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I. Introduction

I had been thinking about how to begin this yearlong research project when I asked one of my 17-year-old students in Khayelitsha, a township outside of Cape Town, "How do you think pollution can harm people?" He described how the family that lives in the shack next to him pours their wash water into the alleyway and it runs down the hill, picking up more debris and joining with other families' wastewater. He added that this pollution could get into the groundwater and affect the water that everyone drinks. It was there that this research paper began to take shape.

My student's example of wastewater running down the hill from shack to shack is an illustration of how the actions of one person towards their environment can affect others in unforeseen ways. People are beginning to realize their effect on the environment that we all share, and through globalization even states are seeing how their decisions concerning environmental management are affecting other sovereign states. As the World Commission on Environment and Development (WCED) wrote in *Our Common Future*: "the physical effects of our decisions spill across national frontiers."[i] Globalization has changed the way in which people relate to the environment, in particular the way in which people relate to water. Different forms of globalization have produced conflicting discourses surrounding the issue of water, which in turn have affected the way that transboundary watercourses are managed.

The phenomenon that I address in this study is globalization's effect on water discourses and the management of transboundary watercourses. The discourses that surround water are influenced mainly by three facets of globalization: economic globalization, the rise of supra-national and international institutions, and global civil society. Transboundary watercourses precede the global era, yet globalization has had a fundamental impact on how they are managed and governed: "Institutions are getting better and more resilient, management and understanding are improving, and these issues are increasingly on the radar of global and local decision makers."[ii] In addition to institutional strength, and perhaps aiding it, is the proliferation of technology. Technological innovations have made transboundary watercourses easier to map, model, and manage on a higher level than in the pre-global era.[iii] Globalization has also expanded the worldview of actors that manage watercourses. Consequently, there has been an increased tendency to derive international solutions for local and regional problems concerning water.[iv] As was well stated by Joost Fontein, "water can no longer be understood simply as a 'natural resource' subject to contradictory and contested efforts to be managed, controlled, provisioned, contained, or conserved. The political materiality of water can indeed be a lens through which to fathom the depth of the 'complex reciprocity' of human-environment relations."[v]

This study is driven by two research questions. First, how have the processes of globalization impacted transboundary watercourse management? And second, who are

the actors in this management and how do they apply different discourses surrounding water that have come out of the global era? In order to answer these questions, I investigate not only the theoretical side of water management, but also the practical implications of the uniquely global discourses. First, I conduct a literature review in which I discuss the three aspects of globalization mentioned earlier and how they have shaped discourse around water. Next, two case studies illustrate the effects of these discourses on water management in the era of globalization. The two transboundary watercourses that I will discuss are the Orange River in southern Africa and the Meuse River in northwestern Europe. The Orange River case study is focused on the Lesotho Highlands Water Project (LHWP) and the involvement of the World Bank and transnational corporations in the project. The Meuse River case study focuses on the relationship between the Netherlands and the provinces of Flanders and Wallonia in Belgium in the management of the watercourse and pollution. Finally, I conclude by summarizing my findings and the lessons to be learned from the shift in water discourses and management that has been caused by globalization.

II. Literature Review

Water in the global era has acquired more meanings than simply a natural resource. The key to water management not only revolves around the need to deal with the scarcity of the resource, but also the complex interactions of the different aspects of water's cultural, social, political, and ecological significance.[vi] Water has taken on a new significance in light of three aspects of globalization: economic globalization, the rise of supra-national governmental institutions, and global civil society. These have impacted the discourses[vii] surrounding water by introducing different bodies of experts from which knowledge about water has flowed. According to Foucault, "discourse entails a power/knowledge dynamic, within which there are literally some things that cannot be thought, said, or done."[viii] It is the language that these forms of globalization use to describe water that becomes significant in their impact upon methods of governance in addition to the language that the governing bodies in turn use to describe themselves. In this section, I show how each form of globalization produced a different discourse surrounding water.

Economic globalization and the hegemonic ideas of neo-liberalism[ix] have produced the discourse of water as an economic good. The 1992 Dublin Conference on Water and Environment laid down the definition of water as an economic good for the first time. Principle Four of the statement that was produced by the conference states: "water has an economic value, and should be recognized as an economic good, while also maintaining that access to clean water and sanitation at affordable prices are fundamental human rights."[x] States and international financial institutions, such as the World Bank, have chosen to focus mostly on the economic value aspect of this definition, as even the portion about human rights maintains that it is primarily an economic item. This definition has led to a discourse of privatization in which the private sector is believed to be the most efficient venue to deliver water services to the public.[xi] Privatization "is a nebulous term, although unambiguous in political origin and coincides with the rise of neoliberalism…for the proponents of privatization it is the very incarnation of the liberal project."[xii] In this way, privatization of water and its definition as an economic good is a result of the global neo-liberal project.

One of the central assumptions that paved the way for this definition is that governments, particularly in the Global South, are unable to deliver the necessary water infrastructure due to inefficiency and corruption. Therefore, international financial institutions and regional development banks have shifted their focus to encouraging governments to manage water resources through the private sector because it is believed to be more efficient and therefore more sustainable.[xiii] Privatization uses the language of sustainability to construct "a subjective reality. And, indeed, privitisation produces particular forms of disciplinary conduct or, as Foucault…conceptualised it, 'governmentality.'"[xiv] The practical application of this discursive strategy comes in foreign direct investment (FDI) by transnational corporations (TNCs) in the water sector. Though neoclassical economic arguments assert that water is allocated more efficiently through the private sector,[xv] there is a contrary theory known as the "global reach argument." This logic is based on the idea that FDI is a part of the strategy of globalizing firms as opposed to a simple resource flow. TNCs become global institutions that actively produce imperfect markets in order to increase profits. Instead of increasing efficiency in water delivery and infrastructure, they "reduce it by making markets less perfect as a result of their own need to control, reduce, or eliminate competition and maximise surplus profits."[xvi] Thus, the constructed reality of efficiency that is conveyed in the discourse of privatization could be seen to as a means to the neo-liberal goal of profit maximization. The World Trade Organization (WTO) has yet to rule on issues of water privatization, specifically bulk water exports. However, it has traditionally upheld economic interests over environmental and human rights concerns.[xvii] The WTO disallows obstacles to the trade of commodities. If water continues to be defined as a commodity, it is entirely possible that the WTO will not be able to stop the sale of water.[xviii] Economic globalization in the form of neo-liberalism has produced a discourse of privatization and commodification of water, which has affected the governmentality of water management.

The rise of supra-national and international institutions as a part of, and reaction to, globalization has affected discourses about water in a different way than economic globalization. This essay focuses on the effect of the European Union (EU) and the Southern African Development Community (SADC) on the governance of water and discourses surrounding water and water management. These institutions have encouraged integrative management strategies and cooperation between states in the management of shared water resources, as well as facilitating the development of the discourse of water as a human right. There is no question that, "the problem of water supply…will become more political in the twenty-first century…[I]n an urbanised planet, with nearly eight billion inhabitants by the year 2020, water will be as strategically vital for living as petroleum."[xix] The international political nature of water necessitates governance and political bargaining at the supra-national level. In order to analyze the effects of supra-national governance on international watercourses, I use the framework of "eco-governmentality," a subset of political ecology. Eco-governmentality is a method of analysis used to investigate how the state and experts construct discourses surrounding "the environment," and how these discourses are used to bring territory or resources under state control and regulate human activity within that sphere of control. In order to conduct this investigation, I review a few of the key documents about water governance and human rights produced by the EU and SADC.

"Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy," or the Water Framework Directive (WFD), is an EU-level policy document that initiated an EU-wide approach to water management, emphasizing cooperation. This document concerns the protection of all waters, with objectives to be reached by 2015.[xx] The WFD interacts with other EU instruments as well as local multilateral agreements concerning watercourses. The United Nations Economic Commission for Europe (UNECE) has the most comprehensive cooperative environmental framework, with six regional environmental conventions and related protocols concerning transboundary watercourses. Approximately one hundred bilateral or multilateral agreements and supranational laws support these conventions and protocols.[xxi] However, for the sake of clarity and brevity, this study focuses on the WFD and its interactions with the Meuse River agreements in the Meuse case study. The WFD requires that surface water, such as rivers, be managed with a River Basin Management Plan, which characterizes rivers according to their hydro-morphological characteristics. The member states are expected to integrate WFD requirements into existing EU agreements and work toward "good status" with regard to water quality.[xxii] The WFD has been influenced by some of the conventions that it interacts with vertically, the most significant of which is the Convention on Transboundary Watercourses and Lakes. According to Andrew Farmer, "This Convention has introduced issues such as ecological status and integrated river-basin management, which are central to the Directive."[xxiii] The WFD is the EU's legal response to the Convention. It is much broader in scope and is monitored by the European Commission and enforceable in the European Court of Justice.[xxiv]

Though much younger than the EU, SADC, the regional governance body in southern Africa, also has a regional water governance scheme. The "Revised Protocol on Shared Water Courses in the Southern African Development Community" was signed by the SADC member states in 2000, although with a much different approach than the WFD. The Protocol's stated objective is to "foster closer cooperation for judicious, sustainable and coordinated management, protection and utilization of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation."[xxv] This objective is much more anthropocentric than the aim of the WFD, which is to maintain and improve the aquatic environment of the European Community.[xxvi] The difference in aims is explained by Anthony Turton's approach to interpreting transboundary water management in SADC. Turton asserts that, "The traditional paradigm is based on national sovereignty as a 'given,' with an inherent fear in some developing countries that close cooperation in the management of a shared resource might inadvertently lead to an erosion of sovereign control of that resource."[xxvii] SADC recognizes the need for supranational governance of watercourses, however its members' status as developing countries has led it to enact a Protocol with little to no enforcement mechanisms. Article 7 of the Protocol concerns the settlement of disputes. While the WFD assigns enforcement to the European Commission and the European Court of Justice, SADC lacks these strong institutions, delegating dispute settlement to the parties involved.[xxviii] The discourse of strong regional governance is not as prevalent in southern Africa as it is in Europe, which may be a factor in the different approaches to transboundary water management illustrated in the case studies below.

The third aspect of globalization that has significantly influenced the way in which

transboundary watercourses are managed is global civil society. This essay discusses the international environmental movement and its affect on discourses surrounding the inherent value of nature. The environmental movement and the discourse of nature's intrinsic value can arguably be traced back to *Silent Spring* by Rachel Carson, the book that has been credited with launching the contemporary environmental movement. An aquatic biologist, Carson wrote the book through the latter half of the 1950s and published it in 1962. The language used in the classic is nature-centric, and exposes the ills to nature that are caused by human action. In the second chapter Carson accuses the human race of assaulting nature:

> The most alarming of all man's assaults upon the environment is the contamination of air, earth, rivers, and sea with dangerous and even lethal materials. This pollution is for the most part irrecoverable; the chain of evil it initiates not only in the world that must support life but in living tissues is for the most part irreversible. In this now universal contamination of the environment, chemicals are the sinister and little-recognized partners of radiation in changing the very nature of the world – the very nature of its life.[xxix]

Carson's words set off a global movement and debate that would spawn strong non-governmental organizations such as Greenpeace, and begin the discourse of the inherent value of nature.

This perspective has also shaped the way in which people and governments view nature. Nature is seen within the environmentalist discourse as a holistic entity in itself, with inherent value, rather than as a natural resource that can be contained by the boundaries of a sovereign nation. Over a quarter of a century ago, Norman and Dorothy Myers wrote about the rhetoric of the Stockholm Conference in 1972 that described how the world has become One Earth with a "seamless web of life."[xxx] Their article and the classic environmentalist governance discourse advocates for a body of international environmental law to address the urgent need for an "accepted way of doing things" in order to control transboundary pollution and preserve nature.[xxxi] The international environmental movement of the 1960s, '70s, and '80s introduced the ideas of pollution control as an international effort for the good of the planet – not just human beings. The effect of this movement on governance is now being seen 20 years later in measures such as the WFD, as governments reflect the will of people's global environmental consciousness.

Economic globalization, the rise of supranational institutions, and the rise of global civil society all have clear and interrelated effects on discourses surrounding water management. Economic globalization produced a discourse of water as an economic good; the rise of supranational institutions produced a discourse of cooperative, integrated management; and global civil society produced a discourse of pollution control and water as an essential part of nature with intrinsic value. The following case studies of the Orange and Meuse Rivers serve as illustrations of the different ways in which these discourses have been applied in the developing world and the developed world.

III. Case Studies

The study of the roles played by the World Bank and TNCs in both the Lesotho and South African sides of the Lesotho Highlands Water Project (LHWP) shows the way in which their involvement has influenced the discourse surrounding the governance of the project. First, I look at the way in which the World Bank's involvement in the construction of the dams in Lesotho has shaped the description of, and actions in, the project. Then I look at the South African side and how transnational corporations controlling the water sector have used the language and technology of sustainable development to shape a neo-liberal concept of citizenship through water infrastructure. Through presenting both sides of the boundary, I show how the global vocabulary of sustainable development has been co-opted to justify neo-liberal methods of water governance.

A. The Orange River

The Orange River originates in Lesotho and runs through South Africa, creating a border with Namibia before finally emptying into the Atlantic Ocean. The Lesotho Highlands Water Project is a product of a deal brokered between the apartheid government of South Africa and a military government in Lesotho in 1986. It was conceived as a plan to export water on an unprecedented scale from Lesotho to South Africa's industrial heartland of Johannesburg and Pretoria. It was effected by storing the water in the Orange River and channeling it northward through a 115 km-long tunnel. A secondary aim was to provide Lesotho with a source of hydroelectricity.[xxxii] The project began with the construction of the Katse Dam (Phase 1A), completed in 1997 with the aid of international organizations, including the World Bank. The second phase of the project (Phase 1B) was appraised by the World Bank in 1996, after the first phase was finished. The LHWP is seen as an important development project by the government of South Africa that will bring badly needed resources to the water-poor Gaunteng province. President Mandela described South Africa's post-apartheid position on the project: "We in South Africa need the water from the LHWP to meet the increase in our demand, and, in particular, to meet the needs of previously neglected communities."[xxxiii] It is exhibited as a project that will benefit the poor of South Africa and Lesotho through the help of the World Bank and Transnational Corporations that promote the sustainable use of the Orange River basin while stimulating development.

The discourse used to describe the project and its outcomes has shaped the way that people view and act toward it. The actors involved in the LHWP have shaped the discourse to reflect the global environmental ideal of sustainable development, an ideal that can be contradictory to (but is not necessarily in opposition to) neoliberalism. These actors include the World Bank on the supply-side and Transnational Corporations, which manage the demand-side of the project. They have used this discourse to describe the way in which the infrastructure introduced as a result of the project will impact people's lives. Neoliberal discourses and motives are hidden behind the sustainable development rhetoric. This is inevitable given the current global economic situation and the common definition of water as an economic good.[xxxiv] The World Bank and TNCs use sustainable development discourse in the case of the LHWP to strike a balance between growth and

global distributive justice,[xxxv] and thus to appeal to all interest groups involved in the Lesotho and South African sides of the project.

The World Bank's involvement in the LHWP has been extensive from the beginning. The Bank took the role of "central organiser of technical, financial, social and ecological information about the LHWP, and will continue in this vein in the future."[xxxvi] Although the original loan was given to Lesotho, it was only the nominal borrower. South Africa was actually responsible for repaying the debt and servicing the loans, though at the time of the original loan, they were the subject of economic sanctions and therefore not technically allowed to be a recipient of loans.[xxxvii] Due to the political climate at the time, it appears that the project was originally "in-part a sanctions-busting, prestige project with…geo-political overtones,"[xxxviii] which necessitated the involvement of the World Bank at a high level of governance of the project and therefore of the transboundary watercourse that resulted. The Bank and its Inspection Panel moved into a role of "bureaucratic rationality" that is traditionally associated with the nation-state.[xxxix] The fact that the World Bank had taken on this role makes the language they used of primary importance for the outcome and impacts of the project. A closer inspection of the actions of the World Bank and its subsidiaries shows that the sustainable development discourse was driven by economic concerns and was working in concert with a neo-liberal agenda rooted in an understanding of water as a commodity.

The aim of the LHWP is to divert about 40 percent of the water in the Senqu River basin into South Africa's Vaal River system in Gauteng province, where the water would then go to the area around Johannesburg.[xl] This is to be achieved by a system of five dams and a tunnel to the Vaal, altering the natural course of the Orange/Senqu River. The LHWP adopted the Bank's "Operational Directive on Environmental Impacts," which requires a thorough investigation of possible environmental consequences, including human health and safety.[xli] However, no impact assessment was done for Phase 1A. Under pressure following the devastating environmental and social impacts of Phase 1A, an Environmental Impact Assessment was mandated for all aspects of Phase 1B as well as the entire project. Despite the acknowledgement of transboundary impacts by the Environmental Impact Assessment team, no Transboundary Impact Assessment was carried out. The reason for this oversight was that "[The World Bank] feared that assessing these impacts would severely delay implementation of Phase 1B."[xlii] Had they conducted the assessment, they would have found that a fully implemented LHWP would give the Lower Orange River an irregular flow, disrupting the livelihoods of those living in the other riparian nations.[xliii] This dramatic change in the river system is unsustainable in the long run, as many ecosystems and communities downstream depend on the river. Disrupting the flow of the Orange River can be ecologically disastrous at every level, as dry land biota are also specifically adapted to the natural flow cycles of the river and depend on the regular delivery of water.[xliv] Socially, the project will also have large impacts, as large-scale water projects are more likely to negatively affect communities living downstream than those living in the project area.[xlv] Downstream communities, if adequately informed of the impact of the project, could have demanded compensation for their losses. However, this concession would have lessened the economic benefits of the project to South Africa, making the project a more expensive option.[xlvi] A "sustainable development" project would have had to meet the standards of impact assessment that the

World Bank itself has mandated. In this case, it failed to do so, which brings into question the sustainability of the project.

Another example of the lack of action on the part of the World Bank is the fact that it did not conduct an adequate assessment of demand-side management options before funding the new supply-side infrastructure. Recent data shows that the project was not necessary at the time that it was implemented. The South African Department of Water Affairs admitted that no new supply of water is needed in Gauteng until 2025.[xlvii] In addition, the planners at Rand Water, the water supplier in Gauteng, suggested that the project could have been delayed 17–20 years if effective demand-side management (DSM) projects had been implemented.[xlviii] In response to this evidence, the World Bank argued that postponing the Mohale Dam would increase construction costs.[xlix] In choosing to invest in infrastructure that will cause ecological and social harm without investigating whether or not the project is actually needed, the World Bank has contradicted its sustainable development rhetoric, bringing to light the neoliberal drivers that lie beneath the discourse of sustainability.

On the South African side, management of the water that has been transferred from the Orange River to the Vaal is delegated to private companies that are supported by transnational corporations. The failure of the state to provide adequate infrastructure has led the World Bank to strongly encourage the use of the private sector to allocate resources.[l] The two main corporations that use LHWP water are Rand Water and Johannesburg Water. For the purpose of this essay, I focus on Johannesburg Water and its operations in Soweto, one of the townships of Johannesburg that supposedly benefits from the LHWP.[li] Specifically, I look at the use of prepaid meters and water tariffs under the discourse of sustainability as a means of demand-side water governance.

Johannesburg Water (Pty), Ltd. was created as an independent company, with the city of Johannesburg as the sole shareholder. The transnational corporation Suez Water was awarded the management contract with the idea that corporatization of the water sector would increase efficiency and Suez Water would introduce sanctioned business practices into water management and provision. Part of this process was strict enforcement of full-cost recovery beyond the 6,000 liters per month of free water mandated by the South African Constitution. This enforcement led to water shutoffs in Soweto, one of Johannesburg's poorest townships.[lii] The World Bank insists that supplying clean water to the poor can be done through the private sector, but evidence suggests that enforcing full-cost recovery allows the rich to use as much water as they like while the poor continue to suffer from lack of access.[liii] Johannesburg Water uses pre-paid meters to enforce full-cost recovery, and the discourse that it uses to justify this use of meters is sustainability. It began a campaign of public awareness to educate citizens on how to stay within the 6,000 liters a month through water conservation measures, emphasizing that having to pay for the extra water would be the result of wasteful use.[liv] This process conflated the issues of full-cost recovery and sustainability.

The LHWP caused an increase in the price of water because part of the financing plan was to have the end-users pay the increased cost. The end-user, Rand Water and Johannesburg Water, passed this cost on to the consumer through price increases. As prices rose, the ability of municipalities to collect payments from low-income residents, such as those in Soweto, fell.[lv] The use of pre-paid meters not only implemented full-cost recovery under the discourse of sustainability, but it changed the residents' relationship

with the state and water accessibility. During the apartheid era, nonpayment for services was one of the only means by which township residents could protest the state. Having to pay for water before use eliminated this channel of protest, therefore changing their relationship with the state and limiting expressions of agency. Von Schnitzler argues, "neoliberal reforms are seen to hinge on the construction of new forms of agency and, indeed, to *work through* the promotion of new conceptions and practices of citizenship."[lvi] The introduction of pre-paid meters under the vocabulary of sustainability, and the implementation of full-cost recovery through privatization, turned water into a measureable commodity and transformed the residents' relationship with the state. The meters force residents to calculate how much water they are using and attach a monetary value, turning water into an exchangeable commodity. Their agency and relationship to the state is expressed through their ability to manage and purchase water as such.[lvii] The language of sustainability that Johannesburg Water uses to justify the pre-paid meters does not fully encompass the impact that it has had on the concept of water and citizenship in Soweto. It appears to be a thin veil over the economic considerations that drive the use of pre-paid meters to achieve full-cost recovery.

The discourse of sustainable development that has been used by the World Bank and Johannesburg Water to describe and justify their actions is not consistent with their actions on the ground. The World Bank violated its own standards for Environmental Impact Assessments when it did not assess the transboundary impacts of the project or look at alternative demand-side management options. The fact that these two crucial sustainability assessments were not done (in favor of starting the project quickly in order to avoid increased construction costs) exposes the neoliberal economic agenda of the project.

On the South African side, the introduction of pre-paid meters by Johannesburg Water under the discourse of water conservation and sustainability can also be seen as co-opting sustainable development discourse. Upon closer inspection, it is clear that the practice of paying for water *before use* changes the users' relationship with the state into an economic relationship. Pre-pay meters are a measure to implement full-cost recovery hidden behind sustainability rhetoric. The supply and demand sides of the project have co-opted sustainable development discourse to obscure neoliberal aims.

B. The Meuse River

In this case study, I investigate how international civil society and supranational law have affected both the ways in which the Meuse River is managed and the objectives of the management. The actors involved include the water governance bodies for the Netherlands, Flanders, and Wallonia. Flanders and Wallonia are the Flemish- and French-speaking parts of Belgium, and while many concerns are handled by the central government, water is dealt with separately. I also look at intergovernmental bodies, as well as multilateral agreements between the riparian nations of the Meuse and how they interact with EU-level law, such as the Water Framework Directive, to further the discourse of integrative management and clean water.

The Meuse Rivers runs for 925 km, from northern France, through Belgium, and into the Netherlands, where it terminates at the North Sea. The river basin includes Germany

and Luxembourg. The Meuse also runs through the heart of Maastricht. In fact, the Dutch name for the Meuse is the Maas, which will also be used in this essay.

According to Joseph Soeters, this "Euregion" traditionally has not been very well connected. He claims that due to the process of nationalization that occurred after the Second World War, the five provinces across the Netherlands, Germany, and Belgium in the Maas-Rhine Euregion began to look inward to their own countries, rather than to each other for cooperation about the watercourse that they shared.[lviii] However, toward the end of the century, increased institutional interaction between the regions led to a discourse of integrated management and cooperation as influenced by EU-level institutional interactions. The international environmental movement of the 1970s and '80s also began to see itself reflected in governmental action, as the right to clean water could be enforced because of the strength of EU-level environmental law.

The Netherlands is at the end of the Meuse River, and therefore is "by its location vulnerable to transboundary water pollution."[lix] Jan van Dunne wrote in 1999 about the challenges to control transboundary pollution in the Meuse River. Both point and non-point source pollution---that is to say, pollution from a specific incident or site and pollution that accumulates from many different sources---were addressed using tort law. Van Dunne recognizes the limitations of this approach, citing that in "most environmental liability cases the causal relationship between discharge and pollution is complicated from a technical point of view, and, as a consequence, also from a legal point of view."[lx] Needless to say, the individual case tort approach was usually ineffective, as it normally allowed polluters in upstream areas to get away with pollution that affected downstream nations. This approach reflects the way in which water was managed in the EU before the discourses of integrative water management came with the rise of supranational governance and the inherent value of water was recognized with the international environmental movement. These two aspects of globalization have altered the way in which nations can interact to address transboundary watercourses as well as the aims of management.

The Water Framework Directive represents a large step for transboundary water management in the Meuse River basin. The discourse of integrated and cooperative management contained in the WFD has been a driver in the cooperation of the governments of the Netherlands, Flanders, and Wallonia. Flanders and Limburg, the province of the Netherlands where the Maas enters the country, share 50 km of the river where it runs along the border.[lxi] Aldo Janssen, a Water Manager at the Rijkswaterstaat in Limburg, expressed that EU-level law has not only opened up space for inter-governmental cooperation, but has also made that cooperation easier and more effective. It has given Limburg and Flanders grounds to enforce better environmental and pollution control practices in Wallonia.[lxii] Prior to the implementation of the WFD, there was almost nothing that Limburg and Flanders could do to stem the flow of pollution coming from Wallonia. Until recently, sewage in cities along the Meuse in Wallonia, such as Liege, was dumped directly into the river without filtration of any kind.[lxiii] This practice was harmful to human health as well as the health of the river. However, with the implementation and enforcement of the WFD by the EU, Wallonia is now held accountable for pollution.

The WFD influenced not only the accountability of nations for their pollution, but also the institutional framework under which the Meuse is managed. A Meuse Treaty was

signed in 1998 between Germany, Luxembourg, Belgium, France, and the Netherlands, which was then supplanted by the Ghent Treaty in order to reflect the principles of the WFD. The Ghent Treaty included the establishment of the International Meuse Commission (ICM) in 2002.[lxiv] The ICM is based in Liege and conducts strategic meetings to coordinate the obligations of the WFD, devise plans for improved flood and risk management from climate change, and provide advice for combating water pollution. According to Janssen, the ICM has so far not lived up to its potential due to a lack of will and funds on the part of the Walloon and French governments. Flooding and water quality do not seem to be concerns for the Walloon government. However, Janssen sees some improvement recently, especially with pollution control, and is optimistic about the future of cooperation. 2009 was declared the year of international water cooperation within the Rijkswaterstaat, a clear sign of optimism concerning the adoption of the integrated management discourse of the EU.[lxv]

The management of the Meuse has been influenced not only by EU-level policy and discourse, but by the international environmental movement as well. Aldo Janssen mentioned the influence that international NGOs, such as GreenPeace, have had on government policy. There is a time lag between public opinion and government policy, and the effects of the activism of the 1980s is now being felt at the policy level.[lxvi] An example of this influence is the aims of the Maaswerken project, an initiative of the Dutch and Flemish governments to restore the riparian environment along the Meuse. The result of this project will be a continuous conservation area of around 1,250 hectares.[lxvii] The idea behind the project is to return the Maas to its natural state, before humans deepened the river and altered the riparian environment. This project has clearly been influenced by the discourse of the inherent value of nature, and is an interesting example of the intersection between integrative cooperative management and environmental discourse.

IV. Conclusion

Jos C.N. Raadschelders proposes that, "To understand the contemporary and future challenge of water management truly requires an inter-disciplinary perspective."[lxviii] This statement reflects the complex connectivity that globalization has brought to the world of transboundary water management. This essay has illustrated how economic globalization, the rise of supranational institutions, and global civil society have all influenced discourses on water and therefore the management of transboundary watercourses. The main lesson to be learned from this exercise and the case studies is that these aspects of globalization are inextricably intertwined and interrelated. The future of transboundary watercourse management will become more important as the demand for water increases and the climate changes. The field of political ecology will become an important lens through which to explore environmental issues as the significance and interdisciplinary nature thereof become more evident with the passage of time and the intensification of the drivers of globalization.

The two case studies illustrate the need for a multidimensional approach to the study of influences in water discourses. The LHWP case study shows how neo-liberal, sustainability, and human rights discourses can interact and complement one another. The Meuse River case study is an example of the interactions between global civil society and

regional governance bodies. In order to decipher the influences of water management and therefore plan for future management, it is necessary to echo Raadschelder's statement that water management requires an interdisciplinary approach. These case studies tell us that globalization is not just one force, but many forces acting from different directions. Globalization has been interpreted in this article as three forces that act upon transboundary watercourses; three forces that are inseparable from each other and yet unique. The fact that globalization entails many different channels serves to reinforce Raadschelder's argument in favor of interdisciplinary efforts. No single discipline can unlock the complex workings of globalization. Therefore, it is necessary to reach across disciplinary lines in order to effectively investigate the phenomena unfolding around us. The effects of globalization must be put in comparative perspective, for only then can we decipher the political ecology of water.

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Bibliography

Bond, Patrick. *Unsustainable South Africa*. Pietermaritzburg, South Africa: University of Natal Press, 2002.

Carson, Rachel. *Silent Spring*. Boston: Houghton Mifflin, 2002.

De Jonge Schuermans, Anne Marie, Jacob Helbing, and Roman Fedosseev. "Evaluation of Success and Failure in the International Water Management: Orange River Basin, South Africa." *ETH Zurich* (2004): 2–18.

"De Maaswerken, hoogwaterbescherming, natuurontwikkeling en bevordering van de scheepvaartroute op de Maas." 4 June 2009. Online at maaswerken.nl/main.php?cm=67,254,259_1PR4im1_pkOaUSkXi1YJ3T.

Farmer, Andrew. "Interactions of EU Legal Instruments Establishing Broad Principles of Environmental Management: The Water Framework Directive and the IPPC Directive." *Institutional Interaction in Global Environmental Governance: Synergy and Conflict among International and EU Policies*, edited by Sebastian Oberthur and Thomas Gehring, 205–231. Cambridge, Mass.: MIT Press, 2006.

Faruqui, Naser. “Balancing between the Eternal Yesterday and the Eternal Tomorrow: Economic Globalization, Water, and Equity.” *Rethinking Water Management Innovative Approaches to Contemporary Issues*, edited by Caroline M. Figueres, Cecilia Tortajada, and Johan Rockstrom, 41–69. London: Earthscan Publications, 2003.

Fontein, Joost. “The Power of Water: Landscape, Water, and the State in Southern and Eastern Africa: An Introduction.” *Journal of Southern African Studies* 34 (2008): 737–756.

Griffiths, Martin. “The European Water Framework Directive: An Approach to Integrated River Basin Management.” *European Water Management Online*. 2002. Online at ewaonline.de/journal/2002_5.pdf.

Horta, Korinna. “The Mountain Kingdom's White Oil.” *The Ecologist*, 6th ser. (25 November 1995): 227–231.

“International River Basins - Ministry of Transport, Public Works and Water Management.” Ministerie van Verkeer en Waterstaat. 29 May 2009. Online at verkeerenwaterstaat.nl/english/topics/water/international_water_management/international_river_basins/#alinea2.

Myers, Norman, and Dorothy Myers. “How the Global Community Can Respond to International Environmental Problems.” *Ambio* 12 (1983): 20–26.

Narsiah, Sagie. “Discourses of Privatisation: The Case of South Africa's Water Sector.” *Development Southern Africa* 25 (2008): 21–35.

Pottinger, Lori. “A Brief History of Africa’s Largest Water Project.” *International Rivers.* 2009. Accessed online on 29 March 2009 at internationalrivers.org/en/africa/brief-history-africa-s-largest-water-project.

_____. “Evaluating the LHWP Against WCD Guidelines” *International Rivers*. 2009. Accessed online on 29 March 2009 at internationalrivers.org/en/africa/lesotho-water-project/evaluating-lhwp-against-wcd-guidelines.

Raadschelders, Jos C. N. “Fresh Water Management as Collective Action in Time: A Multi-dimensional and Multi-level Challenge of Governance in an Inter-disciplinary Context.” *The Institutional Arrangements for Water Management in the 19th and 20th Centuries*. Amsterdam: IOS Press, 2005, pp. 1–21.

Robbins, Peter T. “Transnational Corporations and the Discourse of Water Privatization.” *Journal of International Development* 15 (2003): 1073–1082.

Smith, Zachary A., and Kristi L. Ross. “Human Rights to Water.” *Handbook of Globalization and the Environment*, edited by Khi V. Thai, Dianne Rahm, and Jerrell D. Coggburn, 115–133. Boca Raton, La.: CRC Press, 2007.

Soeters, Joseph L. “Managing Euregional Networks.” *Organization Studies* 14 (1993): 639–656.

Southern African Development Community. “Revised Protocol on Shared Watercourses.” 2000.

Stephan, Harry, Michael Power, Angus F. Hervey, and Raymond S. Fonseca. *The Scramble for Africa in the 21st Century: A View from the South*. Cape Town: Renaissance Press, 2006.

Turton, Anthony. “A South African Perspective on a Possible Benefit-Sharing Approach for Transboundary Waters in the SADC Region.” *Water Alternatives* 1 (2008): 180–200.

Van Dunne, Jan M. “Transboundary pollution and liability issues: private law vs public international law approaches. The cases of the rivers Rhine and Meuse.” *Acta Juridica* 303 (1999): 303–338.

Von Schnitzler, Antina. “Citizenship Prepaid: Water, Calculability, and Techno-Politics in South Africa.” *Journal of Southern African Studies* 34 (2008): 899–917.

Willemse, Nico. “Actual versus Predicted Transbounday Impact: A Case Study of Phase 1B of the Lesotho Highlands Water Project.” *International Journal of Water Resources Development* 3rd ser. 23 (2007): 457–472.

Wolf, Aaron T. “The Present and Future of Transboundary Water Management.” Rethinking Water Management Innovative Approaches to Contemporary Issues, edited by Caroline M. Figueres, Cecilia Tortajada, and Johan Rockstrom, 164–179. London: Earthscan Publications, 2003.

World Commission on Environment and Development (WCED). *Our Common Future*. Oxford: Oxford University Press, 1987.

Notes

[i] World Commission on Environment and Development (WCED) 1987, p. 27.
[ii] Wolf 2003, p. 173.
[iii] Ibid.
[iv] Smith and Ross 2007, p. 115.
[v] Fontein 2008, p. 756.
[vi] Ibid., p. 749.
[vii] Following Foucault, discourse is taken to mean, “not the conventional act of speaking, rather the specific speech act of the expert” (Narsiah 2008, p. 22).

[viii] Robbins 2003, p. 1076.
[ix] Neo-liberalism will be taken to mean a "model of capitalism whose underlying principles include the primacy of economic growth, the opening of borders to capital movements, the removal of all restrictions to trade and the removal of government regulations which infringe on the operation of an open and free global market" (Stephan et al. 2006, p. 227).
[x] Dublin Conference, quoted in Robbins 2003, p. 1077; and Narsiah 2008, p. 30.
[xi] Robbins 2003, pp. 1078, 1080.
[xii] Narsiah 2008, p. 22.
[xiii] Robbins 2003, p. 1074
[xiv] Narsiah 2008, p. 22.
[xv] Robbins, 2003, p. 1075; Narsiah 2008, p. 22.
[xvi] Robbins 2003, p. 1075.
[xvii] Faruqui 2003, p. 57.
[xviii] Wolf 2003, p. 175.
[xix] De Rivero 2001; Shiva 2002, quoted in Robbins 2003, p. 1073.
[xx] Raadschelders 2005, p. 20.
[xxi] Farmer 2006, p. 205.
[xxii] Ibid., p. 207; Griffiths 2002, p. 3.
[xxiii] Farmer 2006, p. 210.
[xxiv] Ibid., p. 213.
[xxv] SADC Protocol, Article 2.
[xxvi] WFD (19).
[xxvii] Turton 2008, p. 185.
[xxviii] SADC Protocol, Article 7.
[xxix] Carson 1962, p. 6.
[xxx] Myers and Myers 1983, p. 20.
[xxxi] Ibid., p. 21.
[xxxii] Horta 1995, p. 227.
[xxxiii] Mandela, quoted in Bond 2002, p. 128.
[**xxxiv**] Ibid., p. 1074.
[xxxv] Harvey, quoted in Bond 2002, p. 162.
[xxxvi] Bond 2002, p. 136.
[xxxvii] Horta 1995, p. 228.
[xxxviii] Bond 2002, p. 162.
[xxxix] Ibid.
[xl] Pottinger 2009.
[xli] Willemse 2007, p. 459.
[xlii] Ibid., p. 460.
[xliii] De Jonge Schuermans 2004, p. 10.
[xliv] Willemse 2007, p. 460.
[xlv] Horta 1995, p. 230.
[xlvi] De Jonge Schuermans 2004, p. 13.
[xlvii] Ibid., p. 11.
[xlviii] Pottinger 2009.

[xlix] De Jonge Schuermans 2004, p. 11; Pottinger 2009.
[l] Robbins 2003, p. 1077.
[li] Bond 2002, p. 150.
[lii] von Schnitzler 2008, p. 903.
[liii] Robbins 2003, p. 1078.
[liv] von Schnitzler 2008, p. 904.
[lv] Bond 2002, p. 151.
[lvi] von Schnitzler 2008, p. 901
[lvii] Ibid, p. 914.
[lviii] Soeters 1993, p. 641.
[lix] Van Dunne 1999, p. 303.
[lx] Ibid., p. 307.
[lxi] Aldo Janssen, interview by author, 6 May 2009.
[lxii] Janssen interview.
[lxiii] Soeters 1993, p. 649; Janssen interview.
[lxiv] **"**International River Basins - Ministry of Transport, Public Works and Water Management." 2009.
[lxv] Janssen interview.
[lxvi] Ibid.
[lxvii] "De Maaswerken, hoogwaterbescherming, natuurontwikkeling en bevordering van de scheepvaartroute op de Maas." 2009.
[lxviii] Raadschelders 2005, p. 4.