborhoods and large-scale enterprises located at the heart of the city are able to have unlimited, cheap access to sanitized water, causing an even further discrepancy in the ability to retrieve this human necessity. In other words, water becomes another essential component that poorer populations are excluded from: turning what should be a basic human right into something that falls along class lines and racial divisions. This socio-economic separation is only furthered as neoliberal pricing methods and commodification leave poorer populations unable to afford clean water. Prepaid water meters are also being installed in poorer households. These technologies are not instated to better the life of the individual but instead are used by the core to limit and control the poorer masses living along the periphery of the city.

Because water is now accessed and sanitized through the human agency of infrastructure and technology, an enormous amount of political power flows alongside it. Neoliberal, corporate influence over the water sector has caused restrictions to be put in place of this power, stripping the very communities who struggled for democracy in the new South Africa from having a voice. When protests erupt as a means of communication with the core, the power of civil society is high-jacked by political parties, each trying to push their own agenda by supposedly speaking 'for the people.' In reality they end up ignoring the real issues at hand: poor living conditions and inadequate service delivery caused by neoliberal policies. These two restrictions cause voice evaporation, as civil society attempts to express itself yet are either misinterpreted by politicians or ignored by the government because their concerns do not coincide with the new direction of the city. Its neoliberal shift and rearrangement in order to compete in the global market.

Another aspect restricted from communities along the periphery is the flow of ideas, knowledge, and educational training on water issues. People are not able to use the technologies correctly because they do not know how. This causes even more severe limitations on the amount of water they are able to obtain. Also, power dynamics left over from the apartheid legacy keep people from addressing their own concerns as they are physically located farther from the government buildings and are less engaged with government employees whom operate in the city center. Power dynamics also play out in the language used. The core uses English, which is not the dominant language of the different populations living along the periphery in townships. Academic institutions can also still encapsulate the ivory tour syndrome, keeping the peripheral populations, who do not have equal access to education, from being able to engage in the intellectual arguments surrounding water and the political policies of water accessibility. And because water is so important on a variety of levels within society, it makes multiple discourses occur simultaneously: rhetorics on neoliberalism, privatization, climate change, or water scarcity. This causes a high level of confusion and complexity when trying to explain the issues of water to people who are not necessarily immersed in the sector.

The core is able to put in place restrictions from their elevated position while the periphery located along the bottom of the world city is kept dry and brittle. Here communities are unable to absorb the knowledge, political power, and the precious resource of water that the core easily accesses without hindrance. Yet even with the restrictions, the bottom still continues to fight upstream for their rights and equality through the use of community groups and protests. NGO's are also fighting for policy

changes in legislation they believe will balance these social inequalities. And progressive government programs work in the periphery in order to educate individuals on issues of water (even though the one referenced in this essay was shut down due to detrimental political agendas). Finally, networks and caucuses are created in order to reach out and communicate *en masse* across large distances about issues of the periphery and their access to water.

However, even with all the above heroically fighting for the bottom's rights to the city by busting open the restrictions of water, power, and ideas, the effects are still heavily felt by the individuals forced to live along the periphery. Because globalization only touches down at the specific points of Global Cities in the African Continent, benefits of modernity are only felt by a wealthy, elite minority. Here, technology, knowledge, and information, along with goods and wealth, circulate amongst enclaves and never seem to trickle down to the bottom. Even though they live within close proximity to one another, the core and the periphery continue to travel down separate paths. One travels towards a Western-*esque* ideal of society with the most up-to-date inventions, transportations, and technologies built to catapult people and things across small spaces in rapid time. The other edges towards a dismal spiral of poverty, further from being able to reach the developmental stage of the core and changing at painfully slow speeds.

When a city that opens itself to the global market, it begins to split down the middle as one small portion of itself is allowed to hook and absorb into the international space of exchange. This space is pulled out of its own national context and detaches from the other portion of itself in order to potentially reap the substantial benefits allotted through

global market transactions. The other portion, situated on the bottom periphery of both the economy and the geographic space of the city, is the left to rot as its infrastructure continues to deteriorate and connections to the core become severed. It slips further into poverty and is put at greater risk to the environmental degradation inflicted by economic processes of the core (mining, pollution, etc.).

In this light, it would appear that the stratification of time and space may be putting the periphery, not in a place further from modernity and slower in time, but maybe at a closer position to a more advanced stage of modernity than the core. Possibly, it is farther "along a very different journey [of modernity]: a downward slide into degeneration, chaos, and violence" (Ferguson 2006: 191). When this stage occurs, processes of globalization have lead to a space that looks more like an apocalyptic time: where clean water is no longer procurable and the only means of survival is through informal markets or criminality because natural, grassroots economic growth in the market is not available; a place where environmental degradation is not fixable or escapable. The 'end times' is not a new theory - it can be found from theology to science, from anthropology to environmentalism. Maybe it is the wealthy enclaves that are behind in their journey through modernity and their technology is the only thing protecting them from the spiral of chaos. The high security fences and hyper-surveillance of world cities could hint of an underlying fear that trying to open up the core space to include the periphery would break the bubble and suck everyone into the spiral. Maybe we are already in the 'end times' and the periphery is not at a past stage but reflecting the future of development. And the enclaves, amongst everything, are bubbles of denial intent on not seeing the truth. What happens when the periphery decides to violently

smash through our gated communities? (Ferguson 2006).

Maybe the latter paragraph is a little too extreme. However, I think there is a large amount of fear that exists along these highly militarized, walled up fortress cities. And maybe it is not the fear of end times but simply the fear of slowing down, of allowing the periphery to hold the core back from being able to compete in the high-speed world of the global market. As Nthona told me:

> "People are still singing the same song that they were singing pre-1994: that we need housing, we need water, we need electricity. But most people's needs have not been met. I think this is because people are out to line their own pockets. It also may stem from people in government -I'll use racial connotations now- are now black people who have been oppressed for a really long time and now they suddenly have all this power. And they think, 'No we can't lose this!' It's their fear of slipping back into poverty."

Maybe the world market creates a situation in the Global South where people feel they have to sacrifice the fate of others to save themselves. The hegemonic discourse coming from the West usually suggests that poverty is actually the effect of the *absence* of modernity. I think humanity needs to begin recognizing that poverty is just as much a function of modernity as development. Neoliberalism causes red zones and green zones, core and periphery, top and bottom, gated communities of wealth and next-door slums. It causes two divergent realities to exist within the same time period and sometimes sharing the same geographic space. "Africa's participation in 'globalization,' then, has certainly not been a matter of simply 'joining the world economy,' perversely, it has instead been a matter of highly selective and spatially encapsulated forms of global connection combined with widespread disconnection and exclusion" (Ferguson 2006: 14). Within those realities, a stratified experience of time and space leads to further subjugation of one over the other - with one close to the global market and hooked up to its rapid acceleration, while the other is left behind, detached, moving slowly and getting

further away. Modernity slow down and this time, take the rest of humanity with us.

Otherwise, we will become our own dystopian novel.

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