

The Globalization and Financialization of Montreal Water:
Network Procurement Practices for Commodifying a Commons

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ABSTRACT

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The City of Montreal describes its water as a public service. This thesis complicates if not challenges such a designation by showing how emergent water-related infrastructure procurement practices are introducing global and financial markets into Montreal water. Indeed, Montreal's Green Economy is arguably valuing all water-related infrastructure with the intention of commodifying it fully. While such commodification is diluting Montreal's Water Commons with private actors and private decision-making, away from democratic procedures. The following actor network analysis shows multiple and heterogenous actors, relations and processes that are implicated in this transformation.

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Chapter One

The Globalization and Financialization of Montreal Water: Network Procurement Practices for Commodifying a Commons

This thesis shows how an emergent network for procurement is extending global and financial markets for water-related goods, services and infrastructure into Montreal water. This emergent network is not a subject of public and academic discourse at this time. This is true even though its purpose of globalizing and financializing Montreal's water-related procurement is shown to be at odds with practices that have historically been associated with water as a public service in Montreal: local municipal provision and control of drinking water and a universal access not contingent upon ability to pay. Such practices are denoted, in what follows, by the term 'the Commons' or Vandana Shiva's 'water democracy' (Shiva 2005, 137-139; Harvey 2011).

Since the 70's, much research has documented the trend turning public water into private delivery and financial assets for the markets, facilitated by the insinuation of private decision makers and commercially-oriented policy prescriptions (Swyngendouw 2005; Bakker 2007; Bakker and Furlong 2010b; Bayliss 2014, Bresnihan 2015). Such water privatization processes have also been observed and documented in Quebec and Montreal (Hamel 2008; Audette-Chapdelaine 2009). This thesis builds on this scholarly tradition by showing the emergent globalization and financialization of not only Montreal water but all of its water-related infrastructure via procurement practices, increasing private influence and private decision making therein. Specifically, the contribution of this thesis is to analyze ways in which new and emergent procurement practices and their relations are formatting all Montreal water-related infrastructure into global and financial markets and away from local democratic procedures.

It's likely fair to say that most Montrealers have assumed their Water Services to be a

singularly public infrastructure, if for no other reason than it's managed by the City. The City itself describes its Water Services as “une organisation publique de l'eau performante et reconnue comme telle par la population” (Ville de Montreal, Gestion de l'eau). This monolithic vision of Montreal Water Services is troubled with the adoption by this thesis of a *network* approach called Actor Network Theory (ANT) to the City's water-related procurement. For ANT, a network is a thing that can be traced and described in terms of its multiple actors or practices and their web of associations and relations. These associations and relations distribute power that is characterized by a particular purpose (teleology) and particular direction (trajectory) (Latour 2013, 33). Indeed, the intention of this network analysis is to complicate Montreal Water Services by presenting its multiple actors and their relations that are performing (or enacting) Montreal water-related procurement with a view to facilitating the extension of private property rights and the power of private global and financial actors into all water-related infrastructure in the City. This infrastructure includes Montreal's Water Services and this thesis therefore constitutes a challenge to the designation of these Services as “publique”.

Common practices in municipal procurement include the determination of standards, the development of specifications, and the analysis of values, in addition to financing, price negotiation and tendering for goods and services (Caliskan and Callon 2010b). This thesis shows how, in Montreal, such procurement processes are transforming in order to tie Montreal water production to global, financial markets via the introduction of practices that capture, value, standardize and finance all water-related infrastructure using a new water pricing calculation, economies of scale (larger contracts for lower cost), globalized compulsory competitive tendering rules (GCCT via prospective trade agreements) and high private debt leveraging (loans).

Three of these practices, their relations and effects (or anticipated effects in the case of globalized competitive tendering) have been described in literature seen further along, however little has been documented with regard to the relations and effects of the new water pricing calculation in local contexts. This thesis addresses this lacuna by contributing a description of the agency and relations of all four practices working in concert locally within the network for the commodification of Montreal's water-related infrastructure. As such, this thesis details commodifying processes via these network practices, their agencies and relations turning activities formerly of local use value into assets that can be traded (exchanged) on global financial markets (Marx 1887, 506-543; Harvey 2003, 74-75; Huws 2011, 65).

This thesis also makes the case for how this network for water-related commodification also materializes practices transferring power and influence away from local elected councillors, service providers, water users and socio-environmental conditions, towards the likes of unelected decision-makers in the form of shareholders, bond investors, markets and transnationals (TNCs) in what constitutes a Neoliberal orientation (Huws 2011; Bayliss 2014; Bresnihan 2015; Allen and Pryke 2013). Therefore this thesis contributes a local example of how materializing procurement practices to commodify water-related infrastructure within global and financial markets works hand in glove with detaching water from local democratic procedures, making the possibility of dedicated local, civic representation and participation within water policy more remote.

This thesis argues for how the form of ANT adopted in this thesis is an effective method for showing such materializing practices and their relations. ANT recognizes how practices can be embedded with texts in the form of scripts, symbols or images and that such texts can be empirically analyzed for their functions and effects within their networks (Law 2009).

Importantly, ANT also understands that texts are products of power relations that perform relations and “tell particular stories about particular relations” (Law 2009, 142). Texts performed by the network for the globalization and financialization of water-related procurement include municipal minutes, trade accords, financial regulations, a new pricing calculation for costing water, meter readings and so on.

That these emergent procurement practices and their texts have barely been formally discussed, debated, and deliberated upon with Montrealers is understood here as one effect of the network and its power. Of concern to this thesis are the effects of the Network that are being externalized or absented from the political and public landscapes of the City by the Network itself. This thesis shares the following sentiment, that, “We should seek to describe multiple conditions of decision-making or imbalance remembering C. Wright Mills’ insight that absences are just as important as presences in giving capitalism impetus and direction” (Mills 1956; Bowman and Erturk 2012, 24;). This concern with absence and presence speaks to the political matter of *how* and the roles of representation, framing, mediation, power, as well as decision-making, in bringing Neoliberal water realities and their conditions to bear here in Montreal.

This thesis describes an emergent network of practices, emergent in that the network is still materializing, which is to say that practices could still meet with sufficient resistance to frustrate and even fail the network. Ursula Huws (2011), academic and public services advocate, has stressed the need to read practices and their relations as they are being introduced because of their tendency to signify early warning signs of commodification processes transforming what is public and commonly available to all into what is private, and exclusive, even under public management (65). With these concerns in mind, the following questions motivate this account: How are the new procurement practices and their network relations being realized? What

realities are being presented, absented or externalized via the emerging network? What materializes with the emergence of the network? And how are resistances to the network materializing?

How ANT Can Describe the Network

Government procurement refers to the outsourcing of production to private contractors delivering goods and services, paid for by public money. Government procurement represents approximately 15-20% of GDP in OECD countries and considerable strategic, developmental power to stimulate local economy and also transfer public wealth to the private sector (Thai and Grimm 2000, 231; Joint EU-Canada Scoping Exercise March 5 2009, 7; Shrybman 2010).

To contract out for public goods and services requires their translation into contracts which in turn require the determination of standards, the development of specifications, and the analysis of values, in addition to the financing, price negotiation and tendering for goods and services in the procurement marketplace (Caliskan and Callon 2010b). These are key practices within procurement networks.

Public procurement processes are however political, economic, financial, environmental and social and they are presently financializing and globalizing in many countries, as seen in Chapter Two, and yet they rarely become a matter for public debate and deliberation. The procurement of water-related infrastructure is barely open to public debate, a reality that likely relates to how the greater marketization and private delivery of the goods, services and infrastructure that comprise public water has quietly ensued under the radar of most Montrealers. How is this so? And how can procurement practices materialize within networks? This chapter describes the theoretical underpinnings of ANT that informs the ANT methodology used and its application within this thesis.

STS, ANT, Practices and Reality

Actor Network Theory (ANT) emerged from Science and Technology Studies (STS) that explores how science and technology are shaped by and in turn reproduce social, cultural, institutional and economic forms through practices (Law 2009, 143). ANT agrees with STS that theory has to be put into practice, as noted above, for realities to materialize. STS takes a broad view of what constitutes practices (scientific and otherwise), “knowledges, social relations, cultural assumptions, textual traces, embodiments, subjectivities, elements of the material world [...] tools and larger contexts or chains of infrastructural relations” (Law and Williams 2014, 21-25). This thesis shows how many such practices are being materialized as a globalized and financialized procurement that provides Montreal with the goods and services that comprise water-related infrastructure.

STS ANT understands, through the work of Thomas Kuhn, that knowledge production can only be transferred through practices in their function as problem-solving paradigms or examples (Law 2009, 143-144). For instance, the solution to the costly problem of Montreal’s aging water infrastructure and leaky pipes is for water production to be valued as assets for the financial markets (Service de l’eau: annexe 2011, 39).

With extension, *paradigms* produce problem solving *cultures* (Law 2009, 143). Market-oriented problem-solving models have been reproduced over and again to create financialized problem-solving culture. Such models have turned up in Montreal water procurement strategies as part of the City’s emergent Green Economic paradigm, as described in Chapter Three. How can this happen?

Montreal did not come up with this financializing culture out of the blue. Other powerful realities, and their problem solving cultures have contributed to its materialization. Law (2004)

has designated these realities *hinterlands* (34). Following Latour and Woolgar's STS seminal study "Laboratory Life", Law (2004) uses the term *hinterland* to refer to those pre-existing social and material realities that offer something of a template for what can be said and thought of as real (34). Neoliberalism is one such hinterland, denoting the economic trend from the 80's onward that has been materializing the ongoing transfer of economic control from the public sector to the private with the insinuation of private-interests into government (Gamble 2007; Brennan 2012, 3-4). These Neoliberal interests have lobbied for market-based solutions via the insinuation of corporate decision-making and corporate production of public utilities and its infrastructure, as described in Chapter Two (Swyngendouw 2005; Bakker 2007; Bakker and Furlong 2010b; Bayliss 2014, Bresnihan 2015).

Law (2004) elaborates that it is owing to hinterlands that, "Some classes of possibilities are made thinkable and real. Some are made less thinkable and less real. And yet others are rendered completely unthinkable and completely unreal" (34). Neoliberalism has involved two other hinterlands that of globalization and financialization that in concert have materialized in Montreal the local Network producing (among others) four new water procurement devices: globalized compulsory competitive tendering (GCCT), larger contracts for economies of scale, a new pricing calculation for water, and high private debt leveraging (financial loans), analyzed in Chapters Two and Three. But the question arises as to how the practices that produce realities are enacted and how they can materialize problem solving cultures that influence the materialization of realities elsewhere.

The ANT version of STS provides case studies showing how practices are enacted within network formations (Law 2009). As indicated above, it holds that a network is a thing that requires multiple practices) from different domains that relate together within a web formation

that has purpose and trajectory (Latour 2013, 33). To show what this means, ANT adopts the concepts of *multiplicity* and *relationality* to describe both the materialization and extension of realities, into different realities, such as that seen in Montreal.

ANT, Material Semiotics Materializing Networks

The theory in ANT describes its methodology i.e. *how* a reality can be analyzed as a network of actors (or practices). ANT is done by describing and analyzing how different and multiple kinds of actors/practices, human, non-human and non-living, define and shape one another through their relationality. Law dubs this meaning-making and relationality between things and concepts *material semiotics* (Law 2009, 146).

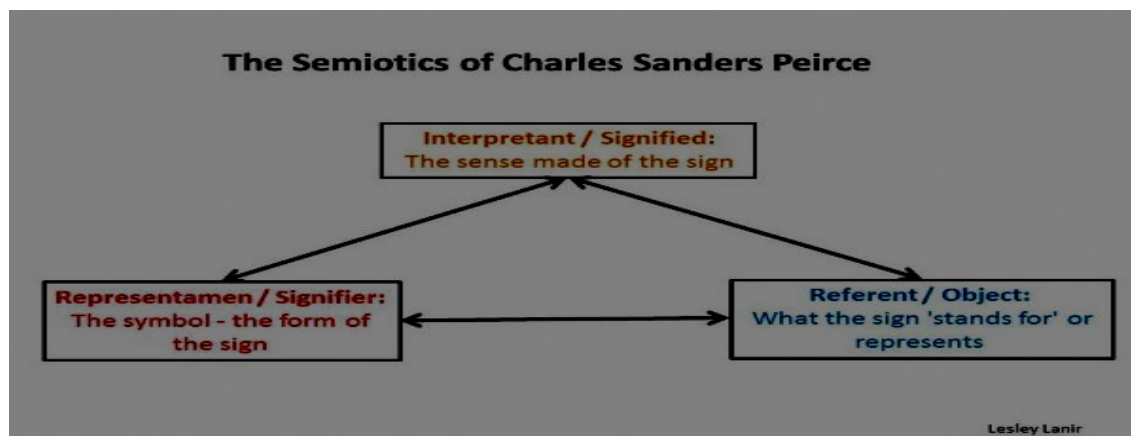
According to Charles S. Peirce's semiotic theory, an object is given meaning when it acquires a sign; and any given object can have many signs (The Stanford Encyclopedia of Philosophy 2010). The larger the network the more signs it has, hence the notion of multiplicity. For instance, the object of water-related infrastructure procurement has legal signs, economic signs, financial signs, environmental, conservation signs and so on. The various signs signifying the object originate in intrinsically different domains, are heterogenous, yet can still signify or define the same object (Latour 2013, 296; Law and Williams 2014, 21-25).

This thesis describes relations of a fairly large scale and heterogenous actor network, when ANT more commonly concerns itself with networks of a smaller scale. However there are larger scale actor network case studies too. For instance, Law and Williams (2014) have recently provided one example that combines ANT with political economy to analyze and address the problem of financialization of public service provision in the UK (20). And as early as 1986, Law's seminal study of how the Portuguese mercantile, imperial project reached India in 1498 described the expansion of a network that allowed them to control half the world for 150 years

(Law 2009, 146).

Law (1986) demonstrates in the instance of Portuguese imperialism that “it is not possible to understand this expansion [of power] unless the technological, the economic, the political, the social, and the natural are all seen as being interrelated” (235). This thesis is motivated by a similar view that holds that the emergent expansion of financial and global market power into Montreal water-related procurement cannot be understood without an analysis that interrelates heterogeneous actors/practices from multiple domains. And it takes in the roles played by technology, economics, finance and environmentalism to describe the Neoliberal relations of an emerging network for water-related procurement in Montreal.

Though signs of the object can be multiple and heterogenous, the question remains as to the processes via which heterogenous signs become practices (actors) relating within a web formation. This transformation is largely the work of translation, a concept that originates, once again, in the semiotics of Peirce, who found that the relationship between the object and its signs cannot just be two-fold in character i.e. sign and object; but that for the sign to actually *communicate* its meaning, it must be triadic (have three parts): the object, the sign and its translation (or interpretant). The interpretant (i.e. the translation) is an understanding of the sign of the object (The Stanford Encyclopedia of Philosophy 2010; Atkin 2008, 65-66).



Callon (1998) explains this triangular relationship within a sign to be “the elementary unit of the Network” whereby without C (or translation) A and B, object and sign, can only be understood as being embedded in ambient and often invisible relations impacting them; to understand these relations it is necessary to introduce a third actor, C and “to adopt its point of view, for the relationship between A and B to become analysable and comprehensible” (9).¹

As an illustration, in Montreal there is water-related procurement (A) and a sign of this procurement is a new water pricing calculation (B) which is translated by Green Economy prescriptions as a market method for giving all water-related infrastructure a ‘true’ or market value, (C). As shown in Chapter Two, this is not the only translation; there are other counter translations translating this sign too, as seen in Chapter Two.

STS and ANT understands that signs are translated by and into webs of practices thanks to the translation that enables them to communicate with the other practices in the web or network. As noted above, STS and ANT takes a very broad view of what a practice can be and that these possibilities include textual traces in the form of scripts, symbols and images (May and Powell 2008, 146). The version of ANT adopted in this thesis is a material semiotics that proceeds by tracing and reading these textual forms that constitute what are the communications or relations of the Network being described for the reality it is materializing in Montreal.

May and Powell (2008) invoke Callon (1991, 140) when they describe texts as *intermediaries* that allow the practices (actors) of the network to communicate their values with one another, constituting what is social about the network (146). This communication is key to composing the network itself when, “The activity of inscriptions materializes in the prescriptions of a given

¹ Decoded Science, <http://www.decodedscience.org/charles-sanders-peirces-semiotics-the-triadic-model/22974>

object” (May and Powell 2008, 146). Prescriptions, in the semiotic sense of the concept, perform as values. They actively define (translate) the network of practices by distributing power in the form of these values among the actors. Examples of intermediaries in this thesis are policy prescriptions, water commodities, water meter readings, money and standards.

ANT’s material semiotics then proceeds on the understanding then that ‘the social’ is not a discrete realm, apart from nature or culture, but rather describes the relations or intermediaries connecting multiple and heterogenous actors and so forming various patterns, assemblages or networks in various material forms (Latour 2013, 296; Law and Williams 2014, 21-25). As an exemplar, Law (1987) describes how Portuguese imperialism was able to control half the world through the generation of a network. Using a material semiotics he found that multiple actors such as ships, sailors, guns, astrolabes, currents, maps, gifts and so on, were all translated into a web. And that “that web, precarious as it was, gave each component a particular shape or form that was to hold together for 150 years” (Law 2009, 146). Together these actors performed pathways to resources, products, markets, merchants and performative populations.

Law (1987) describes the Portuguese ships as *immutable mobiles* deploying Latour’s concept in order to underline the performance of more powerful intermediaries, with the mobility, durability and capacity to apply force, whilst holding their form; in short, immutable mobiles are how large networks grow, and extend their power and influence (Latour 1987, 227; Law 2009, 146). In Montreal, as elsewhere, Green Economy (or market environmentalism) performs as an immutable mobile, circulating market-based or monetizing values that translate water conservation as water production’s full marketization with the claim that raising the market value of water-related infrastructure and production will reduce its demand. This formula is being used to translate labour, water-pricing calculations, water meters, pipes, aqueducts and so on, into

Montreal's Network for globalized and financialized procurement, as described in the Chapters that follow.

The concept of standards, as intermediaries imparting values, is also important to this thesis, not only in terms of the corporate standards shaping municipal water infrastructure procurement, but also because as Latour (2005) notes “most coordination among agents is achieved through the dissemination of quasi-standards” (229). And these might include best practices, water policies and strategies and their embedded values in the form of market-oriented prescriptions, as seen in Chapter Three.

Law (2009) stresses how the activity and variability of the network cannot be underestimated. He uses the concept of assembling to more fully suggest the mediating work that “a web of relations [a network]” does as “it makes and remakes its components [that] are being domesticated in a process of translation that relates, defines, and orders objects, human and otherwise” (Law 2009, 5). Relatedly, McFarlane (2009) notes that in contrast to Foucauldian notions like *apparatus*, or *governmental technology*, the concept of assemblage or assembling also captures what is *emerging* and what is changing, as well as what is already formed. For McFarlane (2009), the concept also points to the provisional nature of assembling. This, he argues, contrasts the notion of an evenly distributed power or a single central power (564-565).

For the globalizing and financializing of Montreal water the signs that need to translate into the network are necessarily multiple and heterogenous. This thesis focusses on the most visible of these i.e. economies of scale, a new pricing calculation, financial loans and trade accords. Showing this emergent network reality requires also showing the relations that interconnect the practices in a purpose and direction (teleology and trajectory). To show the latter also involves showing the other realities (hinterlands) and powerful immutable mobiles that make the

Network's values and problem solving prescriptions possible. It involves showing how all of these practices and values translate, define and shape each other. Procurement involves markets so the following describes both the role of network mediation and performance in the markets.

ANT, Unremarkable Mediations and Market Performances

Montreal, like all cities, can be understood as a hub of networks of power. Callon and Latour (1997) describe how networks work or mediate to deploy and extend the property rights upon which market economy is predicated and that this requires "an ongoing effort to formalize, interconnect, aggregate and coordinate scattered, local markets" (2). The intention in this thesis is to show how new water-related procurement devices in Montreal are part of a network both deploying private property rights and formalizing the extension of global and financial water-related procurement markets into the City.

Callon and Latour (1997) describe the subtle, unremarkable ways capitalism's network assemblages and power flows materialize relations and absorb ever more deeply new layers of what is social (2). The rise of marketized water is one effect of such phenomena, whereby water-related infrastructure, constituting local water production and delivery, are subject to often unremarkable commodification processes. Even though, as Swyndegouw (2005) observes "to the extent that water is turned into money and capital, and water users into water customers who pay for water the choreographies of political power around water are fundamentally overhauled" (91). While some of the work of this thesis is to describe networked choreographies of political power shaping Montreal water-related procurement, an ANT analysis also understands the crucial role played by less remarkable relations in the everyday, such as transactions and exchanges, necessary to the creation of value.

Latour and Callon (1997) use the term *formatting* to underline the activity and agency of these

relations and translations resulting in market practices reproducing dominant situations that are represented as reality. Formatting, for the authors, denotes “a threefold effort that is simultaneously carried out at the level of representations, of institutions, and of the agents’ economic calculations” (3). The term formatting understands these economic realities to be *performative* which conceptually understands how they materialize their own identity and reproduction via practices that network their associations and relations and contribute to their visible reality (Latour and Callon 1997, 3). The concept of formatting is important because it understands how a plethora of unremarkable market activities normalize economics which in turn nurtures the belief that economics “hides a *more complex* social reality” (Latour and Callon 1997, 3), or a greater truth that we take for granted to be there. This may partly speak to why so much financial regulation, best practice and economic orientation materializing procurement goes unquestioned, as seen in Chapters Three and Four.

For Callon, economy cannot be understood without factoring in the economics required in the form of those formatting agencies that allow transactions to occur, e.g. marketing, accounting, calculations, technologies, policy and regulations, and all their knowledge practices (Callon 1998, 30). By way of example there is Montreal’s new water pricing calculation that, at first glance, may seem a rather unremarkable sign of commodification, and yet its translation into the Network is shown in Chapters Two and Three to be crucial to formatting Montreal’s procurement of water-related infrastructure within global, financial markets, with many prospective local effects.

The concept of calculation is important to networks and Michel Callon (1998) has demonstrated that “networks can be likened to calculative formulas that contribute to translating systems of social relations into monetary values” (Caliskan and Callon 2010b, 19). Montreal’s

new procurement network and its practices can also be seen as one such calculative formula, when practices within the new procurement (globalized compulsory competitive tendering, larger contracts for economies of scale, high debt leveraging, and a new water pricing calculation) are to work together to calculate new market-oriented values for Montreal water-related infrastructure.

Callon and Munsiesa (2005) employ the term *device* to capture more of the performative, agentic behavior of networks. John Law and Victoria Singleton (2013) signify ‘a device’ “as a set of implicit and explicit strategies that work more or less repetitively to order, sort, define and arrange a heterogeneous [network]” (260). More specifically, the term “collective devices” is deployed to describe the interaction of practices (or transactions) between agents that allow “compromise to be reached, not only on the nature of the goods [or services] to produce and distribute but also on the value to be given them” (1229).

In fact, Caliskan and Callon, following Maurer (2006) use the term *valorimeter* to categorize “the various tools, procedures, machines, instruments or, more generally, devices” factoring into the translation of values into amounts of money (17). This orientation conceptually can convey the agency of Montreal’s emergent water-related procurement practices and relations as a heterogeneous network of valorization that includes the new water calculation, economies of scale, globalized compulsory competitive tendering (GCCT), and debt leveraging, in addition to meters, tariffs, water users, conservation prescriptions, among others, that are all shaping and defining one another.

ANT also understands that networks materialize externalities as phenomena that subsequently go uncalculated, as non-valorized effects of the network. Derived from economic theory, externalities are conceived as those effects not taken into account at the point of economic

transactions, that are left out of the framing, as it were, and that occur very often at the point of social and environmental relations. In this way ANT distinguishes calculated from uncalculated relations (15). For Callon (1998) “Framing demarcates, in regard to the network of relationships, those which are taken into account and those which are ignored.” ANT understands that how actors decide what falls within a framing has also to do with the privilege and power of the framing network.

Bowman et al (2012) rework and update Mills’ analysis of the ‘military industrial complex’ to dub the power imbalance they observe today as the marketization “point value complex” that turns on the performance of financial calculations that are less about a stream of value created over time via investment in labour and equipment and more about value realized at a point (2); ‘point’ referring to the value or price change in various tradeable assets.²

Within ANT, phenomena such as financialization, wealth concentration, racism, water scarcity, are all understood as *effects* of power, rather than foundational explanations (Law 2006, 8). Power itself is understood “as an effect of network configuration and in particular the creation of immutable mobiles” as noted above (Law 2009, 146). It stands to reason then that since Networks make themselves they too are effects of networks. It follows that Neoliberalism can be described as a network of networks. Network effects also materialize resistance in the form of counter scripts and their translation in alternative practices. From practices come other practices (Law 2009, 152). The Green Economy market translation is presently the dominant problem solving culture for valuing water infrastructure, but there are resistances, with counter values

2

“Points”, Investopedia, <http://www.investopedia.com/terms/p/points.asp>)

translating an emergent web of counter practices, as seen in Chapter Two.

This thesis also draws upon financialization literature and its description of common practices geared to promoting and extending the influence of the financial markets throughout the economy, including the non-financial sector including public services and utilities (Bowman et al 2012, 6; Hudson 2012; Lapavitsas 2013). Other authors have demonstrated how the reach of financial practices extends to Water Services when they are primarily valued monetarily and then transformed into contracts and financial instruments (assets) that can be traded on capital markets (Bayliss 2014; Bresnihan 2015; Allen and Pryke 2013), as described in Chapter Two.

ANT, Performativity and Political Mediations

ANT recognizes that the multiple translations required for the network to extend and endure also create “precarious links”, precarious because they are not carved in stone but rather can be undone, or fall apart. For instance, thousands across Europe have protested the new rash of multilateral trade agreements, currently at various stages of negotiation. Even a handful of countries have expressed serious qualms. Therefore, it’s still possible, at this stage, that globalized compulsory competitive tendering (GCCT) will not successfully translate into the network in Montreal, if the ratification stage of CETA fails (Sinclair and Trew 2014). And perhaps Montreal water users will protest the increasing commodification of their water within financial and global markets and refuse their own translation into the Montreal network too. Networks are both complex and precarious and as Law reminds, “All it takes is for one translation to fail and the whole web of reality unravels” (Law 2009, 145).

This is to say that all networks, emergent and otherwise, though realities, are not constants as they must forever weather the challenge of changing conditions and resistances as they bump up against other networks, as in the instance of Montreal’s former procurement network, described

in Chapter Four. Realities always carry the risk of failure, or as Judith Butler (2010) theorizes, “The risk of breakdown and disruption are constitutive to any and all performative operations” (cited in Callon 2010, 165). As such, Butler has described the constant need to reinforce realities and repeat, reposition and retool scripts and practices because they are not constants. For Callon (2010) this requirement for repetition shows the experimental nature of realities in the form of market innovations. For in the repetition required to innovate, as in any experiment, anomalies occur (165).

ANT and Judith Butler understand that reality can never precisely be duplicated and this is where politics enters the network, in order to deal with the issues arising from those “misfires” that occur during reiteration i.e. the effort to reproduce a reality. These bumps and cracks need smoothing over for political and economic realities to persuade and persist. Or, as Callon (2010) explains, “Discourses draw boundaries, exclude and reject, and it is in these mechanisms that the political dimension lies” (165).

Though politics is essential to enduring economic innovations, Butler observes how, in the presentation of the real, there is a persistent effort to keep politics and economics apart. Importantly, Callon (2010) asserts, this separation and redistribution requires certain conditions of “cognitive, material and institutional” inputs without which the redistribution and separation cannot continue (165). Chapter Two and Three consider the production of such inputs producing Neoliberal water-related procurement. Callon argues for how cognitive, material and institutional inputs are also political mediations that will never fully succeed according to Butler’s analysis; for to keep economy and politics apart proves impossible when the very definition of politics cannot be separated from that of economy (Callon 2010, 165).

Until recently, Murray (2009) reports that analysis of public procurement was rather narrow

and largely treated the public realm in the same way as the private, ignoring the salient difference of the politics and values particular to the public realm. Murray (2009) observes rightly however that “at national, supra-national and international levels public procurement sits within legislative, administrative and judicial frameworks and much of those frameworks have been set by politicians” (92). He concludes that “the influence of politicians on public procurement policy is pervasive” (92).

And yet, on the City’s website, the Mayor of Montreal, Denis Coderre, might suggest otherwise:

I have often said that our city is not a parliament, but an administration. To this end, my vision is that the rigid discipline of political parties has no place in Montréal’s city council; I believe that elected officials must use their energy to serve their fellow citizens and not to debate political issues. It is important to get Montréal back on track. Together, we must stand up for our city’s growth and revive our pride in living in Montréal (Mayor Denis Coderre 2013, Ville de Montréal).

Here the Mayor appears to be saying that political debate as democratic process, is counterproductive to the economic well-being of Montreal. It is not surprising that democratic process is unwanted by some in Montreal when changing economic and political realities signal a redistribution of property rights from the public to the private and are therefore potentially a matter of multiple and opposing concerns and potential and incipient controversy. Such matters, in fact, require constant political mediation, by the Mayor himself, among others.

This thesis considers the role of politics within the Network for realizing the financial and global marketization of the City’s Water Services via water-related infrastructure procurement: How do mediations and interventions to separate politics from water-related procurement appear in practice? What practices are being absented, externalized or both? And what resistances have emerged; what counter practices and values?

Recent procurement history facilitates this enquiry. Occasionally power relations are easier to observe because of an event that Callon has dubbed *depunctualization*: when a network fails to translate or maintain itself because it is sufficiently resisted or challenged; then the lid on the black box lifts to reveal the contents of the network, its inscriptions and other relations that can now be discerned (Callon 1991, 152). Otherwise, when inscriptions *punctualize* in a network, such a network is so taken for granted that the webs of relationships and inscriptions that materialize it are not apparent so that it can then be described as a *black box* (Graham 2010, 6). At this point the translations of the Network's values are so thickly distributed that its problem solving logic becomes difficult to challenge. Graham (2010) maintains that "infrastructural disruptions provide important heuristic devices or learning opportunities through which critical social science can excavate the politics of urban life, technology or infrastructure in ways that are rarely possible when such systems are functioning normally" (3). In Montreal we see the depunctualization of the former local network for procurement of water-related infrastructure giving way to the punctualization of another, far more global and financial, creating more obvious opportunities for tracing network relations. This thesis shows that such a state of transition affords glimpses of the components and relations of both the old and the emergent network.

ANT Research Methods and Data

In this thesis I identify, bring forth, and analyze a Network for the globalization and financialization of all water-related procurement that, via the Neoliberal translation of practices from different domains, is materializing the greater commodification of all water-related infrastructure including Water Services in Montreal. The thesis shows that these processes of commodification have absencing and externalizing effects on municipal democratic procedure.

From a methodological point of view this thesis is anchored on the material semiotics described and discussed earlier in this chapter. It describes these emergent practices, their values and performance as translations of the object that is globalized and financialized water-related infrastructure procurement, an object that can be read and therefore scrutinized. These translations can be read because they are embedded with texts that are circulating and, in so doing, extend Neoliberal power by communicating and performing its values and problem solving culture in the form of conservation prescriptions, money, commodities, standards and water data. Apart from the few existing scholarly sources on the specific matters that this thesis explores and a few news reports, all of the data analyzed and texts presented in this thesis were accessed on the web in pdf or web page formats.

In order to fully tackle the complexity of the matter this thesis investigates, I developed an analytical framework that complements and extends my reliance on the aforementioned method of material semiotics. It consisted in focusing my research and review on the following focal points: Actor Network Theory and critical financialization, globalization and public services commodification theories. These are drawn upon throughout the various chapters, as seen below.

I chose these theories because they enabled me to address the question of how Montreal's water-related procurement is being financialized and globalized, and through these networked practices, increasingly commodified (i.e. turned into market assets). These literatures have shown the direct relation between increasing private access to public water-related infrastructure and limiting of public access. They have documented network effects of deteriorating services, labour conditions and democratic procedures at the point of services. A personalized history of how I first developed an interest in processes of water procurement in Montreal and subsequently in analysis the matter through the lens of these literatures sheds light on their pertinence within

the context of this thesis.

A reading of an article in the Socialist Register by Ursula Huws (2011) on the multiple practices of commodification of UK public services peaked my interest in the commodification processes at work in Montreal since 2009, notable for being the year that Montreal's notorious procurement scandal erupted at the point of a water meters' contract, the City's largest contract ever. At the time I was also reading newspaper articles around the prospective new trade agreement, CETA, and was alarmed by the lack of political response in the City to the proposed globalized compulsory competitive tendering it planned for municipal services. I had also been keen to do an ANT analysis since reading Bruno Latour's *Politics of Nature* (2004) and to learn a method for showing the complexities of how realities materialize and power performs.

From there I found other ANT authors and their case studies of multiple and heterogenous actors extending power and problem solving cultures through webs of relations. I found these offered a useful parallel to the multiplicity and heterogeneity of practices globalizing and financializing Montreal water infrastructure. I also examined the application of ANT theories adopting a political economy in case studies of financialization of public services and the networked analysis of Portuguese mercantile imperialism of the 15th century, described above. I found I was also able to take other theory critical of the spread of financial values and global markets encroaching upon all public services and adapt them to an analysis of Montreal water-related procurement. With this combination and adoption of theories I created an overarching analytical framework for my thesis, which, as in the case of the instances above, also amounts to an ANT political economy.

In terms of my research process, ANT's semiotic method, described previously, provided two more concepts crucial to this thesis: hinterlands (realities that make other realities possible) and

immutable mobiles (powerful values that can travel and attach to networks elsewhere) informing the materialization of new realities. Using these concepts, much of my process for addressing the question at hand was a matter of tracing a relatively small number of powerful values to their assembly in policy documents at supranational, federal, provincial and municipal levels of government, as well as in corporate knowledge-production networks. These institutional bodies perform as main mediators and much of the data analyzed and texts presented within the thesis were traceable to their websites in pdf or web page formats.

In addition to the method of going to main mediator sites I also looked at critical theory which provided new insights and new data detailing local effects and resistances to globalizing and financializing networks. This aspect of my approach also made apparent the theoretical ground already covered and the limits of existing analysis. While ultimately, two important findings emerged: the absence of any other comparable analysis of Montreal water, and also, at the point of writing, any thorough going analysis of the local emergent materialization of the UNEP Green Economy prescription for a new water calculation factoring in the cost of all water-related infrastructure (including debt) into the market price of water. One can only imagine that other such studies are coming soon.

Of course this process was often a lot messier, complex and non-linear than I have suggested here, involving pathways I had not planned. However, these strayings often lead to new data revealing new Network relations and effects; and with my analytical model guiding me I was able to stay on task in terms of collecting the substantive data required in the form of the documents and sources mentioned above. Given the recursive nature of my analytical model, and its spreading over the various chapters that comprise this thesis, a brief synopsis is in order.

In Chapter Two, my analysis proceeds by detecting and describing the hinterlands of the key

practices of water procurement and their relations of the Network: that is, the new water pricing calculation, economies of scale (larger contracts for lower cost), globalized compulsory competitive tendering rules and high private debt leveraging. The Chapter traces the immutable mobiles being mediated by governments, supranational agencies, corporations and political discourses within the logic of the Neoliberal problem solving culture. The Chapter reveals that textual traces of these immutable mobiles turn up in reports from water transnationals, supranational agencies, market tracking websites and the Canadian and European government websites on trade, among others. I have analyzed this material for Network mediations, relations and effects, translating water infrastructure as a globalizing, financializing, and therefore commodifying Green Economy.

The Chapter also draws upon recent reports from water and trade advocacy groups, media exposés and academic analysis for the social and environmental effects of the Network and the ontologies of water commodification practices. Importantly, the Chapter traces counter values to the Network and their translations into resistant, alternative practices within emergent networks.

In Chapter Three, this thesis demonstrates the Network's particular local and emergent translations and relations of the four devices described above within Montreal's water infrastructure procurement. The data I have gathered and analyzed here includes web-accessed supranational finance and water standards agencies, provincial and municipal water policy papers and strategies, municipal water reports and budgets, federal and provincial websites related to trade and procurement, municipal financial policy, water-related public-private partnership policy, water and trade advocacy reports and analysis, as well as public infrastructure privatization literature and think tank analysis.

The growth of globalizing and financializing (marketizing) culture in all levels of government

is shown as it increasingly opens water production up to private actors/practices, and asset creation for market exchange. In this context, I describe Montreal's rather quiet mediation of the key emergent practices/devices, and analyze government and think tank texts as translations by the Network. In so doing I show technological practices like meters and leak detectors also being translated into the Network and the agentic relations they perform within it.

I present texts to demonstrate that this emergent procurement reality and Green Economy culture is materializing the following: the demise of Water Services managed via a more progressive, governmental property tax-based revenue system, in favour of a regressive tariffication of all users for all water-related infrastructure and large water debt. And in view of other prospective translations by the Network, I suggest that the Network trajectory is currently towards a full financialization that would place management of all water-related infrastructure outside municipal democratic decision-making structures, processes and redistributive practice, materializing it corporately and fully in line with market forces.

In Chapter Four, I analyze provincial and municipal government water-related strategies as well as terms of the CETA trade accord from the Canadian and EU government websites and critical analysis therein by civil society trade advocacy groups. I find that the new procurement practices, globalizing and financializing the values of water procurement are combining with new values to transform the social democratic culture that has previously translated services such as water with the value of a *vertical equity*, that sees higher property-tax payers contributing more to relieve the burden upon those with less. I find the Network in Montreal is translating procurement practices with new prescriptions for what is 'fair' in a *horizontal equity*, in which all users pay equally for the water they use and all access is now conditional upon ability to pay the market price. I describe how technological practices are combining with conservation and

financial values to facilitate this transformation of social water-related values, facilitating the separation of politics from economy.

Reference to media reports and municipal communiques, council, executive and committee minutes shows that in Montreal the emergent globalization and financialization of all water-related procurement, in a Neoliberal vein, is contributing to the translation of government as ‘governance’ in the municipal administration: materializing private actors and absenting democratic procedures. It shows ways in which the absence of resistance to the transformation of Montreal’s Water Services into Water Economy is an effect of the Network itself.

The main contribution of this thesis is to deploy an ANT material semiotics to observe, record and analyze the new and emergent procurement practices and their relationality and values formatting potentially *all* Montreal water-related infrastructure into global and financial markets and under the influence of private actors, and away from local democratic procedures.

Chapter Two

Tracing Hinterlands and Immutable Mobiles

Describing hinterlands (realities that make other realities possible) and tracing their immutable mobiles (powerful values), how they converge, and are worked together to materialize dominant realities and prescribe localized practices, is empirical analysis that can be done of the Network for the globalization and financialization of Montreal's water-related procurement and its resistances.

Chapter Two considers hinterlands (existing realities) such as Neoliberalism that make the emerging reality of water-related procurement and key practices possible in Montreal. Hinterlands are described in terms of practices and their prescriptions e.g. Neoliberalism's translation of Green Economy that prescribes water conservation via water's full marketization. It should be noted here, that though Neoliberalism is shown here as a powerful hinterland, it is also a massive network of networks, enlisting actors (and their networks), translating practices for its own ends and with a view to sustaining and growing its own power. As a hinterland, however, it functions as a powerful source of immutable mobiles delivering values and prescriptions to far flung places, including Montreal.

Chapter Two describes how Neoliberal prescriptions for globalization and financialization target the full marketization of local water infrastructure that includes water production and delivery. It shows how this reality has involved the rise of the Public Service Industry, the financial markets and international trade harmonization as well as the materialization of Green Economy. Relations are analyzed that show real and potential effects on both local procurement and democratic procedures with the Network's insinuation into governmental decision-making processes. Counter scripts are also analyzed in the materialization of resistances to such practices

of water-related procurement and its dilution of the Water Commons via the creation of commodities.

Hinterlands of GCCT in Montreal Water

One key practice composing Montreal's new procurement for Water Services, slowly materializing since 2009, is contained within the terms of a new trade agreement currently being ratified between Canada and the European Union. If finalized in 2016/2017, the Comprehensive Economic and Trade Agreement (CETA) will introduce the *globalization of compulsory competitive tendering* (GCCT) of goods and services. Compulsory competitive tendering (CCT) denotes a policy for public sector organizations to allow private sector firms to tender for the delivery of public services in competition with any internal delivery by the public sector itself. The intention of CCT was to introduce market forces into the public realm (A Dictionary of Human Resource Management, 2008, Oxford Reference Online, www.oxfordreference.com). Its globalization in the instance of CETA signals the permission extended to all private EU firms to bid on all government procurement contracts for service provision over a certain dollar threshold.ⁱ

The aim of CETA is to effectively integrate the single market of the 28 states of the EU with that of Canada at all levels of government, in many sectors of trade, in foreign direct investment, as well as areas of finance and procurement of goods and services. Its proponents have celebrated the access that Canadian business will have to the world's largest economy while the EUs water-related firms can celebrate access to, among other things, Canadian municipally tendered contracts. CETA, arguably, announces a significant economic transformation to Canada in 2017. How has this state of affairs materialized and what are some of its anticipated effects for Water Services (Transnational Institute 2014; Public Services International 2015; CETA, Global

Affairs Canada)?

The 1980's saw the rise of Neoliberalism as an ideology and policy prescription for member states of the International Monetary Fund (IMF) and other multilateral policy bodies, promoting a massive structural adjustment with a view to enlarging markets. What began in the UK and US has assumed various forms in many countries around the globe since (Gamble 2007).

Neoliberalism replaced Industrial Policy with Competition Policy, which in practice meant replacing nationalization of industry, state subsidized industry and public services with privatization, incentives to corporations, and the opening up of trade between Nation-states, known as liberalization. Proponents have increasingly viewed previous government policy scripts of local development, full employment, social equality and social justice as potential barriers to the primacy and performance of competition and marketization within growing global free trade zones. This is the Neoliberal translation of globalization (Gamble 2007; Brennan 2012, 3-4).

As mentioned above, Neoliberalism has different strands but the “social market” strand that understands “the role of the state to be the champion and defender of the free market, by enabling the institutions it requires and empowering its agents” is hegemonic at this time (Gamble 2007). Its policy orientation was dubbed “New Public Management” which amounted to shedding the public sector of what was translated as its onerous bureaucracy and remaking it with qualities associated with the private such as innovation, entrepreneurship, productivity and efficiency. CCT and GCCT have been two devices introduced with the intention of achieving such ends (A Dictionary of Human Resource Management, 2008, Oxford Reference Online, www.oxfordreference.com). Fiscal discipline and tax reforms in favour of business were also imposed (Bakker 2014, 474; Tax Justice Network).

Using such scripts, Neoliberalism has spawned practices and devices to generate and concentrate wealth with the effect of redistributing property rights from public sectors to private sectors (François-Xavier Merrien 1999; Harvey 2003, 74). Neoliberal transfer of public services into private hands has been theorized by Harvey (2003) as an “accumulation by dispossession”, in a reworking of Marx’s “primitive accumulation” (74-75). Primitive accumulation denotes processes of land privatization, and suppression of rights to the Commons, indigenous forms of production and consumption, among other means (74-75). For Harvey (2003), “the predation, fraud, and violence” that Marx (1887, 506-543) ascribed to the primitive or original stage of accumulation is, in fact, recurrent via processes of globalization and marketization. Relatedly, Huws (2011) describes universal public services as “the results of past struggles by workers for the redistribution of surplus value [profit]” (64). Huws (2011), however, focusses on the expropriation of public services via processes of commodification of use values, in which use values are turned into exchange values, as a kind of “secondary primitive accumulation” (64). She details how, for the workers delivering public services, there is a general deterioration in working conditions, the depletion of public sector union strength and its bargaining power, further dissipated by globalization’s materialization of a global and more precarious labor force (64-84).

The logic of globalization for both governments and corporations is that in order to continue to accumulate, they need new market access in order to buy up or merge with existing firms (Brennan 2012, 37). As such, globalization and trade liberalization are central pillars orienting the Neoliberal regime. Globalization requires the incremental networking of global financial markets involving communications’ innovations, global trading-enabling strategies in round the clock markets that now never sleep. Liberalization requires the increasing deregulation of money

and capital markets, access to foreign procurement by governments and firms of goods and services and foreign direct investment in other states (FDI) and the relaxation of rules (laws and regulations) around investment practices within markets, organizations and monopolies, and procurement that is now to include municipalities.ⁱⁱ

Processes of globalization, liberalization and their networks of power have transformed the nature of the state and its procurement practices. The European Union has gone furthest down this road of economic integration: Economist Giandomenico Majone coined the term the ‘regulatory state’ to theorize the new role of government in the European Union; in this description government is not about deliberative democracy or social redistribution of wealth (Majone 1998,28). Majone’s (1999) normative theory understands the role of the state as that of materializing power-sharing with other regulatory bodies (commissions, banks and courts) and extending corporate influence within the public realm (1-2). For Follesdal and Hix (2006), the role of regulatory governance is ultimately “about addressing market failures and so, by definition, producing policy outcomes [...] where some benefit and no one is made worse off”. (538) In Europe the European Commission produces practices including policy that materializes the European market (i.e. a single market and a single monetary policy), the harmonization of goods and service standards and environmental safety regulations.

For Majone (1998), with the absented role of majoritarian government (political majority rule) when problems arise, the role of the regulatory government i.e. the European Commission is not to impose structural change or redistribute power but rather to fix problems procedurally with promises of more transparent decision-making by technical experts. In other words, Majone (1998) sees solutions to problems arising as a matter of re-setting of standards (1-2). Follesdal and Hix (2006) summarize the role of non-majoritarian government, in this regard, which is to

distance the political from economy, since the political is deemed obstructive, and to materialize the conditions, processes and procedures that further consensus and marketization (538). This embrace of the private sector within governance practices is embedded with efficiency scripts that are to offset the absencing of redistributive policy that would address inequalities. Majone (1998) reasons that “Efficiency-oriented policies attempt to increase the aggregate welfare of society while redistributive policies are designed to improve the welfare of one particular group in society at the expense of other groups” (28).

In this regulatory, Neoliberal orientation, as Swyngedouw (2005) observes, “Governments are not just instrumental as initiators and facilitators of privatization; they also play a central role in guaranteeing profitability or insuring companies against adverse political or economic conditions” (91). To this end, competition and efficiency scripts have been used to insinuate corporate interests into governments, in the form of unelected agencies, to which governments delegate key decision-making functions and responsibilities, deploying the term *governance* to capture the role of these new unelected decision making agencies (Swyngedouw 2005b, 1991).

This move from government to governance has seen a creeping ‘corporatization’ a term used to denote the practice of a para-government body controlling infrastructural practices and delegating public funds, an increasing trend across the globe and in Canada and Montreal too (McDonald 2014). Such para-government entities, to varying degrees, can include private interests. PPP Canada Inc. is one such instance. Created as a Crown corporation with an independent Board of Directors from the private sector, reporting through the Minister of Finance to Parliament, its stated mandate is “to improve the delivery of public infrastructure by offering better value, timeliness and accountability to taxpayers, through Public Private Partnerships”. Water infrastructure is a large part of its mandate (PPP Canada,

<http://www.p3canada.ca/>).

The Global Policy Forum, an independent watchdog, monitoring the work of the United Nations and other global policy making bodies, has observed that “Corporate actors have been granted privileged access to decision-makers, and their interests have become more prominent as calls for legally binding instruments for [transnational corporations] become more sidelined” (The Global Policy Forum, Corporate Influence, www.globalpolicy.org/corporate-influence/52644-gpf-analysis-on-corporate-influence.html).

Wilks and Bartle (2002) maintain, “A consequence of delegation has been to narrow the criteria employed by agencies so that the old, broad, balancing public interest criteria have been replaced by a far narrower and dogmatic focus on market efficiency” (170). These practices and their networks have endured despite early signs of their market *inefficiency*. In the UK, for instance, a detailed study of the impact of compulsory competitive tendering in local government in the UK 1993-1994 (The Gender Impact of CCT in Local Government, Manchester, GOC, 1995) registered a total net loss of 126 million pounds in revenue, contrasting the savings of 20-25% savings promised by the IMF, OECD, World Bank and UK government (Huws 2011, 69; Patterson and Pinch 2000).

In Canada, Brennan (2012) has charted the subsequent power redistribution that has emerged via the mercurial rise of Canadian corporations thanks to trade and investment liberalization policies, noting that in 1950, the average profit of a firm within the top 60 corporations was 234 times larger than an average firm (4). By 2007, that ratio had risen to 14,278. This new balance of power is also associated with the deterioration in unionization, wages, conditions and labour’s over-all bargaining power (Brennan 2012, 4). Brennan (2012) notes that “The concentration of corporate power into the boardrooms of a few firms has helped shape Canada’s political

economy.”

Recent studies show an increase in net income inequality in advanced economies which according to the IMF (2015) indicates “gaps” in current tax-and-transfer systems, with progressivity of tax systems having declined in the past few decades. The result being that high-income households and corporations now contribute lower effective tax rates (Hungerford 2013) (IMF 2015, 21). The same study also finds a correlation between rising income share of the top 10th percentile and increasing labour market deregulation and consequent labour market flexibility “likely reflecting the fact that labor market flexibility benefits the rich and reduces the bargaining power of lower-income workers” (IMF 2015, 26).

Neoliberalism’s ideological performance of market efficiency has filtered out social obligations in favour of filtering in market obligations, a trend that intensified from 1995 and the creation of the World Trade Organization. With the elimination of trade barriers uppermost in mind, 128 state leaders that year gave the WTO a free hand to mediate as required. General Agreements on Trade in Services (GATS) resulted: liberalizing, outsourcing and/or directly privatizing health, transport, energy, education, water and so on, in most of Europe, although to the degree decided by the member state (Gamble 2007; WTO).

Abiding by GATS transparency and fairness requirements, procurement has nevertheless remained a means of economic leverage available to governments for local economic development and job creation (Shrybman 2010, 7). However, the trade agreements currently under negotiation are highly controversial for being that much more restrictive in terms of the amount of government policy space they lay claim to, and the power they leave to elected governments to govern. Government, critics observe, is increasingly being reduced to a regulatory function. As Gamble (2007) notes, “This means placing basic principles of the market

order in a category where they are beyond the reach of the elected government of the day.” This also means, in practice, putting procurement decisions well beyond the reach of local citizens. In these regards, the spirit of the ‘regulatory state’ is clearly apparent within the terms of the new breed of multilateral trade agreements that are currently at various stages of ratification (Transnational Institute 2014).

The largest trade accord since the North American Free Trade Accord (NAFTA) of 1994, CETA, if fully ratified in 2016, is likely to be most felt at the local municipal level, as it harmonizes and enforces globalized compulsory competitive tendering (GCCT or international procurement) for many services at certain thresholds for the very first time. The report “Trading Away Democracy” describes how CETA also grants corporations sweeping new powers to challenge domestic laws and regulations that they can argue limit their profits. To this end CETA borrows from NAFTA a system of corporate tribunals (Inter State Dispute Settlement) that are available only to foreign investors, sidestepping domestic courts and barring citizen input (Eberhardt et al 2014). As reported in the Huffington Post 15/11/2015, ISDS allows corporations to sue all levels of government for, say, improving the conditions of workers, if such improvement were to lower investor returns, as in the case of Veolia’s ongoing legal suit against Egypt for raising the minimum wage for its public sector workers in Alexandria from the equivalent of \$56 to \$99 per month.

Barlow (2015) reports that corporations have used this mechanism to challenge government policies over 600 times and, in a number of cases, against laws or regulations designed to protect water and the human right to water. These include a challenge where a government set a ceiling on the price of water so that the poor would have Water Services (11). Other critics have pointed out that foreign corporations already have non-discriminatory access to all levels of government

procurement in Canada by EU firms.ⁱⁱⁱ Municipalities would generally not refuse a bid from a European firm and there's the prominent presence of French water transnationals Veolia and Suez in many cities of Quebec including Montreal to suggest as much, as seen in the following chapter. Even UN experts have recently concluded that judging from the nature of ISDS settlements that "the regulatory function of many States and their ability to legislate in the public interest have been put at risk" (Barlow 2015, 15).

Sinclair and Trew for the Canadian Center for Policy Alternatives (CCPA) point out that Chapter 21 of CETA forbids municipalities specifying any local content requirements for the contracts that fall above the negotiated thresholds and that such provisions underwrite the true objective of CETA stated as "unconditional access". Such commitments in their view "will substantially restrict the vast majority of provincial and municipal government bodies from using public spending as a catalyst for achieving other societal goals, from creating good jobs to supporting local farmers to addressing the climate crisis" (Sinclair and Trew 2014, 25).

To speed up the process of liberalization, in 2011, 50 countries, dubbing themselves "The Very Good Friends of Services" came together to bypass the WTO rules of negotiation and to fast-track a new trade accord for services. Opponents to CETA find that the Trade in Services Agreement (TISA) not only presents an intensification of competition and access by new states and their firms but also newly introduces a provision whereby any service or part of a service once commodified or privatized is prevented from returning to the public sector via a "ratchet" or "standstill" mechanism, in this way tightening the grip of private property law and global water-related service providers over procurement. Relatedly, TISA would also prevent monopoly provision of regional or local services such as municipal water supply (Public Services International 2014, 104-105; TISA, Wikileaks). TISA's potential impact upon water make it

most abundantly clear that the Network for the globalization and financialization of water-related procurement is also a Network for the greater marketization (or commodification) of water-related services.

As signs of the change underway these trade agreements are big and visible despite efforts to keep them beneath the public radar. Many civil society organizations and municipalities have demanded inclusion in negotiating these new trade agreements and/or exemption of some or all of the terms related to procurement. In October 2014, over 1,100 actions were organized in 22 European countries to reject these trade deals that the EU is negotiating (Sinclair and Trew 2014).

Hundreds of civil society organizations in Europe and Canada have expressed their fundamental concerns with the predicted constraints upon government strategic procurement and democratic practice that these constraints would imply (Trew 2013, 575; ATTAC). As Scott and Trew (2014) note, “Canada has made these extensive procurement commitments for municipal governments at a time when local governments in Europe are demanding more space to use public spending as a catalyst for social and economic development.” (26). While in Montreal, the network for the new procurement for Water Services seems to have been formatting from at least 2009 the materialities that would accommodate the globalized compulsory competitive tendering in CETA (and other agreements being negotiated).

Chapter Two thus far has shown transnational actors of the network producing practices and their texts in the form of policy, regulations and trade agreements that are embedded with scripts that equate efficiencies with growing competition and the procurement of public services for global markets. Chapters Three and Four will describe ways in which CETA’s particular translation of globalized compulsory competitive tendering can work with three other

procurement devices and their network relations to format for the further globalization and financialization of water management in Montreal.

Neoliberal Procurement: Hinterlands of Montreal's Restructuring for Economies of Scale

A simple definition of *economies of scale* is the greater production of a good or service for less cost per unit.^{iv} This case study translates the economies of scale being realized in Montreal as a sign of an emergent network for the globalization and financialization of Montreal's water-related procurement practices. It understands restructuring for economies of scale at the point of Water Services as a contemporary feature of how procurement contracts are being specified and valued. The adoption of economies of scale practices are also how municipal management is transforming in conjunction with the rise of the public service industry (PSI), signifying private participation in public service delivery (Huws and Podro 2012, 6).

Unlike the wholesale sell off of public assets such as public utilities, another feature of the early 1980's, outsourcing, did not involve a real change of ownership, but rather the introduction of the practice of compulsory competitive tendering, inviting private service delivery into the state's operation. This required public services, with their intrinsic *use* value, newly being subject to a process of economization in order to turn them into commodities with a *market* value that could then be tendered by government and delivered by firms that transformed them into assets to be traded on the public services markets by firms and investors. Bayliss (2014) points out that until the 80's, the public status of Water Services was justified on the grounds that they were monopolistic in structure, difficult to value and commodify and were therefore unmarketable. In the economic downturn of the 70's and with the rise of Neoliberalism's New Public Management the high cost of public water provision came under fire. Since the 80's Bayliss (2014) describes how "Privatization has become a core policy with proponents arguing

that it will make water utilities more efficient and prices more cost-reflective” (294).

The Transnational Public Service Industry identifies those firms that specialize in the private management and/or delivery of public services within domains of energy, health and water for all levels of government in many advanced and emerging economies. In April 2014 the United Nations Conference on Trade and Development (UNCTAD) reports the steady growth of the PSI industry in a climate in which, “Services are increasingly being traded internationally, reaching 4.7 trillion dollars of global exports in 2013 and recording a 5% annual growth (current prices),” Compare this to only 2% increase in merchandise (UNCTAD 2014). While in 2014 the revenue of the world’s largest Water Services transnational, Veolia, rose 4.9% to €23.8 billion, due to strong growth in the United States, Asia-Pacific and the Middle East (Veolia Annual Report 2014, 6). An important question for this case study is how economies of scale are pertinent to the greater marketization of Montreal water. How have governments and PSI growth materialized economies of scale and what are the effects of this reality upon water-related goods, services and local conditions?

Following the financial crisis of 2008-2009 the desire by states to reduce deficits incurred by bailing out the banks legitimized cost cutting and the search for efficiencies. Economies of scale at the point of procurement was one popular efficiency device used in the massive restructuring of public services that required corporations with the capacity to deliver. It is no accident that the two largest water transnationals, Veolia and Suez, originated in France whose cities have largely outsourced their water. The profit or value added for outsourcing is huge, largely owing to what has been a steady increase in government spending in all OECD countries, both overall and as a percentage of GDP and this despite cuts to services and the sale of public industry: OECD.Stat Extracts show that in 1960, government spending was an average 28.4% of GDP across the

OECD, by 1980 43.8% and by 2010 Canada spending was 44.08%, not very far behind the European average for 2011 of 49.37% (Huws 2011, 68). Huws observes that given the profits to be made, it seems that capital has “a vested interest in encouraging the growth of privately delivered public services. And it stands to reason that the potential for market expansion is greatest in those countries and regions that have built the most comprehensive welfare states” (Huws 2011, 68).

One effect of this trend has been the ‘hollowing out’ of government services to make space for the private. Or in other words, the externalization of public services and the internalization of corporate services by offering an integrated delivery capable of covering all the production aspects in waste processing and water and energy production. The world’s largest water related transnational understands the growth potential of this orientation: Veolia’s “new strategic plan” explains that, “We have positioned ourselves differently—for example, with a single offer spanning water, waste and energy—and we innovate continuously to make sure we stay in the lead and stand out” (Veolia Annual Report 2014, 6).

Importantly, economies of scale are only possible because of the processes that have standardized goods, services and infrastructure making them interchangeable and easy to reproduce in quantity and exchange on the markets. The more generic and standardized that services have become the more readily they have fit into any economic sector be it manufacturing, retail or utilities. Huws relates how since the mid 90’s, transnationals have grown thanks to the ease with which new information and communication technologies are able to relocate economic activities and manage them at a distance in far-flung local realities (Huws 2011, 66, 71). Huws also spotlights the practices of knowledge commodification in the public sector that include the stripping, codifying, and placement into standardized databases so that not

only can knowledge be transferred to cheaper employees, it can also be used as an asset that is then commodified by the new employer. She describes how “Once the expertise has been commodified the more mature and experienced workers can be replaced by a younger more malleable workforce grateful for whatever security it can get” (Huws 2011, 78).

Standardization and market access work hand in glove to realize economies of scale, as Huws explains, for “the larger the market for these services is, and the more that standardization can be achieved, then the lower the price will become” (Huws 2011, 67). For Huws there’s “a harsh economic logic” here, and that is standardization’s economies of scale, more often than not, privilege large transnationals at the expense of smaller more local companies. While industry and consumers are often won over by the quality claims of standards and the documentation ensuring they are of a consistent quality when compared against equivalents of the same class.^v

A report by Suez in North America, relates increasing standards to increasing investment. Under the heading “Targeting New Objectives” the point is made that, “Stricter standards will ultimately demand upgrades that require various forms of investment” (14).^{vi} Suez understands standards setting and certification to be a market driver. Importantly, only standardized goods and services can be traded as assets on the markets.

Processes of metrology and standardization have been central to materializing this hyper local-to-local connectivity called globalization. Metrology is about making relations commensurable and coordinated, allowing for standardization procedures and Latour invokes the importance of metrology and standards in extending networks because once things are commensurable they can be coordinated and enlisted into networks via standardization processes. In fact, Latour describes how “As soon as local and global disappears, the central importance of standards and the immense advantages we draw from metrology—in the widest

acceptance of the term—become obvious” (Latour 2005, 228). Here Latour alludes to how tracing the circulation of metrology and standardization within universal networks is an operation that can be done “for other less traceable, less materialized circulations [because] most coordination among agents is achieved through the dissemination of *quasi-standards*.” To illustrate, he asks, “What would be the state of any economic activity without accounting codes and summaries of best practices?” (Latour 2005, 229). Similarly, procurement demands increasing standardized specifications to cater to a globalizing compulsory competitive tendering.

Stricter procurement practices, functioning as quasi-standards, encouraging economies of scale, are agreed by CETA’s Article II.6 that imposes valuation rules barring municipalities from dividing up contracts into separate, smaller contracts with the purpose of escaping the CETA thresholds. While Article II.7 takes the orientation a step further requiring that recurring contracts are gathered into a single unit of tender to bring them within the CETA regulation. It seems likely that such regulation will restrict the growth capacity of smaller local businesses (Trew and Sinclair 2014, 26). And Veolia, for instance, seems to be cutting its cloth accordingly: In 2015 Veolia states its new strategic plan “to target large-scale environmental markets” and “concentrate on the most dynamic geographic regions” that require “large scale investment”. Infrastructural contracts would fall within this remit to include upgrading Montreal’s water supply and sewage pipes for instance, as seen in Chapter Three. The corporation’s new “promising outlook” relies upon “refocusing on the most profitable sectors” (Veolia Annual Report 2014, 6, 7, 15).

None of the above is to deny the general agreement there appears to be that standards make a significant contribution, as noted by CEN, a standardization organization in Europe: “standards

are important tools for improving environmental sustainability, and worker and consumer protection. They complement Europe for companies and other actors to respect relevant legislation.”^{vii} For critics, however, the dominance of a market-based emphasis arises from who exactly decides standards and what is done with them: McDonald (2015) points to critiques of the standards-setting by benchmarking organizations that decide what standards are to be taken into account. Benchmarking denotes the practice of performance measurement via the process of comparing standards across industry or services in private and increasingly public sectors: “benchmarking organizations are stacked with large multinational corporations acting in their own interests, shaping ‘international standards’ across a wide swath of topics, from environmental sustainability to corporate governance” (89).

McDonald explains one related concern: the use of benchmarking organizations for the promotion of commercialisation of Water Services by allowing water corporations to dominate processes of standards setting and policy making; The International Standards Organization, the largest and oldest of these organizations, with its 260 standards “has been called little more than a “corporate private regime”. Which relates to another concern that “benchmarking practices are anti-democratic, conducted by ‘experts’ with little effort to include citizens or workers in the evaluation process” (McDonald 2015, 89).

A third critique derived from the latter is that emphasis on universal performance harmonization, with the help of various international agencies and trade agreements, undermines the particularities of local conditions including political and cultural differences. The ISO’s 260 performance metrics informs the basis of many benchmarkings around the globe but the organization is criticized for its Eurocentric and corporate character, as well as the prohibitive cost for some of acquiring its standards. McDonald (2015) comments that “Mainstream

benchmarking systems are so deeply embedded in market ideology and so inherently technocratic as to make them difficult to reconcile with the aims of public, transparent and equitable Water Services” (McDonald 2015, 90). The question arises as to how to derive and apply benchmarks that deter corporate and municipal water practices and efficiency claims predicated upon job insecurity, the absence of citizen oversight, prohibitive water costs for the least well off, and the hollowing out of public services in favour of outsourcing.

The European Commission has not helped address the question. Friends of the Earth report that “Despite on-going discussions on Corporate Social Responsibility (CSR) in the EU for a decade and a half, the EU does not have a coherent and robust policy on CSR. This means there are no clear standards for European companies and financiers when they operate outside EU boundaries. The Commission’s strategy is, instead, to rely on companies acting on a voluntary basis” (Friends of the Earth 2015, 6).

Under CETA, utilities’ tenders over \$657,000 and construction over \$8.2 million prohibit municipalities from insisting upon local content requirements. Without local content requirements, and all other factors being equal, the lowest bid becomes the decisive factor. Trew and Sinclair have argued in response to “unconditional access” provisions that “assessing the overall benefits of a [procurement bid] in terms of job creation, increased taxes, opportunities for marginalized groups, and environmental benefits would provide a more accurate cost accounting and superior value for money than simply going with the lowest bid without local spin-offs and community impacts” (Trew and Sinclair 2014, 26-27).

EU municipalities have carved their municipal drinking Water Services out of CETA procurement rules. Paris has entirely remunicipalized all its services bar for one. Some municipalities have even entered into public-public partnerships with other municipalities or

non-profits that involve pooling resources, mutual support, practical help and combining contracts to benefit from the economies of scale that can be had without compromising public oriented values; France Eau Publique is an institutional body that gathers a number of French public operators in this way (Kishimoto, Petitjean and Lobina 2015, 116). While Brazil's water management policy has adopted principles of equity, universality and public participation. McDonald (2015) describes how the Municipal Services Project has extended and transformed such values into 'normative criteria' for measuring performance of public services worldwide. But adds that such broad principles still need to be translated into concrete indicators for an everyday analysis of water management practices that systemically foregrounds issues such as public equity, solidarity and access (McDonald 2015, 91-92).

Montreal, however, seems to be moving against this current. My analysis of water-related procurement and its finance and restructuring practices underway in the City's Water Services points to likely signs that the municipality is standardizing to further commodify its Water Services for the markets and to procure larger contracts from larger foreign transnationals for the economies of scale they have to offer. Such materialities are analyzed more fully in Chapter Three.

Hinterlands of a New Pricing Calculation for Montreal Water Production

In this analysis the hinterland for Montreal's new pricing calculation for water is sourced most readily to scripts of both water scarcity and the UN's "Dublin Statement on Water and Sustainable Development" of 1992 that determined, "managing water as an economic good is an important way of achieving efficient and equitable use, and of encouraging protection and conservation of water resources" (UN 1992, 4). Such designations have been described as a matter of hegemony among powerful mediators, and their mediations often in the form of

knowledge production (Bakker and Furlong 2010b, 16-17). From the point of view of this material semiotics, I describe the part played by the immutable mobiles of the Network for water-related infrastructure procurement.

Knowledge mediation for the global economy starts at the international level with interventions by such bodies as the UN, the IMF and the Organization for Economic Cooperation and Development (OECD) that produce studies that support policy prescriptions and judgements in the form of various reports, conferences and working groups.^{viii ix} Such mediations have materialized and performed powerful prescriptions influencing, among other practices, the economic policies of member states in the marketization of water production.

UN studies have found, for instance, that global water use has been growing at twice the rate of population growth and they conclude that this rate of loss of water biodiversity is unsustainable in conditions of water scarcity.^x

The UN shows in “The Millennium Development Goals Report 2015” that international interventions have since 1990 substantially decreased the percentile of populations drinking untreated water, however, it’s still the case that “Water scarcity affects 40 per cent of people in the world and is projected to increase” (UN 2015, 8). The UN translates the script of water scarcity as any shortage of water that can take all or any of three forms: “Scarcity can be physical (lack of water of sufficient quality), economic (lack of adequate infrastructure, due to financial, technical or other constraints) or institutional (lack of institutions for a reliable, secure and equitable supply of water)” (UN 2015, 55). Of course, it’s possible that all three forms of scarcity can materialize within the same communities.

The UN’s Green Economy Initiative has determined that the problem of water scarcity is a failure to assign a monetary value to nature in its forms of energy resources and bio and water

purification. In its calculation a ‘true value’ is a market value, a concept predicated upon the idea of efficient markets. Quiggin referencing Fama (1970) explains that “Broadly speaking, the efficient markets hypothesis says that the prices generated by financial markets represent the best possible estimate of the values of the underlying assets.” And so these values are designated “true values” which are expected to rise once factors like scarcity and the increasing costs of purification and delivery are fully factored into the overall value, driving up stock prices and, costs to the consumers of services. Increasing costs of water consumption is reckoned to encourage consumers to conserve (Quiggin 2009, 240).

The marketization of precious resources underlies the Economics of Ecosystems and Biodiversity (TEEB), an international initiative hosted by the United Nations Environment Programme and supported by the European Commission, Germany, the United Kingdom, the Netherlands, Norway, Sweden and Japan. TEEB aims to calculate the monetary worth of ecosystems (Kaufman 2012, 470).

This is done with the help of scripts of ‘full cost recovery’ and ‘user-pay’ that, in the first case, value and price all aspects of production and in the second make the user responsible for paying the price, ensuring a source of revenue. The conservation logic follows that in the process, consumers, once persuaded of the higher value of water related goods and services and, feeling the pinch, use the resource more sparingly and sustainably, encouraging the continued possibility of access to the natural resources over time (Furlong 2012, 2723). Addressing economic scarcity is posited as addressing the problem of physical scarcity. The overall global process is expected to produce revenues for conservation innovations via the production and standardization of green (infrastructural) commodities. This process of commodification renders water related goods and services fit for the financial markets, given that only standardized commodities can be traded on

the financial markets; and this opens drinking water up to market speculation.

In order to fully marketize water via its infrastructure, a new pricing calculation was necessary to factor in full production costs, accounting for the gamut of infrastructural upgrades estimated. As explained in the 2015 UNEP development report, “Water for a Sustainable World”: “In the area of service delivery, prices or tariffs are usually linked to volumetric measures of water. Yet, prices in this area do not represent the scarcity value of the water as such but the cost of its delivery in a clean state” (UNEP 2015, 102). The type of water scarcity alluded to here is economic scarcity. In UNEP’s view economic scarcity must be fully quantified and calculated for water production to be delivered efficiently by the markets, “A Green Economy that values environmental assets, employs pricing policies and regulatory changes to translate these values into market incentives, and adjusts the economy’s measure of GDP for environmental losses, is essential to ensuring the well-being of current and future generations” (UNEP 2011, 2). This is to say that to address economic water scarcity, water production and its infrastructure must be commodified: codified, standardized and priced.

In order to fully marketize water via its infrastructure, enormous investment is required and governments are lining up to produce the promise of figures to this effect. According to the Economist (22/03/2014) Globally, water infrastructure (e.g. pipes, aquaducs, valves, services) is said to require 40 trillion by 2020 to bring it up to standard.^{xi} Canada’s infrastructural deficit alone is estimated at between \$123 billion and \$145 billion.^{xii}

The new calculation seems set to generate a proliferation of water related commodities and conservation innovations, that will effectively transfer huge amounts of public revenue from the public to the private sectors, given the dovetailing of demand and procurement realities via trade agreements described above.

Bakker (2014) distinguishes between valuation of water and its commodification, clarifying that they are not *synonymous* processes, explaining that the full commodification of water “only occurs when private property rights, full-cost pricing, and marketization (the introduction of water markets as trading mechanisms) are in place” (133 - 134, 482). However, it is posited here that since the new pricing calculation for water production no longer isolates the valuation of water in its clean state from the infrastructure that provides it, in this sense valuation and commodification processes in Water Services do appear to have become synonymous, to the degree that water goods, services and labour are outsourced.

I argue that the new pricing calculation for water production costs functions as the kind of tool produced by economists and intended “to take into account in more and more detail a set of entities and relationships which were hitherto excluded from the framework of calculation” (Callon 1998, 24). By extension, it presents a powerful device for generating commodities when “Commodification presumes the existence of property rights over processes, things and social relations, that a price can be put on them and that they can be traded subject to legal contract” (Harvey 2005, 165). If market environmentalism endeavours to perform an extension of property rights over all of nature, the new pricing calculation is a key device extending both property rights and the markets into water production. Enlisted as a device for valuing public water utilities, it contributes to processes of accumulation by dispossession evoked earlier, transforming the Water Commons into commodities (Harvey 2003; Huws 2011).

Proponents of Green Economy have anticipated great things: better jobs and environmental recovery in a program that would sustainably realize millennium goals thanks to “the benefit flows that arise from natural capital that are received directly by the poor” (UNEP 2011, 5). However, in the view of its opponents, such as Association pour une taxe sur les transactions

financières et pour l'action citoyenne (ATTAC) the Green Economy is nothing short of capitalism's "new cycle of expansion".^{xiii}

Certainly, when municipalities introduce the new calculation along with the scripts of full cost recovery, user-pay and globalized compulsory competitive tendering, they will be deepening the exposure and connection of private and foreign transnationals to local individual customers, who can ensure water related industries a reliable source of revenue from increasing innovations and standards. Economic water scarcity can be seen as a powerful script encouraging the power of TNCs more assuredly into municipal procurement markets.

Significantly, this network for the commodification of Water Services includes governments deregulating and re-regulating to create the institutional framework and guarantees favourable for absorbing nature into international markets. Furlong and Bakker (2010b) have pointed to the "near-hegemonic status" of liberal or "market environmentalism" among international policy makers towards the end of the late 1990s, in a political economy that wedded market economy and growth policies with environmental concerns. The authors observe that "This in turn lent impetus (through a mixture of incentives, coercion, and emulation) to the ongoing reframing of environmental policy at the national and local level, around the world, via key mediating organizations such as the Organization for Economic Cooperation and Development, the World Bank Group, and the United Nations agencies" (16-17).

As knowledge producers and mediators, these multilateral organizations have been delegated to think on behalf of governments, purportedly, in the case of the IMF, to encourage international economic cooperation and sound fiscal practice according to Neoliberal principles: The IMF reasons and prescribes a general need in all economies for the "greater involvement of the private sector in the provision of public services (through the outsourcing of noncore functions,

public-private partnerships, concessions, and so forth).” Their rationale is that “these functions in certain areas can be provided more efficiently by the private sector (United Kingdom, 1994)” (IMF 2014, 50). This is an ongoing script.

And yet in making efficiency claims for the private sector, the IMF contradicts its own research and that of the World Bank. An IMF policy paper (2004) and a global review by the World Bank (2005) found there was no real efficiency differences between the public and private sectors (Lobina 2014, 10). While more recent studies have found that in Water Services at least there is no conclusive evidence that privatization provides greater efficiency. Bayliss (2014) reports, from Bel and Warner (2008) that meta-analysis of all published studies on water distribution found no empirical support for cost-savings associated with privatization. The studies that do find a positive association with privatization often neglect to analyze, for instance, the source of profits which other studies have shown arise as the result of job cuts (297).

Proponents of privatization had argued the failure during the decade of International Water and Sanitation (1981-1991) of governments and aid agencies to achieve universal water supply. Bakker (2007) recalls how, following the Kyoto World Water Forum in 2003, proponents of private sector water management even began advocating water as a human right with the claim they could deliver where governments had failed and the World Bank then began subsidizing transnationals to provide Water Services in needy areas (437). Since then, long term private water investment in poorer regions has generally dwindled as water transnationals have followed the markets to greener pastures (Bayliss 2014, 254). And the corporate discourse has more profitably shifted to a new emphasis on sustainability and integrated services spanning water, waste and energy goods and services, involving shorter interventions rather than less lucrative long-term managerial concessions (Veolia 2014 Annual and Sustainability Report).

The IMF and UNEP have supported this new corporate trend by increasingly urging governments to invest in their infrastructures via outsourcing paid for by public and private investment (UNEP 2011, 602). The stated intention of the IMF (2014) is to reduce the pressure on the public purse while avoiding “a depletion of public capital stocks [public infrastructure] and potentially adverse effects on long-term growth, particularly when private sector investment is also on the decline” (22). The rationale here being that the marketization of states’ capital assets should inject revenue into the private sector, stimulating job creation and overall economic growth. Rather than expanding public sectors, this appears policy prescription appears to promote increasing outsourcing: UNEP understands that, “As water infrastructure is very capital-intensive, private sector investment or support for public investment via bonds financed by investors is increasingly important. Private financing for infrastructure to produce freshwater is one area of potential significance for a Green Economy” (UNEP 2011, 602). With the new pricing calculation, private financing for public infrastructure, and outsourcing to private firms appears to be a recipe for galvanizing financial markets.

From the point of view of this network analysis, such private relations induce a reality in which investors increase their access and influence over local water. Lander laments how “Policies destined to defend the planet will be limited by the need to respect the sacred rights of the free market [...] It is therefore not a matter of questioning the fact that the fundamental decisions in society are made by “the market”, but of expanding the market’s sphere of information and action to explicitly incorporate nature into its logic of values” (Lander 2011, 8). Investor/water relations are explored further in the following section.

The IMF and the UN Neoliberal performance of economic water scarcity positions the private sector in a key role explained by the Global Policy Forum, “The embrace of a voluntary

“partnership” approach has resulted in a corresponding shift towards a multi-stakeholder governance paradigm – buoyed by big business and the governments invested in it – in the World Economic Forum, the World Trade Organization, and the agencies and agendas of the UN” (Corporate Influence, Global Policy Forum, www.globalpolicy.org/corporate-influence.html).

In the wake of the 2015 Millennium Goals, the powerful TNCs of the private sector are angling to make themselves indispensable players within the UN’s post-2015 sustainable development agenda. This “multi-stakeholder governance paradigm” is a script repeatedly being performed at every level of government water discourse: in Canada, Quebec and Montreal, as described in Chapter Three.

Hinterlands of Financialization in Montreal’s Public Water

Debt leveraging is one of the common ways governments raise the capital they need for strategic procurement, both directly as loans from private financial institutions and also in the form of legal contracts called bonds and other similar financial instruments that are monetized by institutional creditors or various financial institutions. Montreal’s high debt-leveraging for water infrastructure renewal is raising the capital required to procure large contracts that TNCs can accommodate at a cost advantage called economies of scale. These practices are increasing the exposure of Montreal Water Services to the financial markets with effects described in Chapter Three.

Financialization of procurement also references the financial type *culture* and its prescriptions that perform when municipalities increase their exposure to private finance and creditors. What are some of the key dynamics and relations of this exposure? In what follows, I explore such relations by drawing upon existing analysis in financialization literature, textual presentation in newspaper exposes and financial coverage, market tracking websites, supranational and

government policy documents as well as water industry websites. In the process of this exploration, I trace the scripts translating these common financial practices into the Network for Neoliberal water-related procurement and its materializing realities.

The financial markets have grown and now starkly contrast the 30 years following World War II, during which certain practices restricted their growth: the costs of post-war reconstruction, unusually low asset prices helped by trade restrictions, nationalized banks that limited credit and debt levels in the public domain. However, matters changed in the 1980s–90s with policies and practices, including new technologies, that saw financial markets globalizing, banks privatizing and creating new financial instruments for the markets and increasing availability of credit and subsequent rising debt levels (Piketty 2013, 461; Bowman et al 2012, 20). Over this period, the outsourcing of services provided profitable commodities which provided the underlying assets for the financial instruments to be traded on the financial markets and also increased profits for further capital investment. These practices fueled the rise of finance.

Market volatility has increased as investors speculate in a manner less concerned with fundamentals of demand and supply and more swayed by price signals indicating the point-value of stock and political events (Bowman et al 2012, 2). This has led to sudden surges and dramatic drops in stock prices, an effect known as bubbles, effectively destabilizing the markets and challenging the concept of ‘true value’ (Hudson 2012, 125). Market dynamics have also contributed to stifling the growth of economy: By the end of the 2008 bubble, the massive growth of the financial sector accounted for nearly half of all corporate profits, diverting investment away from the production of goods, services and labour and towards short term gains in the capital markets (Quiggin 2009, 241).

Market volatility also sent large institutional investors in search of safer investments which

has contributed to the rise of bond markets in infrastructures including that of water. Investors have been increasingly attracted to the monopoly nature of water infrastructure and its reliable revenue streams in the form of household user fees (Christopherson et al 2013, 354).

Infrastructure, as a market category, needs to not only attract investors, but to also compete with other investment options and therefore encourage investors' confidence that the investment will prove low-risk and deliver a reasonable rate of return relative to other options. Bresnihan (2015) following EC Harris (2013) indicates, "This means that the infrastructure project itself must be translated into the *legible* terms of financial investors - in terms of efficiency, strong and transparent management, and regulatory compliance" (2). This is to say that the investor and the investment must be made compatible and speak to each other in the same financial language, expressing similar financial values. To this end, inscriptions of efficiency and transparency combine and perform with others such as user-pay, full cost recovery and conservation imperatives to enlist and translate household water users into revenue streams and further materialize a culture that valorizes water-related infrastructure, first and foremost, monetarily, rather than socially.

Applying ANT's material semiotics, I suggest that finance can be said to function as an immutable mobile, producing scripts that extend, perform and reproduce the power of finance and its networks. Owing to such practices and their relations, Christopherson et al (2013) reports "The financialised utility thus shifts value from the citizen consumer to the investor" (354). In Montreal we can anticipate increasing water revenues and debt transforming into increased outsourcing and market returns for investors. The authors indicate how finance has moved from a secondary, assisting role within government and economy to a defining one: "Financial rationales and practices have re-shaped performance metrics not just for enterprises across all

sectors of the economy but also throughout the public sector and utilities, including health services and social services, thereby directly affecting the social well-being and welfare of households” (351-352; Bowman and Ertürk 2012, 6).

Lapavitsas (2013) observes that “There is no standard form of financialization, even though there is commonality of underlying tendencies” (375). He notes that “comparative study of advanced countries has demonstrated the presence of financialization in general but has also revealed variations arising from institutional, historical and political factors (Lapavitsas 2013, 375).

Private Water Services’ delivery can be procured to varying degrees: water authorities can outsource composite services, or outsource management via public private partnership concessions or sell rights to private equity firms or private utility companies. All are forms of privatization, of varying degrees, and all generate supply chains of commodities that can form the underlying assets from which tradable assets for speculation in the water-related markets are derived in the form of financial instruments (Tsing 2009, 149). Bayliss and Fine (2008) have observed that “though commercialization makes progress towards efficiency goals more easily identifiable [...] institutional restructuring along these lines facilitates private sector involvement at a later date” (Bayliss 2014, 295). Moreover, all forms of water privatization can lead to financialization since privatization readily generates capital required for that aspect of financialization that is speculation (Bayliss 2014, 295).

The Guardian (10/11/2012) reporting on the UKs private water utilities observed that “The level of debt is the thread that ties incompetence, negligence, tax avoidance and over charging together.”^{xiv} Debt leveraging allows firms to pay their shareholders high dividends without raising equity (issuing stock). In this way shareholders can make a profit without the need to

invest in, say, improving services, production, or employment conditions that would increase equity or real value within the firm. It also allows firms to avoid paying tax because whereas raising profits on equity (by issuing stock) is taxable, the interest payments on debt can be charged against tax. Debt leveraging also encourages overcharging of rates to raise the revenue to pay off accumulated debt and interest.

In 2014 Lazonick (2014) could report that corporations had used 54% of earnings to buy back their own stock and 37% to pay dividends leaving only 9% of earnings for new investment. Low interest rates have encouraged financialization by making borrowing cheap and debt leveraging easy for large corporations. Veolia, the largest water TNC saw profits of \$387 million in the first half of 2015, its profit reported as tripling in 2015. Notably, its debt is 9.223 billion euros.^{xv}

Extending private property rights to Water Services has also paved the way for transnational private equity firms and their practices designed to maximize profits by acquiring control of shares in a target company and subjecting it to a radical restructuring with the aim of selling it or floating it on the stock exchange. Some private equity firms have also been known to make a fast return on an acquired company by selling off the assets in a process otherwise known as asset-stripping. The Guardian reports that transnational private equity firms own 75% of UK water.

Ordinarily, private equity firms, managing the likes of large public pension portfolios, have been choosing water related investments, advertised as safe and lucrative. Financialized investment culture nevertheless encourages precarious practices as seen in the UK private equity firm activities that have been as much as 80% debt financed leaving only 20% of shareholder investment, constituting high risk.^{xvi} As Allen and Pryke (2013), following O’Neil (2009) have observed in the UK, financialization has taken household water from being “a rather dull, safe asset, with earnings to match that profile [...] placing it into the risk-taking world of financial

calculation” (423).

Applying the material semiotics of this ANT analysis I highlight the relations between water practices including water scripts: physical and economic water scarcity scripts translate other practices transforming goods, services and other infrastructure into tradeable assets such as stocks, bonds and exchange traded funds (ETFs) for capital markets; in this process dubbed financialization such scripts also attract investors with the promise of growing demand. In the last few years water-related markets have been growing in scope, scale and value. In a period of otherwise slow growth, Veolia’s stock has climbed 23% in 2015 and Suez 13%.^{xvii} The online investors’ encyclopedia, Investopedia, expects to see “a host of new investments that provide exposure to this precious commodity and to the firms that deliver it to the marketplace.”^{xviii}

Exchange-traded funds (ETFs), as an example, invest in companies operating in industries such as water treatment and purification, water utilities, water monitoring, and retail companies. Where there are stocks that can be united by an industry or theme, there soon will be exchange-traded funds that try to capitalize on them (“Private equity ETFs aren’t fit for the public,” <https://secure.marketwatch.com/story/private-equity-etfs-arent-fit-for-the-public-2013-05-06>). Kaufman reports that “There are more than 100 indices [ETFs] that track and measure the value of stocks of companies in water-related businesses, such as utilities, sewage treatment and desalination. Several offer healthy returns” (Kaufman 2012). In 2010 Geneva-based Pictet & Cie ran the biggest and oldest water fund, with €2.38bn under management.^{xix} Its portfolio, which is invested in water-related stocks around the world, has gained 60.51% in 5 years.^{xx}

In 2002 Barlow and Clarke warned in their book *Blue Gold* that “The more that water and Water Services become profitable commodities to be bought and sold in global markets, the more water becomes the target of foreign speculators in financial markets. And given the increasing

scarcity of available fresh water supplies, the price of water could skyrocket as a result of investors speculating on commodity markets” (Barlow and Clarke 2002, 92). As Barlow and Clarke predicted, new financial instruments and practices along with escalating economic scarcity and demand are realizing the conditions in which the price of drinking water is rising to previously unseen levels. While the dearth of independent analysis evaluating the effects of the markets on local water pricing indicates that more dedicated research needs to be done, there are signs that the price of water is likely affected by market dynamics.

The website, Circle of Blue generates, compiles and benchmarks water rates across the US. Circle of Blue reports a 40% rise in rates since 2010 and a 6% rise in 2015, well above inflation. Circle of Blue is funded in part by Value Web, a market environmentalism consultancy group for “multiple-sector/multi-stakeholder collaboration”.^{xxi xxii} Externalized by Circle of Blue is any relationship between the rising cost of water bills and increasing returns from water-related shares and derivatives on the commodity and financial markets. Also entirely externalized is the impact on low income households having to pay such high marketized rates.

The 2013 Guardian Money, on the other hand, featured an exposé on the UK’s private water industry that provided a graphic showing the rising share value of water equity firms correlating with the rising rate of bills. It also described how by 2013, UK citizens had seen water bills rise to over \$800.00 a year, an 82% rise over the previous decade, far in excess of inflation and in some areas doubling profits in the same period, often with million dollar bonuses and perks to executives, frequent sewage spills and 30% leakage rates per year.^{xxiii}

More generally, the financialization of non-financial Public Service Industry likely has encouraged a well-documented deterioration in the quality of service provision, labour conditions and over all accountability. For instance, the two largest water transnationals, Veolia

and Suez and their subsidiaries have been responsible for poor management of water and waste water concessions, political lobbying, price-fixing, tax evasion, and fraud (Lobina 2014).

Law and Williams (2014) deem the “trader mentality” within the Public Service Industry as responsible for faster company turnovers of ownership and in the UK the overall creation of a “para-state of mainly private profit-seeking firms and an attendant huge growth of publicly funded private employment” (10-11). Bayliss (2014) explains, “Financialization has meant that the ownership of firms increasingly rests with financial investors [...] Pressure to pay dividends provides incentives for managers to cut wages, engage in fraud and deception, and to move into financial operations (Crotty 2005, cited in Epstein 2005)” (294-295).

Lapavitsas (2013) observes how workers too have become financialized “by incurring debt to meet essential needs, such as health and rising utility bills” (375). One in five Britons reportedly struggle to pay their water bills in part because bills outflank inflation and wage rises. On the other hand, where there’s little public funding for infrastructure and/or the prospect of low return for investors, communities are driven into debt financing from private institutions, or are simply left with ongoing scarcity. A case in point is that of First Nation communities in Canada, who are 90% more likely than other Canadians to live without water on tap and adequate sanitation in their homes (Barlow 2015, 10; CUPE 2015). This is a case of both institutional and economic scarcity in one of the world’s wealthiest states.

In a keynote address in 2015, the IMF president Christine Lagarde acknowledged that “the benefits of higher income are trickling *up*, not *down*,” and associated this trend of rising inequalities with financial deepening. She recommended checking tax evasion and “reducing or removing tax relief on capital gains, stock options, and the profits of private equity investments funds” (Lagarde, Christine 2015). The United Nations Environmental Program (UNEP) in its

report of (2011) also alluded to the damage done by financial markets, stating, “It is clear that across banking, investment and insurance – the core activities of the world’s financial system – significant changes in the philosophy, culture, strategy and approach, notably the overwhelming dominance of “short-termism”, will be required if capital and finance are to be reallocated to accelerate the emergence of a Green Economy (UNEP 2011, 623).

Despite these admitted problems with the markets and the presence therefore of value distortions, both UNEP and the IMF remain strong proponents of the Green Economy and its commodification and marketization of resources and claim that this and the new breed of trade agreement are corner stones to Green processes. UNEP maintains that to be green, an economy must not only be efficient, but also fair: “Fairness implies recognising global and country level equity dimensions, particularly in assuring a just transition to an economy that is low-carbon, resource efficient, and socially inclusive” (UNEP 2011, 24). Equity here is translated as equal access to markets whereby the markets must be allowed to grow unimpeded, without local barriers. Multilateral trade agreements must be observed to the letter, in other words. The principle of equity, in its translation as non-discrimination of access between nations, must be enforced, with no local favoritism.

Following Harvey (2003, 71) the problem of wealth concentration and inequality between nations and via monopolies and oligopolies is externalized. As to the excesses of the financial markets, in the IMF understanding, no “one size fits all”. So it seems that for finance, unlike trade, a multilateral approach to solving this problem is not recommended, and it is down to individual nations to introduce policies that address domestic inequalities (Lagarde 2015). A view that appears to externalize the globalized power of finance that is only likely to be enhanced by forthcoming trade agreements and their corporate tribunals for instance.

The limitations of the market environmentalism framing seem stark when water scarcity statistics are considered: The UN's Water for Life web page reports that "Around 1.2 billion people, or almost one-fifth of the world's population, live in areas of physical scarcity, and 500 million people are approaching this situation. Another 1.6 billion people, or almost one quarter of the world's population, face economic water shortage" (UN 2015). The World Health Organization (WHO 2014) reports that an estimated 842,000 deaths a year occur on account of unsafe water supply, and related poor sanitation and hygiene. The most entrenched economic scarcity largely occurs in the global south, and is growing (UN 2015, 8).

This data shows that the financial practices assembled and translated by the Network suggest that one effect of water scarcity scripts, in combination with the 'true value' script, is that the thirst for profit has *not* efficiently distributed clean water, water infrastructure and water oriented institutions equitably a) to the growing number of communities that cannot do without it b) at a price all can necessarily afford and c) in ways that encourage local democratic influence over water production and water access for local humans and non-humans (Shiva 2005; Swyndegouw 2005; Bakker 2007; Bayliss 2014).

In response to growing dissatisfaction with the commodification of their Water Services, an accelerating rate of municipalities within their network relations have either bought their way out of concession contracts or simply refused to renew them and have returned to varying degrees of public delivery: 235 in 37 countries from 2000 to 2015 (Kishimoto, Petitjean and Lobina 2015, 6-10). Montreal, on the other hand, in the grip of a Network for the globalization and financialization of its water-related procurement, is in the process of adopting practices that further entrench commodification of water production. While local governments in Europe are reportedly responding to local pressure to increasingly consolidate their Water Services, calling

for more public investment to create social and economic development, and keep it locally oriented, Montrealers are being steadily separated from their local water. Local materialities colouring Montreal water in a more deeply Neoliberal vein are the subject of the following chapter.

Chapters Three describes the Network's particular local and emergent translations of the four devices described above within Montreal's water infrastructure procurement. The growth of financializing and globalizing culture in all levels of government is shown as it increasingly opens water production and all its infrastructure up to private actors/practices, and asset creation for market exchange. In this vein the Chapter takes in Montreal's adoption of new procurement practices, including the new water pricing calculation, facilitating the trajectory of Montreal water production towards a fully regressive, market friendly tariffication that is intended to reflect the full cost of all water infrastructure and large debt servicing to private financial institutions. I show how this emergent reality signifies the demise of Water Services managed as a more progressive, governmental property tax-based revenue system and, in view of other emerging relations, also suggests the possible full corporatization of Montreal Water Services down the road.

Chapter Three

Network Practices for Neoliberal Water Production in Montreal

Chapter Two describes how water-related infrastructure procurement is facilitating what Harvey, following Marx, has described generally as an ‘accumulation by dispossession’, an appropriation of the Commons by private interests for capitalist development (Harvey 2003, 74-75). The fact that Neoliberal water production is often managed by the public sector can make its material relations less visible. In order to apprehend such processes at the local level, therefore, the relations that materialize globalized and financialized water-related infrastructure also need to be situated within their local particularities and the local logics commodifying local water production. Using ANT, this involves tracing the translation and mediation of practices, including values, that relate to and perform local water-related procurement via strategies that are legal, financial, economic, environmental, social and cultural.

The method used in this thesis, as noted in Chapter One, is to present key mediations by the Network translating globalized, financialized water-related procurement into Montreal via the introduction of practices including private market-oriented values externalizing public values. The data and practices drawn upon here include supranational, federal, provincial and municipal government texts performing water-related infrastructure procurement policy from economic, environmental, international trade and financial points of view. The data gathered shows that the Network in Montreal has also translated laws, political texts, think tank texts, conservation texts, mainstream media texts, as well as water policy literature in its water-related procurement.

Following Harvey, Neoliberal water processes are predicated upon access of the private sector to public water production and its infrastructure. With that extension, via legal contract, a process of commodification may take place, in which the good or service is given an economic value

permitting its market exchange (Harvey 2005, 165). It is worth recapping here from Chapter Two that only standardized goods, services and infrastructure can be commodified, and only commodified goods, services and infrastructure can be traded as assets on the financial markets (Huws 2011, 64). The procurement of public services requires that “use value is thereby transformed into exchange value” (Huws 2011, 64).

The four new procurement devices of globalized compulsory competitive tendering (GCCT), economies of scale, a new pricing calculation and large debt leveraging and their relations, facilitate the extension of private property rights into Montreal water and the conversion of the use value of public water infrastructure into exchange value. This chapter describes these devices and their relations within Montreal’s procurement network that is extending private/ market access into its water-related infrastructure via practices of law making, policy making, decision making, knowledge production and service delivery.

Three Governments Extending the Private into Montreal Water Production

Canada, Quebec and Montreal are three of the actors within the network materializing the globalization and financialization of Water Services via the new procurement in Montreal and all three have extended private property rights within their jurisdictions. In Canada, unlike most OECD countries, powers relevant to water management are largely devolved to sub-federal levels of jurisdiction (Paehlke, 2001). Canadian provinces are constitutionally recognized as the resource owners and the municipalities are ultimately responsible for water services, production and delivery (Hill et al 2008, 317).

Municipalities now have 60% of Canada’s infrastructure within their jurisdiction but only 8 cents of every income tax dollar going to municipalities and the 92 cents remainder going to federal, provincial and territorial governments.^{xxiv} Of the revenue municipalities have access to

i.e. property tax, federal, provincial transfers and user fees, only over the latter do they have sole control (Kitchen 1996; Furlong and Bakker 2010b, 352). The Federation of Canadian Municipalities (FCM) have complained that despite a \$123 billion infrastructure deficit only 9 billion over 10 years is being allotted.^{xxv}

While there is plenty of evidence that municipalities in Canada have limited means of revenue generation, such a revenue focus on municipal management can absent the transformative power of public procurement: Chapter Two noted how it represented 15-20% of GDP in OECD countries (Thai and Grimm 2000, 231; Joint EU-Canada Scoping Exercise March 5 2009, 7; Shrybman 2010). As such procurement by all levels of government in Canada can be considered as a form of capital investment, increasingly, under Neoliberalism's Public Management scripts, committed to growing the public service industry rather than growing the public sector. In this regard it performs a key role in the redistribution of wealth and power from the public to the private.

The Federation of Canadian Municipalities (FCM) echoes the IMF (2015), maintaining that "Improving our roads, bridges, and water systems is one of the best ways to create local jobs and generate \$1.20 in annual GDP growth for each dollar invested" (FCM 2015, 4). Its growth plan is predicated upon massive infrastructural development (FCM 2015, 5). This plan however externalizes important questions and materialities: Where will investment capital come from? How will it be invested? What actors will be enrolled into the procurement network and empowered by tax-payers money? Who will decide?

In Canada Neoliberal procurement strategies have seen the rise of para-governmental, corporate oriented organizations, introducing private decision-making into water, under the new designation of governance (Swyngedouw 2005b, 1991). At all levels of government,

Neoliberalism's policy orientation of New Public Management has scripted and performed various degrees of managerial delegation of responsibility to private or non-public actors in a shift from 'government to governance' of services. This shift has often been framed as "a natural and necessary response to 'globalization' that provides governments with the capacity necessary to improve efficiency, innovation and performance, while reducing the putatively negative effects of civil service management structures" (Furlong and Bakker 2010b, 350).

Restricted and restrictive federal funding strategies have only encouraged the municipal turn to private actors. In 2009, PPP Canada Inc. was created as a Crown corporation, with an independent Board of Directors largely taken from the private sector, reporting through the Minister of Finance to Parliament (PPP Canada, About Us). PPP makes federal funding for projects over 100 million, conditional upon its Public Private Partnership (P3) screen and proposes entering into a creditor/debtor relationship with consortiums that include private companies and private financial institutions that instigate private loans and activities such as management, operation, maintenance and/or ownership of facilities previously performed by the public sector. The municipality makes regular payments to the consortium to cover financing, operating and maintenance costs, in addition to profits. Private sector returns on investment are often as much or more than 15-20% (Loxley 2012, 5).

As such, PPP presents another modality of procurement privatizing, and financializing of the commons in a Neoliberal translation of primitive accumulation. For the FCM, that "the decision of PPP will be considered final and binding [...] is a concerning change in policy. Local governments are the experts on the infrastructure needs and capacities of their communities and removing this decision from locally elected officials will potentially distort local priorities." ^{xxvi}

In Quebec *La Stratégie gouvernementale de développement durable 2015-2020 : La*

Participation de la Société formally introduces P3s as important partners of government.^{xxvii} However P3s had already become a policy option for utilities in 2005 with article 108 of Law 134 stipulating « Toute municipalité locale peut, pour une durée maximale de 25 ans, confier à une personne l'exploitation de son système d'aqueduc ou d'égout ou de ses autres ouvrages d'alimentation en eau ou d'assainissement des eaux »^{xxviii} The Politique national de l'eau of 2002 had set the tone, introducing the script « gouvernance publique » that effectively made space for private management within a public service (71).^{xxix}

The following year 2003 saw the creation of the knowledge and innovation Public Private Partnership hub CREDEAU, jointly funded by governments, universities and corporate subsidiaries of Veolia and Suez: that evolved from a collaboration between Polytechnic of Montreal, McGill University and the private college Ecole de Technologie Supérieur. On the one hand CREDEAU operates in the public interest, « Participer à l'amélioration du bien-être des Canadiens par la diffusion des connaissances scientifiques. » And on the other hand it operates in the private interest, « Augmenter le potentiel d'innovation de l'industrie canadienne du traitement et de la distribution des eaux. »^{xxx}

In Equipe Coderre's online platform (2013), mention of Montreal's expertise in water management is associated with this public private partnership of knowledge production in terms that suggest a development pact, "Montréal peut déjà compter sur une solide expertise en technologie de l'eau avec, entre autres, le Centre de recherche, développement et validation des technologies et procédés en traitement des eaux (CREDEAU). Il faut maintenant aller plus loin et créer un secteur d'activité stratégique innovant pour devenir chef de file mondial" (Equipe Coderre).

Swyngedouw (2005) has observed that one unanticipated effect of the increasing

marketization of water is the limiting of public access to knowledge within the sector.

“Information that was once in the public domain becomes commodified, takes on commercial significance, and is often treated as confidential” (90). Certainly it is the case that access to research within CREDEAU is by authorization only (CREDEAU). Montreal has entered into 32 contracts with the member of CREDEAU, the Corporation de Polytechnique de Montreal since 2012 and has procured a five-year research agreement as of 2016.^{xxx}

This research points to how CREDEAU joins Canada, Quebec and the City of Montreal to the world’s largest transnational water corporations in a collaborative endeavor to transform public water into private asset(s) via innovations and their standardizations in a relationship that can become conflicted where public service values and the public interest is concerned, as described more fully further along. This kind of relationship is also one that feeds globalized compulsory competitive tendering if CREDEAU is understood as a hothouse for those technologies that are to be commodified into goods, services, infrastructure that can then be procured by Montreal and other governments around the globe.

The provincial Water Management policy is presently wedded to the global marketization of water goods and services and signposts its support for growing the presence of Quebec’s private environmental sector on the international markets, « d’accroître la part des entreprises québécoises du secteur environnemental sur le marché international. »^{xxx} As Hebert et al (2013) note, outsourcing in Quebec and Montreal is translated by the establishment not only as cost reduction and more efficient management but also as job creation in the private sector (17).

Montreal’s New Economic Paradigm

A week or so after the new Mayor Denis Coderre’s election to municipal office in 2013 he attends a conference organized by Montreal’s Chamber of Commerce welcoming then Prime

Minister Stephen Harper to mark the conclusion of the CETA trade negotiations. At the gathering Harper noted how “dans les récentes negotiations avec l’Europe, le Québec et les Québécois et en particulier Montréal [...] ont joué un rôle crucial.”^{xxxiii} CETA introduces the likely prospect of a new single procurement market with the EU, representing, arguably, a significant extension of private property rights into Montreal’s Water Services and infrastructure.

This emphasis on global markets was first formalized in 2011, under the previous administration, with the introduction of Montreal’s Development Strategy 2011-2017, featuring its new economic paradigm:

	Current model	New model
Economic	<ul style="list-style-type: none"> • Traditional industrial economy based on limiting unemployment 	<ul style="list-style-type: none"> • Digital economy • Green economy • Globalization and worldwide networks
	<ul style="list-style-type: none"> • Attracting foreign direct investment 	<ul style="list-style-type: none"> • Attracting talent

(Montreal’s Economic Development Strategy 2011-2017: Economic Context, <http://www.sdemontreal.com/en/strategic-framework/economic-context>)

This thesis finds that the emerging network for Montreal water production and infrastructure’s globalization and financialization clearly fits neatly into this economic paradigm: Notably, actual mention of privatization is avoided within this, as in other establishment texts, but rather concepts of Green and Digital Economies and global networks are used. Also apparent in the new paradigm, is the shift away from Montreal as job provider, towards Montreal as procurer. This transition that did not happen overnight, as seen in the case of the City’s water production.

During the 1970s Audette-Chapdelaine (2016) finds that, “blue-collar workers were experts in inspection and repair and a certain prestige was even associated with the employees of the

Aqueduct Service” (8). Montreal’s private policy turn and the systemic neglect of its water infrastructure services dates to 1979, with an administrative restructuring that reduced the amount of expertise, the number of specialized teams and the number of overall municipal employees and that persisted throughout the 80s and 90s. When in 2001 Montreal finally decided to address growing water infrastructure problems it turned to outside firms for the financial, technical, organizational and engineering expertise it needed. The City relied upon the financial, technical and organizational services of engineering consultants, hired to perform feasibility studies, arrange work schedules, prepare tenders for contractors and supervise works (21).

The Water Service actually built up its workforce between 2009 and 2012 to initiate the plan to upgrade the system of water infrastructure (Audette-Chapdelaine 2016, 9). However the City has slated 2,200 public sector jobs to go between 2014-2018. ^{xxxiv}It’s not for the public record as to how many public sector jobs are to leave the Water Service. But in 2015, public service workers and their unions across Quebec formed Le Front Commun to oppose austerity cuts to jobs and conditions. The City’s municipal workers at the negotiating table have reported the following: « L’ensemble des contribuables devrait être inquiet de ce que nous entendons à la table de négociation. L’administration veut carrément démanteler l’ensemble des services publics municipaux et remettre une grande partie des travaux à des firmes privées. ^{xxxv}

The new paradigm and its global procurement is contributing to labour flexibilization associated with the deterioration in unionization, income and conditions, further compromising the bargaining power of lower-income workers (Brennan 2012, 4; IMF 2015, 26). It has also been facilitated by Quebec legislation increasing labour flexibilization: the 2004 amendment of article 45 of the Province’s Code de Travail meant in practice that employers were no longer obliged to observe the transfer of union accreditations or collective agreements when outsourcing

services (Hebert et al 2013, 16).

What is apparent is that outsourcing to the private sector has dramatically increased. And in 2015, Montreal's Gazette newspaper reports the observation made by the municipal opposition party that "Cuts to city staff combined with an increase in infrastructure contracts means the City will have to farm out more work to the private sector."^{xxxvi} Equipe Coderre has been nothing if not enthusiastic about outsourcing: Not only did the Water Services budget of 2015 plan a 50 % increase in investments from \$147 to \$220 million but, significantly, a 79% increase in awarded contracts from \$176 to \$313 million (5).^{xxxvii}

According to the City webpage "Vue sur les contrats", Montreal Water Services have tendered 6658 water-related contracts since 2012 and 2467 from 2015-2016.^{xxxviii} In the current state of affairs, 2015-2017 Three Year Investment Plan (PTI) with its total investment of 4 562 M\$ for that period will largely target outsourced contracts.^{xxxix}

And how does the practice of Globalized Compulsory Competitive Tendering (GCCT) contribute to this state of affairs and further extend private relations into Montreal water-related infrastructure? Within Montreal's procurement policy of 2015, "The City considers the use of framework agreements as a privileged tool allowing each business unit [public service] to benefit from consolidation savings and act cohesively in its business relations with the market."^{xl} And Montreal supports the new breed of trade accords, under the terms of which, critics have warned, once goods and services are procured, it would likely prove very costly to re-municipalize, given the risk of corporate power successfully challenging policy changes that threaten their investments. From a privatization perspective, the terms of CETA and TISA would thus have a ratchet effect on current outsourcing (Eberhardt et al 2014).

Between high infrastructural investments, outsourcing, and the terms of new up and coming

trade agreements, the degree to which GCCT could contribute to the standardization, globalization and overall marketization of Montreal water-related services appears to be great. Standardizing and financializing relations described further along reveal an ongoing strategy for developing this potential to the advantage of corporations and larger water related companies.

Neoliberal Procurement and Montreal's Restructuring for Economies of Scale

An important precondition for outsourcing is the standardization of tasks, allowing their accurate measurement according to performance indicators (Huws 2012, 3). The Conference Board of Canada, on behalf of the Standards Council of Canada, carried out a study of the impact of standardization on the Canadian Economy. The “many benefits of standards” highlighted in the report included the facilitation of economies of scale, international trade and labour productivity.^{xli}

Standards play an increasingly important role in the development of specifications for service-level agreements (SLAs) and remote management, by setting down protocols and expectations for all the processes involved, which allows a specific performance to be repeated over and over again across space and time. In 2010 alone, the International Standardization Organization (ISO) published 1,313 new standards and had a further 1,900 new standards under development (Huws 2012, 4).

Within procurement, standardization is teamed with the script of marginal costing, that calculates the extra cost of producing one more unit, a practice that encourages contracting for economies of scale, as a cost saving strategy. I find this script turns up in the City of Montreal in a budget communiqué from 2015, “Rechercher, coûte que coûte, la performance par de meilleures pratiques et de meilleures économies d’échelle (2).”^{xlii} Huws (2011) has found generally that administrators working within this actuarial, financialized, financializing culture,

pressured into getting “the best value” dollars and cents mindset, are won over by the cheaper costs afforded by the public service industry’s economies of scale and buy from the cheapest suppliers, selling the most standardized goods or services (Huws 2011, 73).

I argue it follows that if Montreal water is being globalized and financialized via a new procurement then processes of standardization should be traceable within the municipal structuring and development of water production. How are standardization processes being materialized for global procurement of water-related infrastructure? The City calls for standardization and globalization of its purchases in no uncertain terms in its procurement policy from 2015: « les unités d’affaires recourent à des pratiques harmonisées afin d’optimiser l’usage des ressources ainsi que l’exécution performante des travaux. La normalisation des biens et services, la globalisation des achats, le développement d’approches novatrices [...] comptent parmi les principaux moyens d’atteindre l’objectif recherché. » Of note here, in the procurement policy, is the translation of public services into « les unités d’affaires» i.e. business units and harmonization, practices that can be translated here as a process of achieving regulatory efficiency, effectiveness and clarity through globalization and standardization.^{xliii}

In a 2015 budget communique, the municipal government announced a more efficient funding model privileging economies of scale, « Rechercher, coûte que coûte, la performance par de meilleures pratiques et de meilleures économies d’échelle. »^{xliv} To achieve economies of scale requires urban restructuring in the form of centralization and standardizations.

To this end the City has recently introduced a new integrated works program. The plan is for roads and water departments across 19 boroughs to coordinate their works using the digital Smart City initiative of improved communications, all of which is framed as introducing efficiencies.^{xlvi}

A communique from the City in 2014 mentions the economies of scale available to them now thanks to the centralisation and standardization of all six water plants on the Island of Montreal, newly including two more under the central authority of the agglomeration, presided over by Mayor Coderre. The claim is made that this will allow for greater efficiencies at the point of supply and optimization of risk-management cohesion in emergency response. While standardization of investment management and economies of scale for operating expenses are also cited.^{xlvi}

The City is clear that such large public works will be done “En coordination et concertation avec l'ensemble des partenaires et entreprises d'utilité publique.”^{xlvi} Here the City seems to be referencing Quebec’s Environmental Network which includes many small, medium and large Quebec-based water related companies as well as corporations such as Veolia and Suez subsidiary Degremont.

The City is also likely referencing PEXEP (*Program of excellence en eau potable*), a benchmarking organization that aims to encourage the voluntary adoption by Quebec’s municipalities of norms of a higher standard of drinking water production than those set by the Quebec government’s *Règlement sur la qualité de l’eau potable*. It is a project of the private American Water Works Association (AWWA) that sets standards across the US. The Environmental Network is the Quebec arm of AWWA.^{xlvi} Both have the full support of the Quebec government.^{xlvi} Those municipalities certified include the purification stations serving Montreal and 30 or so other cities. PEXEP serves more than half the population of Quebec.

Economies of scale is a key practice that indicates the degree to which the City has transformed via procurement: In 2009, Jacques Bergeron, the auditor general questioned the circumstances around the awarding of a water meter contract, commenting that there was no

reason why one firm should carry out the entire contract when it could be done by a number of smaller firms for less.^l Since then the City has embraced economies of scale which are further encouraged by CETA's procurement valuation rules that impose larger contracts (CCPA, Making Sense of CETA 2014, 26): Article II.6 of CETA's Valuation Rules bars municipalities from dividing up contracts into separate, smaller contracts with the purpose of escaping the CETA thresholds (\$625,762 for procurement by utilities, \$7.8 million for construction services). While Article II.7 requires that recurring contracts are gathered into a single unit of tender to bring them within the CETA regulation.^{li}

Likely, a new function of the auditor general will be ensuring that procurement tenders conform to the CETA strictures the federal government negotiated for GCCT with procurement terms that effectively encourage greater centralization for greater standardization and commodification of goods and services. Critics have observed that the CETA thresholds at which procurement falls under the agreement will cover about "80% of the value of all government procurement in Ontario, notably large infrastructure projects where minimum local content rules would have most economic development impact." For instance, under CETA no minimum local content such as local hires can be demanded, indeed no local preference shown as mentioned above (Making Sense of CETA 2014, 26-28).

The Equipe Coderre platform commits to using water economy to create jobs, but allegiance to CETA begs the question, "Jobs where and for whom?" The thresholds at which GCCT becomes mandatory may be low enough to support local and medium businesses, if the political will is there. But that's not Montreal's mandate or obligation within the new economic paradigm, as seen above and described in more detail below. And as a case in point: Veolia has received 43 contracts since January 2012 and most of these have been smaller contracts, likely

owing to the fact that large corporations can always charge less for more thanks to economies of scope and scale and the power to produce to standards over space and time.^{lii}

The Auditor General may well have once wanted contracts to be smaller and more widely sourced, however economies of scale and standardizations are more likely in an increasingly, globalizing and financializing municipal procurement market.^{liii} This is not, however, a position clearly stated by the Mayor, who has repeatedly indicated that transformations are not about centralization but harmonization and coherence, reportedly remarking that “It is a matter of attitude, it is not just a matter of structure. It’s not a matter of centralization versus decentralization. It is a matter of efficiency and coherence.”^{liv}

Green Economy’s New Pricing Calculation for Montreal

How does Montreal’s conservation orientation relate to economies of scale, their standardizations and the realization of Montreal water’s full market potential within the New Economic Paradigm of Green Economy? I address this question by showing how the City shifts its focus from a conservation policy based on physical scarcity and consumption practices to an industrial one based on economic scarcity, in line with UNEP and IMF prescriptions seen in Chapter Two.

Caliskan and Callon (2010b) note, “It is important to recognize that the notion of [socio-technical networks] is designed to encompass the emotional, corporal, textual and technical elements that contribute to the maintenance of markets” (Caliskan and Callon 2010b, 21). In Montreal water, it seems fair to say that the point at which water, emotions, industry and financial markets come together is that of conservation.

In recent years much has been made of Montrealers’ water over-consumption. In 2009 Quebeckers reportedly consumed 706 litres and Ontarians 409 and the message widely

disseminated was that Quebec households wasted water. According to EauSecours! these figures were presented in such a way as to make householders seem responsible for excessive water usage by absencing Montreal's water leakage rate which would locate the problem with public management rather than individual householders habits.^{lv} However, more recently, echoing the UNEP and IMF prescriptions seen in Chapter Two for investment in infrastructure, the physical scarcity script has made way for the economic scarcity script that has seen a shift in emphasis from Quebecers household water consumption habits to the problem of water production.

This turn focusses on the lamentable state of Montreal's water infrastructure as a whole. A steady stream of articles in the main newspapers have performed the urgency of 1000 burst water mains per year, and the persistent loss of 30% of the City's water through leakages, the equivalent of 200 Olympic sized swimming pools per day.^{lvi} The provincial government has calculated the money to be saved from the planned economies within its Water Strategy, «Une réduction de 20 % de la consommation totale pourrait représenter des économies de l'ordre de deux milliards sur 20 ans.»^{lvii}

Montreal's Water Report 2014 shows that the Coderre administration is retaining la Stratégie montréalaise de l'eau 2011-2020 from the previous (discredited) government, and falling in line with Quebec's Stratégie d'économie d'eau potable (SQEEP), which prioritizes the responsible management and optimization of water-related assets and their performance.^{lviii} This is an orientation in which water is problematized and translated and performed as an economic scarcity that presents water infrastructure as valuable assets, and stresses water conservation as a problem of over-consumption and over production requiring infrastructural investment, and upgrades via Green marketization (Service de l'eau 2015, 14).

This thesis maintains that a physical scarcity orientation connects water to local actors and

their consumption habits using conservation data. But in an economic scarcity orientation, Montreal's conservation public awareness campaign, described below, has also, effectively, been making visible the technologies and the commodities involved in water production. There are more than 50 web pages on the Ville de Montreal website dedicated to the various relations of water production in the City: technologies, processes, regulations and so on. The sustainable water management home page assures visitors that «la Ville travaille à réduire son empreinte environnementale sur tout le cycle de l'eau: production, distribution, épuration. C'est là un engagement ferme pour le bien-être des citoyens, au bénéfice des générations futures. »^{lix}

The network teleology and trajectory is to commodify water production in a Green Economy, to disentangle it from local attachments and resistance in order to further facilitate the normalization of commodification processes described in Chapter Two. Neves et al (2012) have observed that “As a realm popularly perceived to be contesting the environmental excesses of capitalist logic, conservation is uniquely positioned to be reconstituted so as to (re)present neoliberalism's larger message that economic growth and the protection of nature are essentially compatible projects” (16). Conservation practices and their scripts have become important actors in the normalization of water commodification.

June 2015 saw the culmination of a large media and public awareness campaign that had been sensitizing Montrealers around efficient consumption practices from 2010, and that had, in its performance, also made visible the means of Montreal's water production. This performance paved the way for the next step towards a Green economy: the introduction of an important new methodology for calculating the cost of Water Services: “le coût des services d'eau au m³ d'eau potable” i.e. the cost of services for every 1000 litres of water produced. This new calculation now ties the volume of consumption to water production costs that now potentially include

operations, maintenance, and infrastructural upgrades, debt leveraging and debt servicing.^{lx} The City's detailed announcement of a 22% drop in consumption failed to mention the new calculation for water production, already known to the administration and tucked away on the Ville de Montreal website in its Water Report 2014, published in July 2015. On page 9 the City explained that 93% of water costs go to pay for services i.e. maintenance, wages and upgrades of the system, while only 7% of costs actually reflect consumption patterns (Service de l'eau 2015, 15, 9).

In fact, the argument made here is that the whole layout of the Water Report 2014, a report with its 16 pages of graphs, tables, and photos serves as a representation of the new pricing calculation or device, combining immutable mobiles of true value, efficiencies and full cost recovery (Service de l'eau 2015). Remembering that full cost recovery refers to the valuation and pricing of all aspects of production, suggest that the conservation campaign has also served to disentangle services in order to valorize them, facilitating their qualification as assets.

This new pricing calculation is arguably newsworthy since it signifies that the price Montrealers pay for their water will increasingly be determined not by corrupt officials and organized crime, or non-corrupt officials for that matter, but by market scripts and corporate relations. For to say that water will now be priced according to the full cost of production is to operationalize the policy of full cost recovery, introduced by the City in 2009.^{lxi}

The crux of the argument being made here is that since so much of Montreal's Water Services and infrastructure are outsourced to private firms and traded as assets on the capital markets, pricing Montreal water according to production costs also ties Montreal water infrastructure to the markets and the 'true value' i.e. market value script of Green economy (Service de l'eau 2011, 8). Abiding by prescriptions of true value and full cost recovery, rising market prices can

now, hypothetically, justify large increases to the cost of water. Since cost is no longer based on volume of falling consumption but the rising costs of infrastructural upgrade, the new pricing calculation connects the pricing of water production not only to the water service markets but likely soon to be a globalized compulsory competitive tendering for Water Services procurement.

The question arises here as to how the new water pricing calculation can relate to an industrial conservation. By way of reply: PEXEP is there to adopt new standards, which invites the innovation required to, say, detect and remove the pollutants that industrial practices and chemistries introduce into water. PEXEP standards, widely adopted, can then materialize into economies of scale and large contracts for the PSI, realizing provincial and municipal ambitions to grow the water industry in Quebec and Montreal.^{lxii} And when the City outsources to Veolia to lay pipes the City's new pricing calculation factors the cost of doing business with Veolia into the price of upgrades and maintenance. When pricing is pegged to production costs and policies of full cost recovery, and the markets, this is an invitation to a growing industry that there is a captive source of revenue: namely the 1, 9 million residential water users in the agglomeration of Montreal with its 26 500 industrial, commercial and institutional users and 9 196 km of water supply and sewage pipes.^{lxiii}

Mentioned in Chapter Two is the 41% rise in water infrastructure costs in 30 US cities since 2010, according to Circle of Blue, the water reporting and data sharing hub.^{lxiv} Circle of Blue does not clarify what part of this is attributed to the increasing need for infrastructural upgrades compared to increasing share value of water related stocks. But here in Montreal Veolia and Suez, among many others, do water business and in 2015 the two TNCs saw their share values rise significantly: Veolia 23% and Suez 13% as noted in Chapter Two. This likely affected Montreal water when the price for the construction of Montreal's new ozonification plant by

Suez subsidiary Degremont rose 40% relative to the 2005 estimate.^{lxv}

If market environmentalism and its practices endeavour to perform an extension of property rights over all of nature, I argue that the new pricing calculation is a key device extending both private property rights and the markets into water to the degree that public water production and all of its considerable infrastructure is both turned into assets and outsourced or fully privatized. But isn't Montreal water public water? And doesn't the City promise to «*Assurer la maîtrise, la coordination et la cohérence des activités du cycle de l'eau, sous l'angle de l'entretien du réseau et de son développement, de manière à développer une organisation publique de l'eau performante et reconnue comme telle par la population*». ^{lxvi}

And doesn't the City promise affordable water? After all, in the finance policy, «Certains critères doivent tenir compte de la capacité de payer des citoyens et des citoyennes.»

In a situation of increasing private involvement in water production the question begs as to who decides what affordable means. In the City's policy, user fees for services can be based on comparative studies carried out «*en collaboration avec des organismes publics ou privés*» ^{lxvii}

To more fully understand how the logic for commodifying water is being constructed in Montreal as a culture also involves tracing the insinuation of financialization practices, their scripts and values shaping the City's water procurement. I do this with recourse to Quebec and Montreal water and financial policy documents, and those of their private knowledge producers.

Finance Scripts Formatting Montreal Water Procurement

Chapter One introduced the term *formatting* to underline the activity and agency of practices and their relations, resulting in transactions and exchanges among things and agents, necessary for the creation of value. Importantly, to the degree that such formatting helps reproduce dominant situations it is also agentic to the representation of such situations as reality (Latour

and Callon 1997, 3). This is to say that it is performative.

Here, I analyze the Network in Montreal for signs of this formatting in the construction of the logic underpinning the commodification of water, visible in the insinuation, assembling and performance of powerful scripts, embedded in organizational policy institutional laws, regulations, technologies and knowledge production. How do these actors construct in relation to each other? Once again, for Callon (1998), economy cannot be understood without factoring in the economics required in the form of those formatting agencies that allow transactions to occur, e.g. marketing, accounting, calculations, money, policy and regulations, and their knowledge practices (30). How are financial and market-oriented scripts formatting Montreal water production infrastructure and its procurement practices in the City?

This thesis finds in the evidence discussed here is that at the point of municipalities, there is the rise in prominence of the finance officer and financial culture and its models and patterns of problem solving into new areas of government that were once non-financial: municipal departments materialize into municipal services, and department expenses become departmental charges, following best practices prescribed by the likes of the private General Finance Officers Association (GFOA) across Canada and the US.^{lxviii}

As knowledge producers within this particular culture the GFOA and its Best Practices disseminate and reinforce financial scripts informing and harmonizing budgetary and procurement practices often encouraging the extension of private property rights into the public sector. The Quebec Minister of Municipalities (MAMOT) invites Quebec's municipalities to employ GFOA best practices.^{lxix} And both the Province and the municipality of Montreal reference it in budget related documents, « Les politiques respectent les principes développés par l'organisme [GFOA] lesquels sont mis de l'avant par le ministère des Affaires municipales et des

Régions (MAMR) du gouvernement du Québec.^{lxx}

Roger Galipeau founded the Canadian section of GFOA in 2000 and has sat on the international administrative council of the GFOA.^{lxxi} Notably, he has also advocated for privatization of water management in different capacities ever since he was Director of Finance for Montreal in 1995 (Lauzon 1997). Galipeau is also a key figure within the Center for Interuniversity Research and Analysis of Organizations (CIRANO). CIRANO is a non-profit provincially funded research group. Among its corporate partners are some of the largest banks and corporations in Canada, the Chamber of Commerce and the Government of Quebec.^{lxxii}

Furlong and Bakker (2010b, 355) note how market environmentalism's achievement of "near-hegemonic status in international policy regimes" by the late 1990s translated into "the ongoing reframing of environmental policy at the national and local level, around the world, via key mediating organizations" including the likes of the IMF, OECD, UNEP and the World Bank, relations described in Chapter Two. The GFOA and CIRANO are more local instances of such knowledge producers and mediators, delegated to think on behalf of governments, in a function that performs and encourages the adoption of commercially orientated fiscal principles and practices that can encourage the greater access of the private sector to the public sector.

The GFOA, for instance, advocates "best practices" for outsourcing, direct privatization and user fees and so on. And as seen below, this kind of finance culture and its scripts play an important role within the network producing problem solving models of an essentially financial nature.^{lxxiii} In 2002 the GFOA introduced a best practice for "Measuring the Full Cost of Government Service" explaining that "Measuring the cost of government services is useful for a variety of purposes, including performance measurement and benchmarking; setting user fees and charges; privatization; competition initiatives or managed competition."^{lxxiv}

In Quebec, this thesis traces the introduction of the prescription of full cost recovery to the Politique nationale de l'eau 2002 (69). Recalling that full cost recovery refers to the economization of all the activities that make up water production. The Politique 2002 also centralized its influence, over water production, by making municipal funding conditional upon compliance with provincial water policy (70).^{lxxv} Since 2005, Montreal has managed its Water Services and infrastructure with many of the scripts found in the Province's *Stratégie québécoise d'économie d'eau potable* (SQEEP) that, according to the website, emerged from the Politique 2002, in the purported interests of tightening water policy via integrated management and sustainable development.^{lxxvi}

Collin and Berube (2010) note various techniques of control exerted within the relationship between the Quebec government and the municipalities. For instance, periodically the latter must transmit various sorts of information to the Ministry of Municipal Affairs on specific dates, as described in relation to the Water Services below. Another is the requirement of each municipality, in a variety of areas, to obtain the approval of the department concerned before implementing a decision, rule or regulation (Collin and Bérubé 2010, 11-12).

In 2003, Montreal began its Politique de gestion de l'eau (Water Management Policy) with a view to restoring water infrastructure and reorganizing water systems to economize them. With Action 17.3 the policy establishes a series of measures aimed at improving the infrastructure network in a staggered approach that included "consolidating water budgets and rebalancing rates to include all water-related costs." The introduction of meter-based rates for industrial, commercial and institutional buildings was also planned for at this time.^{lxxvii} With these policies the ground was prepared for the practice of full cost recovery because to capture all the water-related costs also involved a process of identifying them. And in this sense the process of

disentangling water from other services, with its economization in mind, was now underway.

Then in 2008, in Quebec, the economic report *Mieux Tarifier Mieux Vivre Ensemble* argued the case for services paying for themselves in order to become efficient and sustainable, adopting an austerity framing predicated upon anti-debt and anti-deficit discourses. Tariffication can be seen as a mediating device for exerting fiscal control with the assignation of discrete values for further disentangling each service from the mesh of other public services. The Mieux Tarifier report echoed that published by the OECD in 2009 « De l'eau pour tous » which otherwise focussed on tariffication as a means of fully funding water infrastructure.

The Quebec Loi sur la fiscalité (2005) had already authorized municipalities to regulate for the financing of goods, services or activities through partial or complete tariffication (19). The loose or non-binding nature of the law was partly addressed following the financial crisis of 2007-2009, by Quebec's new *Politique de financement des services publics* in the 2009-2010 budget, (based on the *Mieux tarifier pour mieux vivre ensemble* report) that now obliged all state entities to adopt tariffication practices that newly included those of transparency of tariff calculation and tariff adjustments relative to the total cost of the service in order to justify annual tariff increases based on market costs (Mieux tarifier pour mieux vivre ensemble, 2008) Hurteau et al (2010) have described how the Neoliberal translation of tariffication in Quebec has connected public services such as Health, Hydro and Higher Education to the markets in a «rapport purement marchand, de type coûts-bénéfices, entre la population et les services publics qui lui sont offerts» (3).

This thesis shows how in Montreal the translation of tariffication has combined immutable mobiles of user-pay (in which the user is responsible for paying the amount of service used) with full cost recovery and the promise of transparency. In 2009 Montreal saw the transition from a

departmental to a service orientation with the City's new power to resort to users' fees to cover all or part of the cost of certain services. Such fees were to be determined according to «critères établis dans une politique de tarification ». The mediation of transparency as a political tool for Neoliberal water and as a particularly powerful rhetoric in Montreal after the procurement scandal hit in 2009 is described in Chapter Four.^{lxxviii}

At the point of water policy, it is not until the summer of 2015 that Quebec's Stratégie d'économie d'eau potable (SQEEP) introduces tariffication of water as a key policy turn. A seemingly perfunctory, conservation policy turn and mostly under the public radar, yet signifying, arguably, transformative effects: the policy stipulates for Montreal that if the City does not reduce its leakage rate by 10% to 20% by 2017 then Montreal will have to set a tariff that reflects the market cost of water using the new calculation for pricing that includes the cost of infrastructure, its upgrades, and loans, as described earlier in this chapter (Service de l'eau 2015, 4-5).

This target of 10% is an ultimatum that appears to be asking the impossible of Montreal's Water Service, given that since 2006 only 7% of the distribution system has been upgraded i.e. 300km of pipes and when the average annual rate of leakage reduction is only 0, 8%. Even though 2014 saw the highest rate of upgrades compared to the previous 9 years, the leak rate of 30% did not budge (Service de l'eau 2015, 12). Judging by past performance, it seems highly unlikely that Montreal will realize its target of a 10% reduction between now and 2017. In part because the system of 9 196 km of pipes is so vast and also because the process of leakage detection (auscultation) is finding new leaks all the time. Montreal voices its full commitment to the SQEEP, reasoning that « la contribution de Montréal dans l'atteinte des objectifs de la SQEEP est fondamentale » given its status as the most important city of the Province.^{lxxix}

As such SQEEP speaks for the network for the globalization and financialization of Montreal water. And SQEEP, demands adequate tariffication that reflects all the costs of production. The City indicates on its website that when meter installations of non-residential buildings are near completion in 2017 it promises to measure consumption more accurately to assess an adequate tariffication for residential and non-residential users.^{lxxx} It stands to reason here that an adequate tariffication will be one that not only reflects full cost recovery but one that is applied to *all* Montrealers.

Montreal's Water Report 2014 clearly states that if the City does not set a tariff that reflects the full costs of production then the City will lose its provincial funding (Service de l'eau 2015, 4). A matter of diminishing returns when only 4.1 % of Montreal's funding comes from federal and provincial transfers in 2016.^{lxxxi} But regardless of the funding threat, water tariffication has not arisen as a controversy in the municipal administration. Judging by their platforms and performance, no party in the municipal administration is opposed to tariffication, and no party is anything other than market environmentalist.^{lxxxii} In 2017, or not long thereafter, it seems highly likely that *all* Montrealers and not just metered ICI (non-residential buildings) will be paying a water tariff that reflects full cost recovery.

It is also likely that for many Montrealers tariffication would come as a surprise since the term tariffication often seem to go hand in hand with universal metering, and few residential buildings are metered on the Island of Montreal. Leroux et al (2014) clarifies, in research for CIRANO that residential buildings do not need to be metered for all Montrealers to pay a tariff. He finds that though greater economic efficiency would ideally require universal residential metering, non-residential should, as a halfway measure and by deduction, provide «une évaluation de la consommation typique des ménages résidentiels » and therefore the means for

tariff setting of all Montrealers (57-58).

To more fully grasp the significance of the prospect of water tariffication in Montreal, it is necessary to consider what exactly is meant by the full costs of water production here. The City's new calculation for costing water i.e. *the cost of services for every 1000 litres of water production*, currently includes maintenance, purification, and operations, bringing the cost of water, as reported in the Water Report 2014, to \$1.36 per m³ (Service de l'eau 2015, 4, 9). However the Water Report 2014 also indicates that another 83 cents would need to be added to cover the inherited debt and investment to be realized (Service de l'eau 2015, 9). It stands to reason that by 2017, a tariffication "adéquate" for full cost recovery and user-pay would likely reflect Montreal's considerable and rising debt obligations at the point of water.

Using data that has emerged while tracing the the pathways of the Network's intermediaries in the form of marketizing scripts, the following explores issues pertaining to tariffication as it relates to water production costs that are set to include water debt for infrastructural investment.

Water Financialization as Infrastructural Investment

What are the processes and relations that lead to large private loans for the procurement of water infrastructural investment? How does this reality relate to both tariffication and increasing private influence over water production? Tracing the Network's marketizing scripts leads this analysis to the economizing processes in the City's Water Strategy that translate infrastructure into assets for the purpose of debt leveraging. This thesis finds that effects of these practices can be traced to municipal budgets and a formal role and voice for credit ratings agencies in the City's financial decision-making.

In 2014, Montreal's executive committee approved private debt of \$4 562 billion as part of its three year investment program 2015-2017 (PTI). The case being made is that larger loans will

allow the City the time it needs to plan and execute the works needed and to also better manage the debt. This is the reason given by the City for increasing its investment loans by 20%, from \$719 (on average) 2010-2013 to \$1.3 billion in 2014 to \$2.1 billion by 2024.^{lxxxiii}

For this amortization to happen in the first place Montreal had to transform its infrastructure into assets, which involved an assessment by Price Waterhouse Cooper (PwC) in 2003 that estimated the total value of all water assets in the City to be \$39.2 billion, as detailed in Montreal's Water Strategy (Service de l'eau 2011, 98). This process of economization has allowed the City to use its infrastructure as collateral for leveraging debt with private financial institutions through both large direct loans and bond issuance. This culture has been encouraged by GFOA's best practices advocating asset creation and asset management of municipal infrastructure.^{lxxxiv} Best practices for economic development and investment planning prioritize the need to identify infrastructure that can generate revenue.^{lxxxv}

The City's Water Strategy 2011 explains that «La Gestion d'actifs, appliquée au domaine de l'eau, consiste à considérer les infrastructures (conduites, vannes, bornes-fontaines, usines, etc.) non pas comme des pièces détachées d'équipement qu'on doit gérer une par une grâce à un budget de DÉPENSES, mais comme des éléments d'actifs pris dans leur ensemble (donc en pièces attachées), constituant un portefeuille d'actifs dans lequel on INVESTIT » (the City's emphasis). The claim made by the Strategy is that to translate the City into a portfolio of assets is to allow for the elaboration of a preventative, rather than a reactive policy, which involves systematic and ongoing evaluation, maintenance and upgrading (Service de l'eau: annexe 2011, 39).

The calculation at play is, as the City notes, «la somme allouée aux investissements annuels doit correspondre à la valeur totale des actifs divisée par le nombre d'années de leur espérance

moyenne de vie» (Service de l'eau 2011, 97). This translates as the sum that is allocated to annual investments must correspond to the total value of the assets divided by the estimated lifespan. This means that every time more leaks are detected the estimated lifespan of the City's water assets drops, and the more the lifespan drops the more debt that can be leveraged and allocated to maintain the value of the assets. When the lifespan increases then less debt is required. This means that the cost of water production is uncertain to a degree that is « non négligeable » tied as it is to leakage detection and debt leveraging (Service de l'eau 2015, 9).

This analysis joins the dots showing how leakage detection relates to setting a tariffication “adéquate” in 2017: Leakage detection in the primary system of large pipes won't be complete until 2017, and converges with the deadline for metering most non-residential buildings. This appears to mean that the data from leakage detection will derive the new estimated lifespan of the water system and therefore the amount of further investment/debt required according to the parameter set by the Water Strategy 2011. The near completion of metering non-residential buildings will allow for the dividing of production costs between residential and non-residential dwellings. These findings will likely inform a tariffication “adéquate” that reflects the new water pricing calculation that will likely include the cost of water infrastructure debt, in line with the script of full cost recovery.

This reliance upon debt leveraging inevitably brings Montreal ever more under the watchful and influential eye of private actors i.e. shareholders, stock managers and those agencies that rate the credit worthiness of the City in relation to the financial risk the City carries. Debt-leveraging practices present a risk to lenders, as noted by the City in its financial policy, « Pour sa part, la Ville représente un risque pour le prêteur ». This is a risk that is directly reflected in the ability of the City to responsibly manage its debt obligations, according to which the credit ratings

agencies rate the risk of doing business with the City.

The lower the credit rating given by the agency, the higher the interest paid by the City to its creditors on its bonds and loans i.e. “dans son coût de financement”. It follows therefore that « La Ville a avantage à ce que les marchés financiers la perçoivent comme un gestionnaire responsable et rigoureux qui présente un risque très faible. » This relation is clarified in the City’s financial policy, that explains how « Les marchés financiers se réfèrent généralement aux agences de notation pour apprécier ce risque par le fait même la qualité de la gestion de la Ville. » ^{lxxxvi}

Of course, though it’s not stated directly, debt leveraging also represents a risk not only to investors but also to the City i.e. that is the risk of default (Hanniman 2014, 3). 17% of the budget, or \$868 million, goes towards servicing the City’s overall debt in 2016. ^{lxxxvii} While the 2015 water budget forecast showed that 27% of Montreal’s water service operating budget was needed to pay off interest to private financial institutions and bond holders. ^{lxxxviii} Whether or not this performance of debt and its relations within the network are worth the risk, is for another study. The concern here is with the private influence over the City’s water management that such financial practices, principles and their relations usher in, further materializing, and institutionalizing a culture that valorizes water infrastructure commercially, first and foremost, rather than socially.

Owing to the relation between the markets and the credit ratings agencies, it stands to reason that the more the City’s administration relies upon the markets the more it falls under the influence of its knowledge producers and mediators. In fact, this analysis finds that Montreal makes no bones about the role of the credit ratings agencies within the decision-making apparatus of the City. The finance policy indicates that «À cet égard, [the City] doit établir des

relations avec ces dernières et surtout leur donner toutes les informations nécessaires à l'évaluation de la cote de crédit de la Ville. » The credit ratings agencies decide and advise how Montreal is to proceed in order for the latter to realize its debt obligations, « Elle prendra en considération les commentaires émis par ces dernières et, le cas échéant, adoptera les stratégies qui s'imposent. »^{lxxxix}

Hanniman (2014) points to how the credit ratings agencies always prefer creditor-friendly policies such as those that discipline for good fiscal and transparent management practices, but also those that increase government flexibility and the ability to respond to market fluctuations and crises. The latter tendency dis-encourages long-term, socially oriented government commitments such as those that speak to narrowing the gap between rich and poor (9). In fact, from the point of view of the credit ratings agencies, the less that revenue and investment channels are embroiled within the governmental system the better. Which is one reason perhaps why the City has not increased its Water Tax, levied since 2004, to address the water infrastructure deficit.^{xc}

Montreal's reliance upon the positive regard of the credit ratings agencies underlines the degree to which, "the infrastructure project itself must be translated into the *legible* terms of financial investors" (Bresnihan 2015, 2). To restate this idea from Chapter Two, the investor and the investment must be made compatible and speak to each other in the same financial language, expressing similar values. Montreal's financial policies and water can be seen to team up to deliver scripts and practices that do just this: user-pay, full cost recovery, conservation and 'true value' scripts are enlisted to translate household water users into revenue streams and to further normalize a culture that valorizes water infrastructure, first and foremost, commercially, rather than socially.

Tariffication and its Relations for Governance

Given these relations, this thesis argues that the distinction between tariffication and a rate of property taxation becomes very important to understanding the transformation underway in Montreal water. Tariffication stands in opposition to paying for water through property taxation and gathers together large revenues, capital and debt and paves the way for a corporatized regulatory governance, over the current governmental system of democratic procedures.

Regulatory governance, described in Chapter Two, would likely favor the greater commercialization of Water Services and its infrastructure and its full transformation into commodities and assets, unfettered by the demands of other public services and/or socio-economic solidarity considerations involving wealth redistribution within the governmental system (Besnihan 2015).

In fact, this separation, or “ring-fencing” of services is another of the recommendations made by Leroux et al (2014) for CIRANO, for reasons stated of financial and environmental efficiencies: « Éloigner la gestion des services d’eau des préoccupations budgétaires gouvernementales: Les gestionnaires des services d’eau doivent avoir un objectif d’autofinancement » (42). In fact, the objective of autofinancement (self-financing in cash revenues) was stated in Montreal’s Water Strategy in 2011. While only the government manages taxation, the reigns of tariffication might even be fully handed over to some form of para-municipal in some kind of corporate entity, a direction that the network may well be heading, as seen further along.

The Province and the City present the rationale for a tariff in Montreal’s Water Report 2014, chiefly as a matter of achieving financial efficiencies *and* environmental sustainability (Service de l’eau 2015). The Province has claimed that paying for services through taxation amounts to a

subsidy for the wealthy rather than the true price exacted through tariffication; however, as Hurteau et al (2010) argue, that taxation ensures the wealthy pay proportionately more for public services (18). Moreover, tariffication can present a reason to reduce taxation. Leroux et al (2014), for CIRANO, recommends all water tariffication be accompanied by a corresponding drop in the taxation allocated to Water Services (4).

The Province and the City also lean heavily on the environmental promise of tariffication, one of their main claims being that it encourages responsible demand based on available information (i.e. metric data). The rationale being that user fees framed within a tariffication policy «donnent une information sur le coût du service et permettent au citoyen de juger de sa pertinence et de son utilité. »^{xci}

Hamel (2012), however, references studies in the field from Barraqué (2001), Mouillart (1995) and Valiron (1991) to make the point that the demand for water is mostly “inelastic” i.e. not responsive to price fluctuations. Which is to say therefore that it is structural and varies predictably among and between the sectors of industry, commerce, institutions and the residential (3). Tariffication as a conservation tool for households is mostly redundant according to this research. And, as a case in point, the City’s own data shows that conservation targets were realized last year thanks to public education, new technologies and leakage reduction (Service de l’eau 2015, 8).

Elsewhere, market driven tariffication, informed by user-pay and full cost recovery, has made water increasingly unaffordable for many, leading to thousands of water disconnections in the US following the best practices of the American Water Works Association (AWWA) that also informs the policy for the Environmental Network here in Quebec. While efforts among low income households to scrimp on water have had negative health consequences related to

sanitation and the spread of bacteria (Hamel 2012, 3).

Such socio-environmental effects are not usually reflected in a financialized approach to water; they are not taken into account. Hurteau et al (2010), for the Institut de recherche et d'informations socio-économiques (IRIS), have documented how user-pay and full cost recovery within public services in Quebec have lead to the prioritization of narrow fiscal objectives over and above broad social considerations, until «L'objectif n'est plus de baser le financement des services publics sur les besoins de la population, mais sur la performance économique des administrateurs qui sera mesurée à leur capacité d'autofinancer leurs établissements» (3).^{xcii}

The logic of financialization culture leads to increasing pressure upon public service administrators to make individual services pay for themselves in a kind of imperative, that if blinkered enough, produces the kind of socio-environmental negligence in which water contamination and subsequent fatalities have occurred: Walkerton, Ontario and Flint, Michigan are cases in point.^{xciii}

Hurteau et al (2010) have analyzed realities of the «revolution tarifaire» in Quebec and various practices translating Health, Hydro and Higher Education. The authors describe «une rupture radicale» with the principle of redistribution of wealth that has historically informed a progressive taxation within a social democratic regime, in favor of a system of regressive tariffication informed by a «néolibéralisme extreme». In this system the rich pay the same as the poor «pour le même service, assimilé à un simple produit de consommation, plutôt qu'à un besoin et un droit»; a reality in which the poor are disproportionately being impacted (37): by 2010 the new tarification, for households with a university student, translated into a 17, 98% increase for low income families, compared to a 2, 40% increase for high income households (3).

Social effects of the inefficiencies of Neoliberal Network(s) elsewhere have been well

documented, as seen in Chapter Two. This analysis finds, however, that such effects are wholly externalized in the policy documentation and largely so in Quebec's mainstream media. In fact the City presents a very partial idea of user-pay/tariffication practice, its hinterlands, relations and performativity. For instance, the City does not supply empirical data in support of its conservation rationale for the user-pay script. I argue that this reality suggests the pertinence of user-pay can only be judged in the context of the whole of Montreal's water production and all its relations. Within this lens, the Water Report 2014, as well as the provincial and municipal Water Strategies can be seen to *absent* tariffication's close relationship to water-related market movements.

Scripts of user-pay, full cost recovery, conservation and 'true value' are used in policy documents to rationalize the tariffication of water production and water performance. However, what of other performance measurements? What does 'true value' and tying tariffication to production costs and therefore market movements mean in terms of risk? As described above, tying Montreal water directly to the financial markets raises investment capital but also exposes the City to risk: markets are unpredictable, periodically volatile and distorted by investor practices, such as herding and other practices encouraging bubble formations, described in Chapter Two. Relatedly, water's lengthening outsourced supply chain is also made riskier and more precarious owing to this more hidden market exposure.

Unsurprisingly perhaps, such riskiness is barely hinted at in establishment policy documents, as seen above. Nevertheless, the annex to Montreal's Water Strategy, describes water infrastructure as so many assets, that turns councillors and administrators into asset managers that must now adapt their decision making process to negotiate «un context toujours en changement [...] axées sur le risque» (Le Service de l'eau: annexe 2011, 44). Critics of market

environmentalism have observed how at odds such practices can be with public service values.

In fact, Montreal's likely tariffication and its market relations would make it even easier to transfer the Water Service into the hands of a commercially orientated corporate operator. In fact, a new law in 2016 is to give Montreal the status of metropolis.^{xciv} And in the report available on the mayor's page of the City's website "A Prosperous and Inclusive Metropolis for sustainable development" point 17 advocates that "the City consider combining, within a sole external organization, some of its services with a large number of organizations within its city limits; that the board of directors of this new entity give a prominent position to the mayor and municipal decision-makers, while mobilizing leaders of Montréal's economic community."^{xcv} Water Services for the Island of Montreal comprise a large number of organizations, purification plants, pipes, aquifers and so on, in a fully integrated infrastructure and so would answer this qualification. Montreal water has already adopted principles and practices typical of corporatized utilities; as McDonald (2014) observes, "Since the late 1970s, corporatized public utilities have been run increasingly on market-oriented operating principles such as financialized performance indicators, cost-reflexive pricing and competitive outsourcing" (2).

Though corporatization of Water Services can involve solidarity practices, all the signs, interpreted here, appear to indicate a much more market-friendly direction, likely not averse to the improved credit ratings and borrowing opportunities that, as McDonald (2014) notes, the separation from governmental finances often brings (2). McDonald (2014) also points to studies by (Hood 1991; McDonald and Ruiters 2012a; Moynihan 2006; Osborne and Gaebler 1992; Shirley 1999) that show corporatization is often instigated with a view to full privatization once the profit potential of the public corporation is fully exhausted (2).

This analysis argues that in Montreal with the new price calculation for water set to connect

all production costs and all water infrastructure to the markets via the likely tariffication of all Montrealers and the normalization of debt leveraging, a considerable amount of revenue and capital seems set to be channeled away from the property tax-based governmental system (with its propensity for social redistribution) and into a corporatized agency. This transformation appears to be a matter of redistribution and commodification in which Montreal performs the increasing transfer of public water wealth to the public service industry (PSI) facilitated by an influx of private decision makers into the public realm.

This analysis make the case for understanding the globalization and financialization of Montreal water procurement as situated within Canada and Quebec's Neoliberal regime but also to be a complex network of hinterlands, actors, practices, scripts and emergent relations of commodification. This chapter has shown some of the political decisions, legal, policy, corporate and technological relations that are facilitating the emergence of the network. There are other relations however, important to understanding how Montreal Water Economy is materializing at arms-length from politics. Chapter Four describes the translation of actors externalizing social solidarity values in Montreal water.

Chapter Four

Separating Politics from Economy: Materializing “fair” Water

Chapter Three described emergent procurement devices and their relations in Montreal that are encouraging the transformation of water-related infrastructure and services into private assets that can be globally traded and monetized on the financial markets. This chapter demonstrates that effects of the network show how in order to fully economize an object such as water-related infrastructure (that includes water production) necessitates subsuming other relations such as democratic procedures, social and environmental conditions to that of the monetary realm in the interests of corporate power and profit making.

Harvey writes that “For any system of thought to become dominant, it requires the articulation of fundamental concepts that become so deeply embedded in common sense understandings that they are taken for granted and beyond question. For this to occur, not any old concepts will do. A conceptual apparatus has to be constructed that appeals almost naturally to our intuitions and instincts, to our values and our desires, as well as to the possibilities that seem to inhere in the social world we inhabit” (Harvey 2007, 24). Within an ANT taxonomy when this effect is achieved the network is said to be punctualized and experienced as a reality that a critical mass of people do not question i.e. as a fact. Law (2014), has observed, following Latour (2004b), that facts cannot be disentangled from their values, that each implies the other; a concept well captured by Latour’s term ‘matter of concern’ (22).

An ANT analysis reveals political relations within the materialization of an object such as water as not only a matter of politicians, government programs and the electorate. In “From Realpolitik to Dingpolitik or How to Make Things Public” Latour (2005) shows how “objects—taken as so many issues [matters of concern] - bind all of us in ways that map out a public space

profoundly different from what is usually recognized under the label of the political” (15). This is the political of the object understood as a network of relations between practices and their values, that can, for instance, connect a water meter to a trade agreement, the financial markets, local conservation, corporations, a water pricing calculation, politicians and local water users. An understanding of objects as networks with values can reveal previously hidden political-economic relations, sites of concern and even potential controversy.

Through an ANT material semiotics, this case study has described translations of Montreal’s water-related infrastructure procurement as embedded with powerful, value-laden prescriptions for a Green Economy: user-pay, full cost recovery, ‘true value’ and market efficiencies. I have shown their inscription within practices related to procurement: globalized compulsory competitive tendering, economies of scale, debt-leveraging, and a new pricing calculation for a new tariffication, among other related practices. In combination, these practices and their inscriptions for Neoliberal water-related procurement in Montreal can be seen to externalize the translation of *public* water as a Commons, as they translate Montreal water with a new financialized problem solving culture of prescriptions and formulas.

Callon and Caliskan (2010b) invoke research (Muniesa, 2003; Guyer, 2009) that shows that “the actors themselves directly link the question of the fairness of prices to the content and construction of formulas serving to calculate them: it is not the prices that are fair or unfair, but their modalities of calculation, i.e. their formulas)” (Caliskan, Callon, 18). Emergent practices of Montreal Water are materializing public water as a thing that can be ‘fair’ if it is measured, transparent and uses Green Economy prescriptions. As such, this emergent reality and its values materialize *new* concepts of what is fair. One effect of this new performance of ‘fairness’ is the obfuscation of a deeper extension of private property rights into Montreal Water Services. How

is this new translation of ‘fairness’ performing and materializing at the point of Montreal Water Services? What are its relations and effects?

Equity, and the Translation of ‘Fairness’

Folco (2014) has observed that in Quebec « le principe de redistribution est délibérément écarté, la justice sociale et la démocratie étant du même coup considérées comme des valeurs morales extérieures à la gestion technique et dépolitisée de la fiscalité municipale» (Folco 2014). While tracing the network’s relations shows that indeed the principles or values of redistribution, and democracy are being translated *out* of municipal water policy, it is also the case that other values are being translated *in*. These new values of user pay and full cost recovery are inscribed in the practice of tariffication, which in relation to the new pricing calculation for water, directly ties water users to Montreal’s water-related procurement. Again, for the practice of tariffication to translate into the network it needs to appear “fair” to a critical mass of users (Caliskan, Callon, 18).

Neoliberal policy texts such as *Mieux Tarifier Mieux Vivre Ensemble* (2008) generally introduced into both policy and popular discourse a distinction between those that are deserving of social solidarity policy, such as guaranteed state assistance, and those that are not. The report reasoned that it would be more efficient to only subsidize low revenue households, rather than have everyone pay the same inadequate rate that failed to cover the full cost of service provision (31-32). This view externalized the fact that the more progressive a taxation system is, the more it ensures that users of public services pay an amount proportionate to their income so that the wealthier users are, the more they pay (Hurteau et al 2010, 18). Quebec and Montreal’s translation of tariffication thus far is entirely regressive, as seen in Chapter Three, since it makes no allowances for users’ capacity to pay, not a factor of importance in water yet due to the

emergent nature of the network.

The other prescription performed by the report was the setting of tariffs, making users individually pay for what they use, to fully cover the entire cost of producing a service. Leroux et al (2014) for Cirano have reasoned that, where Water Services are concerned, in the interests of being ‘fair’, water users should pay for what they individually use, «pour s’assurer que les consommateurs consciencieux ne subventionnent pas indûment le comportement de consommateurs irresponsables» (i). Critics and even government’s own data have pointed to the redundancy of this view given the inelastic nature of services such as electricity and water, as described in Chapter Three (Hamel 2012, 3); in Montreal 93% of Water Service costs are said to be fixed, therefore structural, predictable and not very influenced by consumption patterns (Service de l’eau 2015, 15, 9).

In fact, the Mieux Tarifier report externalized how tariffication of provincial services and its inscriptions undermines the system of income taxation. Provincial income taxation, like municipal property taxation, feeds a governmental system of service provision that enables a close relation between democratic decision-making and redistributive social solidarity policy. A tariffication system, on the other hand, ring-fences a service, facilitating the cutting of this local/social tie with citizens in favor of a more corporatized political decision-making i.e. governance (Hurteau et al 2010, 37).

Following Hurteau et al (2010), this thesis observes that whereas the taxation system is suited to operationalizing the principle of *vertical equity* by contributing to a reduction in vertical inequality i.e. the gap between rich and poor, the tariffication systems being translated in Quebec and Montreal finance policy operationalize the principle of horizontal equity via the user-pay prescription according to which «chaque contribuable contribue au coût des services en fonction

des bénéfices qu'il en reçoit, dans la mesure du possible ». ^{xcvi}

In Quebec municipalities the provincial finance policy states, «dans la contexte où la redistribution de la richesse ne fait pas partie du mandat des municipalités, la critère d'équité verticale n'est pas pertinent à la fiscalité municipale. » ^{xcvii} According to this policy inscription the principle of vertical equity would not inform municipal Water Services because as Leroux et al (2014) explain, historically, this is the jurisdiction of Social Services and the province of Quebec that provides social aid to facilitate access to housing and therefore water too (Leroux 2014, 1).

However, the case made here is that this view externalizes how Montreal's Water Services have historically performed as an essential public service that prioritizes universal access regardless of ability to pay in a collective responsibility. Montreal's Water Strategy 2011-2020 even references the City's mission in the Charter of Rights and Responsibilities of 2006 to «s'assurer qu'aucune citoyenne et qu'aucun citoyen ne sera privé d'accès à l'eau potable pour des motifs d'ordre économique [...]» (Service de l'eau 2011, 8).

I note, however, only a few lines later on the same page, the Strategy actually distances itself from this position of collective responsibility for water access, indicating that the Water Strategy had not intended the Charter's declaration of principles to «encadrer fermement son engagement à l'égard de la gestion de l'eau ». From there it goes on to frame its water policy in a new tariffication predicated upon « tous les facteurs de coûts relies aux divers services de l'eau, de sorte d'assurer dans un proche avenir un **financement adéquat des vrais coûts de l'eau** » (the City's own emphasis) (Service de l'eau 2011, 8). Here we see the principle of collective responsibility for water access in a social democratic vein that observes the principle of vertical equity being *translated out of* Montreal water in favour of the principle of 'true value'. This

prepares the way, by extension, for a fiscally framed horizontal equity in which everyone pays the market price for the water they use.

This analysis finds that Montreal's Water Strategy makes the case that water users have not been paying enough to address the City's situation of economic water scarcity, and need to pay the 'true value' of maintaining their water system, invoking the Green Economy script that sees the markets offering the closest approximation to a 'fair' price for water production. And that any alternatives for Montrealers to cover the cost of their water system, mentioned below, to obviate the need for the marketization of their water infrastructure, go undebated. The implication here is that the costs of all aspects of production should be pegged to the markets and that globalized markets stimulating competition and economies of scale will deliver Water Services at a fair price; a prescription that externalizes potentially price-distorting subsidies. This is an instance of network scripts translating and defining a new reality.

This analysis finds that another kind of horizontal equity is also introduced in Montreal's Water Strategy, that of intergenerational equity. Both Montreal's Water Strategy and Leroux et al (2014) for CIRANO, invoke this principle of dispersing the cost of holding large long-term debt to pay for water infrastructure over successive generations of users (Service de l'eau 2011, 44; Leroux et al 2014, 42). This is the practice of amortization i.e. a fixed repayment schedule over time.^{xcviii} The logic also follows that for the administration to introduce a huge hike in water service costs only while the infrastructure is receiving the bulk of investment would be unacceptable to those users paying the bulk.

Intergenerational equity performs as a leveller on a level playing field over time. The network does this by translating debt-leveraging as amortization and a kind of horizontal equity. This translation externalizes, however, the potential for amortization, when factored into a new

tariffication, to burden low income water service users unequally, as Hurteau et al have demonstrated is the case for electricity, health tariffs and higher education as described in Chapter Three (Hurteau et al 2010, 3).

Amortization is also translated as a commitment intended to distance Water Services from political changes of heart to enable efficient Water Services (Leroux et al 2014, 31-32). However, argued here is, that the “fairness” inscription of amortization can also be seen to obscure the additional influence of and reliance upon private financial institutions and the Credit Ratings Agencies, not to mention the interest on immense loans from private creditors that users are likely to pay for in a regressive tariffication in the not too distant future, as noted in Chapter Three.

Resistances

As described above, tariffication is opposed to taxation for services, which is associated with social relations that compromise wealth creation (Brennan 2012, 27). In this reality, alternative forms of financing to that of private financing are also externalized. These can include, for instance, a mix of progressive property and income taxation and public banking (Loxley 2012). Such knowledge production as alternative prescriptions performs as a form of resistance: in Quebec there is the progressive provincial party Quebec Solidaire that proposes partially nationalized banking, to “Assurer un investissement suffisant et strictement public dans les infrastructures de transmission et d’épuration de l’eau.»^{xcix}

In Quebec there is also *La Coalition opposée à la tarification et à la privatisation des services publics*, of more than 100 civil society groups including unions, students and feminists. The Coalition formed in 2009 with the advent of the Liberal government’s austerity budget and program to step up tariffication of public services with user-pay the hallmark of its problem

solving strategy. The Coalition associates privatization and tariffication as processes of «marchandisation» or commodification and challenges the problem solving culture legitimizing commodification of public services by both demanding adequate financing of public services and also by proposing policy and programs for refinancing the State in a sustainable manner that takes into consideration individuals capacity to pay and for fair employment. The program provides 10 billion dollars of fiscal measures to raise revenues, control costs and redistribute wealth, with a view to showing that «les hausses régressives de taxes, les coupures dans les programmes sociaux, et l'imposition de tarifs ne sont pas les seules options existantes. »^c

The Coalition proposes very different performance measures than those materializing in the network for the globalization and financialization of Montreal's water-related procurement: «une société plus juste, plus écologiste, plus égalitaire, plus solidaire et plus démocratique.»^{ci} However, Neoliberal commodification practices are multiple and there are practices that the Coalition's fiscal/redistribution focus does not capture: such as practices and their relations increasing the influence of private and corporate power in government decision-making, standards making, knowledge production, economic policy, and international law at the point of trade agreements that threaten to lock in procurement of public services and the vagaries of the markets.

Quebec's largest water advocacy group, EauSecours! argues against the commodification of Quebec's water and for collective responsibility for its production, distribution and access. And it has advocated for water being recognized as a common good, demanding « la fin de la privatisation des services d'eau et que soient remis au secteur public les services qui auraient pu être privatisés », as seen in a declaration from 2002.^{cii} It points to the facilitating relation between water privatization and residential tariffication.^{ciii}

EauSecours! is also part of a broad spectrum of civil society groups across Quebec that

includes l'Association pour une taxe sur les transactions financières et pour l'action citoyenne (ATTAC). ATTAC claims a million members, across Europe and Canada, that oppose CETA and the threat they argue, it poses to public services such as water on account of local procurement restrictions described in Chapters Two and Three.^{civ} In a memoir from 2015 responding to the provincial government's Sustainable Development Strategy, ATTAC opposes « l'approche de participation publique favorisant le secteur des affaires que nous avons observée concernant les négociations ». It demands « un débat démocratique digne de ce nom qui, à ce jour, n'a toujours pas eu lieu. »^{cv}

In summary, this analysis finds that while there is resistance to some practices of commodification there has been no network analysis connecting emergent financializing and globalizing procurement practices in Montreal, that anticipates the regressive extraction via residential tariffication of not only revenues for water production but also economic rent in the form of interest on large private debt servicing. A privatizing framing also misses the financializing mediations of financial actors for both profit for investors and their increasing influence over the City.

As such, this analysis argues that without a network analysis that takes in emergent practices, local actors in resistance to globalization and financialization can miss important commodifying processes via networked devices and relations formatting water commodification into the fabric of the City. In this respect we can overlook new lines of resistance, as suggested by what follows.

Human and Non-Human Mediations

From an ANT perspective, this analysis makes the case for how multiple types of mediations are necessary to materializing the social, environmental and economic transformation of Montreal water via procurement (Latour 2005b, 59). Both human and non-human, i.e.

“concatenations of mediators”, of actors of all kinds are required. An actor can be powerful or less so but is any element “which makes other elements dependent upon itself and translates their will into a language of its own” (Callon, Latour, 1981, 286).

There are those deceptively simple practices/devices that are also important network actors changing Montrealers’ relations with their water and with one another by imparting the notion of what is ‘fair’ as that which can be scientifically measured, transparent, simple and promote horizontal equity. Such devices include water meters measuring consumption, and auscultation devices, that literally sound out and detect cracks and leaks in the system of underground water pipes. These kinds of practices, though simple, are inscribed with translations of ‘fair’ that turn on personal responsibility by making water usage and wastage transparent: as described in Chapter Two, Green Economy understands that transparency encourages individual conservation when the price of water is attributed a ‘true’ and higher value through the markets; higher values are claimed to deter overconsumption and the payment for water production that one has not used (Quiggin 2009, 240; Leroux et al 2014, i).

Auscultation and water meters speak through their intermediaries in the form of data that passes between them and other actors. This form of communication constitutes what is social about them, remembering from Chapter One that “The social can be read in the inscriptions that mark the intermediaries” (Callon 1991, 140). In the City’s translation, in its finance policy, this data is an intermediary inscribed with transparency and simplicity values that inform the user-pay practice, framed within a policy of tariffication that provides «une information sur le coût du service et permettent au citoyen de juger de sa pertinence et de son utilité. »^{cvi}

Transparency and simplicity are inscribed upon Montreal’s fiscal policy «le système fiscal municipal doit être aussi simple à comprendre et à appliquer que possible, autant que pour les

municipales que pour le contribuable » (20). And in this regard, auscultation and water meters can be seen to speak for Montreal's fiscal policy. Along with all the relations described in Chapter Three, transparency and simplicity can be read as scripts of New Public Management that are intended to distinguish it from what proponents perceive as the impenetrable quality of public bureaucracy (Furlong and Bakker 2010b, 350).

Moreover, in Montreal, meters and auscultation, can be seen as pivotal to the network for the globalization and financialization of Water-related procurement, since, as argued in Chapter Three, meters tie water consumption and infrastructure to tariffication, while auscultation ties water infrastructure to debt leveraging and to tariffication, and tariffication pegs Montreal water consumers to the global financial markets for water-related commodities.^{cvi} Metering and auscultation produce values in the form of data (intermediaries) that are fed into the new calculation for pricing water that informs the new tariffication of how much revenue, profit and capital to extract from users for Water Services, subcontractors, investors and investment.

Turnhout and Neves (2014) note that “science-based measurement is part and parcel of contemporary neoliberal environmental governance. It produces the raw materials, so to say, for subsequent centralized control and exchange.” The authors assert the performativity of the transparency script and its scientific measurement practices: “Its epistemic authority makes us see the world in a specific way that makes possible specific ways of acting upon it while silencing others. As such, it has the tendency to create the world in its own image (Bowker, 2000) because only what is counted counts”. In this regard, the authors invoke Scott (1998) to observe that “Knowledge is not merely an instrument for control [...] it is a form of control itself” (Turnhout and Neves 2014, 594).

This form of knowledge production also performs a reality that externalizes other practices

and other knowledges. This analysis finds the translation of tariffication appears to materialize naturally as a solution to ailing water infrastructure, thanks to such measurements and formulas translated and performed as unbiased and ‘fair’ in the same way for everyone. So that in the City the concern has largely become not *how* we are raising the capital for investment and *how much* we outsource and *how* these choices impact municipal decision-making and performance measures and *who* decides, but rather how many water leaks, how much water is being lost and what the market value of this inefficiency to the City is. Clearly, financialized problem-solving models produce financialized solutions.

Residential Tariffication Translated!

Having traced the teleology and trajectory of Montreal’s emergent network anticipating residential tariffication, it suddenly arrives: Early 2016, financialized translations of fair water become punctualized in towns on the Island of Montreal. An article titled “City, Suburbs Settle Nagging Grievances” reports that towns within the Montreal agglomeration (comprising the Island of Montreal outside of the City) have agreed to pay for water via the new pricing calculation based on their metered consumption of water, rather than through property valued taxation. They are agreeing to water production costs and revenues being separated from tax revenue.^{cvi}

Horizontal equity is achieved via the installation of water meters at the entry point of each town, that provide accurate readings of the town’s usage; since many of the suburbs have already metered non-residential buildings “it will not be difficult to charge each individual household” by deducting the metered non-residential amount from the total. This point of view quietly advocates for a horizontal usage in which householders pay for what they use regardless of the value of their property or income. The mayor of the wealthy town of Westmount echoes the

Green Economy script maintaining that this method is “a fairer way to charge for water and will encourage people to conserve water.”

The article observes that the municipalities within the agglomeration that are to save the most money are those with high property values and a small population base. What is lost in this translation of what is fair is the concept of those towns in the agglomeration of Montreal’s water system that are wealthier paying a little more so that those that are poorer pay a little less, in an inter-community horizontal equity. Vertical equity is externalized in this new scenario in favor of horizontal equity.

And, instead of democratic deliberation around the transformation of the water system, politics is reduced to the settling of “a long-standing” and “nagging grievance” among mayors of the Montreal agglomeration, thanks to which “fairness” is said to be achieved. And yet to make the case for fairness, figures are presented comparing this year’s bill with last year’s, which is not a fair indication of the new tariffication of 2017 that is likely to translate a full cost recovery using the new pricing calculation to include infrastructure debt and rising market values. Both the new policy and this article in question both perform a mediation realized for provincial services in which tariffication externalizes « une responsabilité collective (impôt) » into « un ensemble de charges individuelles (tarifs) » (Hurteau et al 2010, 18). Property value-based taxation is externalized by practices translated as fiscal “fairness”: economies and conservation via metering and user-pay.

Network Actors, Micro and Macro, Local and Global

This thesis puts the case that through the emergent network for the globalization and financialization of Montreal’s water-related procurement, micro-actors become macro-actors, as translations and their relations within the network proliferate, as seen in the ubiquitous

translations of the horizontal equity script in policy documents and practices and forthcoming trade agreements materializing Montreal Water Services as ‘fair’. Notably, the value of horizontal equity in local service delivery is the same value translated into trade agreements, both past and anticipated.

As noted in Chapter Two, Globalized Compulsory Competitive Tendering (GCCT) GCCT requires the standardization of procurement rules between many nation states. For this harmonization to occur the Canadian government has effectively agreed to (at certain thresholds) horizontal equity of access to procurement markets for signatories to CETA and TISA. The horizontal equity scripts of “fair and equitable treatment” or “non-discrimination” both translate as no concessions permitted on account of local proximity, economic size of a country or a country’s labor practices.^{cix}

This analysis argues that Montreal’s transparency practices are performing a policing and standardizing role for this horizontal equity. Coincidentally, the lid on procurement corruption in Montreal was lifted on a water meters’ contract, the largest ever in the City’s history in 2009, the same year negotiations for CETA began.^{cx}

The pervasive nature of Montreal’s procurement corruption appeared to intuitively pose visibility as the problem and transparency as the solution to the old price fixing mechanism that had informed local procurement through a largely local market of infrastructure contractors. From 2009 this local market had to begin to make way for another much more powerful globalized procurement of water-related markets in a globalized procurement network with all its relations, practices and scripts.

The local corruption in Montreal functioned as part of a procurement assemblage of price-fixing, from January 1, 2004 until December 31st 2009, in a system that had involved

bureaucrats, companies, lawyers, meters, lobbyists, cocktail parties, the mysterious “Mr. X”, “Mr. Sidewalk” as well as other unidentified actors (their names redacted from municipal documents) and as many as 3 mayors.^{cxix}

While the media continue in 2016 to parade an array of colorful actors as artefacts of the former system, practices for the new procurement are still being translated into the emergent network: metering of non-residential buildings and a new water pricing calculation, a new tariffication for 2017, Metropolis status for Montreal, due in 2016, and mediations to realize globalized compulsory competitive tendering with the introduction of CETA and TISA.

The failure of the previous procurement network to include transnationals equitably is noted by the investigating commission reporting the exclusion of foreign corporations from bidding: « Stratagèmes à l’étape de l’appel de qualification: Adopter des critères de nature à pénaliser un groupe étranger [...] Disqualifier la filiale d’une multinationale française sans fournir d’explication. »^{cxii} Here is another glimpse of the transition of power from one network to another as, following Callon (1991, 152), the local procurement network depunctualizes or fails as its global counterpart punctualizes or gathers strength.

The representation of the old ways of procurement now designated ‘corrupt’ (and unfair and inequitable by dint of) informs the performance of the new practices that promise to address institutional gaps and opaqueness that have allowed local corruption to thrive. The standardizing strictures of both global and financial market cultures are now performing: firms seeking any supply or service contract at the City worth more than \$100,000 have to be vetted by Quebec’s financial regulator, and the province’s permanent anti-corruption squad, UPAC (The Gazette 2014.)^{cxiii}

Private eye and forensic accounting firms are presently highly sought after by businesses that

want to put their houses in order to gain access to the “good list” of those approved for bidding on government tenders; a list that is regulated by the Financial Market Authority (AFM), sanctioned by the two-year old Integrity in Public Contracts Act. An article in the Montreal Gazette quotes one chartered accountant as saying, “It’ll be like having an ISO certification” of integrity.^{cxiv} With these new municipal practices the effect of housecleaning for transparency is being created, materializing new safeguards and controls in the form of new standards, deregulations, regulations, practices, roles, digital technology, functionaries, lawyers, websites and so on.

Apart from any anti-corruption effects they may perform, these new housecleaning practices also serve to further standardize and harmonize the contract tendering procedure in preparation for globalized compulsory competitive tendering (GCCT) under CETA and other trade agreements. In this regard Metropolis Montreal is performing a houseclean for the ‘true value’ and efficiencies that a globalized competition policy espouses, in a translation of transparency as a housecleaning operation for Mayor Coderre’s “city of integrity”.^{cxv}

As noted in Chapter Two, the problem of wealth concentration within countries, monopolies and oligopolies is externalized in this translation (Harvey 2003, 71; Brennan 2012, 4). As is the ongoing and increasing global trend towards wealth inequality between countries and within them (Brennan 2012, 27).

In Montreal, the concept of fairness as horizontal equity of competition was interpreted and performed by the auditor general when in response to further evidence of bid-rigging of water meters in 2009, he expressed the view that “In the presence of an openly competitive market this kind of situation would at the very least be unlikely.”^{cxvi} In this view, left to their own devices, markets regulate for more fair and efficient competition. However, a report commissioned by the

Federation of Canadian Municipalities in 2007, Hamel (2007) from le Groupe de Recherche sur l'innovation municipal (GRIM), compares the ideal of the market as the site of pure and perfect competition that in Neoliberal economics is supposed to produce “the best of all possible outcomes for the public” with the reality of it being characterized by “cartel agreements”.

Hamel (2007) concludes that, “It is much more difficult than is generally admitted to incite true competition between companies, which generally possess technical and financial resources considerably greater than those of the municipality launching the invitation to tender” (Hamel 2007, 106-107). This view seems to suggest that it would be very difficult for municipalities to detect or intervene in such a way as to prevent bidding corporations coming to such arrangements outside of the procurement process.

Such detection appears further compromised by recent changes to the municipal administration: Recently the Coderre administration introduced Bill 73 that allows the Board of Directors of a para-municipal (i.e. a Public-Private Partnership or corporatized municipal organization external to government) to invalidate the decision of the Inspector General, responsible for overseeing tenders and routing out corruption and collusion in City procurement.^{cxvii} Para-municipals are PPPs, and as clarified in Chapter Three, another form of outsourcing and private decision-making over public services. A study from Hebert et al (2013) finds that outsourcing in Quebec generally contributes to making government activities less transparent given that private organizations do not fall within the law on access to information. They conclude that « Plus le gouvernement transfère ses activités à des firmes externes, moins l'information sur ces activités est aisément disponible » (50).

The ideal of true competition is surely rendered even more remote when Quebec's second largest newspaper, La Presse, is owned by Power Corporation, a large Transnational Holding Company,

with many subsidiaries and with significant investments in Suez Environment, the world's second largest water and waste water services TNC. Though Suez has powerful relations with the City, it has a low visibility; the name Suez is not mentioned anywhere on the contracts search page on the City's website, although its subsidiary Degremont has received the single largest contract ever in the City's history to build the world's largest ozonification plant.

Unsurprisingly, La Presse appears to only ever cast water TNCs in a neutral or positive light and has certainly absented resistance to water commodification in its pages. Conversely, it has assiduously covered the City's scandal that started with a water meters' contract assigned to a local firm.

Allen and Pryke (2013) have observed in the UK a reality this thesis argues is emerging here in Montreal: that "any political questions over corporate finance [and corporate influence] have been progressively displaced by a more conspicuous concern with practical issues of sustainability, water security and environmental governance, as well as by the drive to get a better deal for the 'consumer'" (420). In Chapter Four, I have described how a new water-related procurement is being translated by the network in Montreal in such a way as to materialize the effect of 'fairness' by deploying particular translations of conservation, equity and transparency practices in the materialization of a Green Economy and by absenting resistance.

Conclusion

This analysis has traced globalized and financialized relations of water commodification performed within a network for water-related procurement, making visible the performance of network values as standards, money, commodities and prescriptions informing and shaping network devices and mediations. In so doing, it has revealed underlying logic materializing Montreal's water production and all its infrastructure as sites of accumulation or profit (Huws

2011, 65). Using a material semiotics this ANT analysis has traced and detected the local emergence of a network for globalizing and financializing water-related procurement for an emergent Water Economy by apprehending not only its practices and their values but also the other realities that are performing, known as hinterlands. Tracing the trajectory of the network's powerful values has rendered the possibility of detecting emergent practices of the network here in Montreal and of reading their teleology and anticipating the network's likely course. This may in turn make apparent new lines of resistance.

Latour (2004b) writes, "It is when power is exerted through things that don't sleep and associations that don't break down that it can last longer and expand further – and for this of course, links of another social contract are required" (225). This ANT analysis foregrounds emergent embedded scripts inside practices that are both performing and valuing water differently, supplanting the unwritten social contract of a public water available to everyone with that of a financialized contract (indeed many financialized infrastructure contracts) materializing and socializing water for those who can pay the market price decided by global markets. This is likely not a social contract intended to include local people power and their democratic procedures but rather is one being performed by financialized actors such as corporations, meters, tariffs, markets, calculations, investors, consumers and their value-laden scripts. As Latour appears to suggest, a deeper and more trenchant understanding of democratic practice is required in order to apprehend the networked, multiple, heterogeneous relations and value-laden ontology of human, non-human and non-living agencies materializing reality, in this case at the point of Montreal Water Services and the procurement of its infrastructure.

Endnotes

- ⁱ The CETA thresholds are \$625,762 for procurement by utilities, \$7.8 million for construction services.
- ⁱⁱ “Globalization, Liberalization, Deregulation,” The Oxford Handbook of International Financial Terms, 2005, www.oxfordreference.com.
- ⁱⁱⁱ International Trade Agreements and Local Govt., <http://www.international.gc.ca/trade-agreements-accords-commerciaux/ressources/fcm/complete-guide-complet.aspx?lang=eng>.
- ^{iv} Investopedia, <http://www.investopedia.com/terms/e/economiesofscale.asp>.
- ^v Standardized commodity, <http://www.oxfordreference.com/view/10.1093/acref/9780199696321.001.0001/acref-9780199696321-e-2957?rskey=pWt7Xt&result=4>.
- ^{vi} “Targetting New Objectives”, United Water, https://www.unitedwater.com/uploadedFiles/Corporate_Content/50/Corporate%20Overview%20Brochure%20LG.pdf.
- ^{vii} CEN, <http://www.cencenelec.eu/standards/Pages/default.aspx>.
- ^{viii} OECD, <http://www.oecd.org/environment/resources/water.htm>.
- ^{ix} IMF, <http://www.imf.org/external/ns/search.aspx?NewQuery=water&submit=>.
- ^x UN, [unwater.org](http://www.unwater.org), http://www.unwater.org/fileadmin/user_upload/unwater_new/docs/A4%20template%20%28water%20scarcity%29.pdf.
- ^{xi} “The Trillion Dollar Gap”, <http://www.economist.com/news/leaders/21599358-how-get-more-worlds-savings-pay-new-roads-airports-and-electricity>.
- ^{xii} CCPA, 24/01/2013, <https://www.policyalternatives.ca/newsroom/news-releases/canada-missing-145-billion-infrastructure-due-underfunding-study>.
- ^{xiii} ATTAC, www.quebec.attac.org.
- ^{xiv} Daniel Boffey, The Guardian, “Water companies pay billions to shareholders but little tax. Why?,” 10/11/2012, <http://www.theguardian.com/business/2012/nov/10/utilities-water-bills>.
- ^{xv} “Veolia Beating Profit, Cost Targets as Income Nearly Triples,” www.bloomberg.com/news/articles/2015-08-03/veolia-profit-almost-triples-amid-cost-cutting-waste-recovery.
- ^{xvi} Daniel Boffey, “Water companies”
- ^{xvii} Business Standard, http://www.business-standard.com/article/companies/modi-s-water-deficit-spurs-french-utilities-to-look-for-india-growth-115040800059_1.html.
- ^{xviii} <http://www.investopedia.com/terms/w/water-etf.asp>.

-
- ^{xix} Elena Moya, “Water Funds Tempt Investors with Booming Growth”
<http://www.theguardian.com/business/2010/aug/08/water-funds-investors-booming-growth>.
- ^{xx} “Pictet-Water-HP USD”,
http://www.pictetfunds.com/nns_ww/browse.fund?fundId=LU0385405567&navId=NAV_ID_DETAIL_OVERVIEW.
- ^{xxi} Circle of Blue, <http://www.circleofblue.org/waternews/2015/world/price-of-water-2015-up-6-percent-in-30-major-u-s-cities-41-percent-rise-since-2010/>.
- ^{xxii} The Value Web, <http://www.thevalueweb.org/who-we-are/>.
- ^{xxiii} Rupert Jones, “A Rising Tide of water Bills and Profits,” The Guardian, 9/02/2013,
<http://www.theguardian.com/money/2013/feb/09/rising-water-bills-profits>.
- ^{xxiv} <http://www.fcm.ca/home/policy-and-advocacy/about-the-issue-x6245.htm>.
- ^{xxv} Infrastructure Canada, “Ministers Lebel and Fletcher Meet Stakeholders to Discuss New Long-Term Infrastructure Plan,” Ottawa, Ontario, 20/09/2012, www.infrastructure.gc.ca.
- ^{xxvi} FCM, “The New Building Canada Plan: what it means for cities and communities”,
https://www.fcm.ca/Documents/backgrounders/New_Building_Canada_Fund_Backgrounder_EN.pdf, 5.
- ^{xxvii} Govt. of Quebec’s Sustainable Development Strategy,
http://www.mddelcc.gouv.qc.ca/developpement/strategie_gouvernementale/.
- ^{xxviii} Projet de loi no.134,
<http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2005%2F2005C50F.PDF>.
- ^{xxix} <http://www.mddelcc.gouv.qc.ca/eau/politique/politique-integral.pdf>.
- ^{xxx} CREDEAU, <http://www.polymtl.ca/credeau/partenaires/index.php>;
<http://www.polymtl.ca/credeau/docWeb/3.%20Fiche%20technique%20du%20CREDEAU/Fiche%20technique%20CREDEAU%202008-04-10.pdf>.
- ^{xxxi} Vue sur les contrats, http://ville.montreal.qc.ca/vuesurlescontrats/?date_gt=2012-01-01&date_lt=2016-02-29&value_gt=0&value_lt=1000000000&type=contract&offset=0&limit=20&order_by=date&order_dir=desc&buyer=service-de-leau&procuring_entity=comite-executif%3Bconseil-dagglomeration%3Bconseil-municipal%3Bfonctionnaires&activity=Environnement%3BInfrastructures.
- ^{xxxii} « Cadre général d'orientation de la future Politique sur la gestion de l'eau »
<http://www.mddelcc.gouv.qc.ca/eau/orientation/index.htm#2.5>
- ^{xxxiii} Melanie Marquis, “Stephen Harper Vante l’accord de libre-échange”, La Presse, 15/11/2013,
<http://affaires.lapresse.ca/economie/canada/201311/15/01-4711129-stephen-harper-vante-laccord-de-libre-echange.php>.
- ^{xxxiv} René Bruemmer, “Montreal budget 2016: Extra cash earmarked for crumbling infrastructure,” 27/11/ 2015, <http://montrealgazette.com/news/local-news/montreal-budget-2016->

extra-cash-earmarked-for-crumbling-infrastructure.

^{xxxv} Le Front Commun; www.sfmm429.qc.ca/en-direct/articles/1280/a-tous-les-cols-blancs-de-la-ville-de-montreal.

^{xxxvi} René Bruemmer, “Montreal budget 2016”.

^{xxxvii} « Prévisions budgétaires 2015 Service de l’eau » ville.montreal.qc.ca/portal/page?_pageid=6877,137205624&_dad=portal&_schema=PORTAL.

^{xxxviii} Vue sur les contrats, http://ville.montreal.qc.ca/vuesurlescontrats/?date_gt=2015-01-01&date_lt=2016-02-29&value_gt=0&value_lt=1000000000&type=contract&offset=0&limit=20&order_by=value&order_dir=desc&procuring_entity=comite-executif%3Bconseil-dagglomeration%3Bconseil-municipal%3Bfonctionnaires&activity=Infrastructures.

^{xxxix} Procurement Policy, Ville de Montreal, 2015, http://ville.montreal.qc.ca/pls/portal/docs/page/librairie_fr/documents/politique_approvisionnement.pdf.

^{xl} Procurement Policy, Ville de Montreal, 2015, http://ville.montreal.qc.ca/pls/portal/docs/page/librairie_fr/documents/politique_approvisionnement.pdf.

^{xli} Joseph Haimowitz, Warren, Joanne. “Economic Value of Standardization,” The Conference Board of Canada, The Standards Board of Canada. 2007, 2.

^{xlii} Communiqué 3, Budget 2015 de la Ville de Montréal, http://ville.montreal.qc.ca/pls/portal/docs/PAGE/COMMISSIONS_PERM_V2_FR/MEDIA/DOCUMENTS/COMMUNIQUE_3_20141126.PDF.

^{xliii} POLITIQUE D’APPROVISIONNEMENT DE LA VILLE DE MONTRÉAL, 05/2015, http://ville.montreal.qc.ca/pls/portal/docs/page/librairie_fr/documents/politique_approvisionnement.pdf.

^{xliv} Communiqué 3, Budget 2015 de la Ville de Montréal, http://ville.montreal.qc.ca/pls/portal/docs/PAGE/COMMISSIONS_PERM_V2_FR/MEDIA/DOCUMENTS/COMMUNIQUE_3_20141126.PDF, 2.

^{xlvi} « Montréal investit 523 million pour améliorer les infrastructures de voirie et d’eau », 07/04/2015, http://ville.montreal.qc.ca/portal/page?_pageid=6497,55373573&_dad=portal&_schema=PORTAL&id=24719&ret=http://ville.montreal.qc.ca/pls/portal/url/page/eau_fr/rep_utilitaires/rep_communiques/communiques.

^{xlvi} « Transfert de gestion des usines d’eau potable Dorval et Pointe-Claire », 7 Janvier 2014, (http://ville.montreal.qc.ca/portal/page?_pageid=6497,100755580&_dad=portal&_schema=PORTAL&id=8324&ret=/pls/portal/url/page/eau_fr/rep_utilitaires/rep_actualites/coll_actualites).

^{xlvi} « Montréal investit 523 million pour améliorer les infrastructures de voirie et d’eau », 07/04/2015, http://ville.montreal.qc.ca/portal/page?_pageid=6497,55373573&_dad=portal&_sche

ma=PORTAL&id=24719&ret=http://ville.montreal.qc.ca/pls/portal/url/page/eau_fr/rep_utilitaire/rep_communiques/communiques.

xlvi PEXEP, <http://www.reseau-environnement.com/fr/eau/pexeppeep>.

xlvi PEXEP, «Le programme d'excellence en eau potable, »
<http://www.mddelcc.gouv.qc.ca/eau/potable/excellence.htm>.

¹ Linda Gyulai, "City of Montreal suppliers: looks like a cartel", The Gazette, 6/10/2011.

^{li} Making Sense of CETA 2014, <https://www.policyalternatives.ca/publications/reports/making-sense-ceta>, 26.

^{lii} Vue sur les contrats, http://ville.montreal.qc.ca/vuesurlescontrats/?date_gt=2012-01-and01&date_lt=2016-02-29&value_gt=0&value_lt=1000000000&type=contract&q=veolia&offset=0&limit=20&order_by=value&order_dir=desc&procuring_entity=comite-executif%3Bconseil-dagglomeration%3Bconseil-municipal%3Bfonctionnaires&activity=Environnement.

^{liii} Karim Benessaïeh, "Coderre présente ses 11 «chantiers» pour rendre la Ville plus performante", La Presse, 19/06/2014, <http://www.lapresse.ca/actualites/montreal/201406/19/01-4777241-coderre-presente-ses-11-chantiers-pour-rendre-la-ville-plus-performante.php>.

^{liv} Martin Patriquen, "Gusto, guts, glory-seeking: the Denis Coderre Treatment", Macleans Magazine, 14/09/2014, <http://www.macleans.ca/politics/gusto-guts-glory-seeking-the-denis-coderre-treatment/>.

^{lv} Eau Secours, http://eausecours.org/esdossiers/mythes_tarification.pdf.

^{lvi} Louis-Samuel Perron, « Montréal fuit de toutes parts: 500 millions de litres d'eau perdus, » La Presse, 18/06/2015, <http://www.lapresse.ca/actualites/montreal/201506/18/01-4879028-montreal-fuit-de-toutes-parts-500-millions-de-litres-deau-perdus.php>.

^{lvii} Quebec's Stratégie économie d'eau potable,
http://www.mamrot.gouv.qc.ca/pub/grands_dossiers/Strategie_eau/depliant-Strategie-eau.pdf.

^{lviii} Quebec's Stratégie économie d'eau potable,
http://www.mamrot.gouv.qc.ca/pub/grands_dossiers/strategie_eau/strategie_eau_potable.pdf.

^{lix} Gestion durable de l'eau,
http://ville.montreal.qc.ca/portal/page?_pageid=6497,97819583&_dad=portal&_schema=PORTAL

^{lx} Mayor's Webpage, City of Montreal,
http://ville.montreal.qc.ca/portal/page?_pageid=5997,102503571&_dad=portal&_schema=PORTAL&id=25192&ret=/pls/portal/url/page/bur_du_maire_fr/rep_bur_du_maire/rep_communiques/coll_communiques

^{lxi} « Politique des sources de revenus »,
http://ville.montreal.qc.ca/pls/portal/docs/page/service_fin_fr/media/documents/pol-sources-revenus.pdf.

^{lxii} Réseau environnement, <http://www.reseau-environnement.com/fr/eau/programmes>.

-
- ^{lxiii} «Politique des sources de revenus », http://ville.montreal.qc.ca/pls/portal/docs/page/service_fin_fr/media/documents/pol-sources-revenus.pdf, 4.
- ^{lxiv} Brett Walton, “Price of Water 2015: Up 6 Percent in 30 Major U.S. Cities; 41 Percent Rise Since 2010,” Circle of Blue, 22/04/2015, <http://www.circleofblue.org/waternews/2015/world/price-of-water-2015-up-6-percent-in-30-major-u-s-cities-41-percent-rise-since-2010/>.
- ^{lxv} René Bruemmer, “Is ozonation the right solution to clean Montreal’s Waste Water?”, The Montreal Gazette, 21/04/2015, <http://montrealgazette.com/news/local-news/is-ozonation-the-right-solution-to-clean-montreals-waste-water>.
- ^{lxvi} Gestion de l’eau, Mission, http://ville.montreal.qc.ca/portal/page?_pageid=6497,54391599&_dad=portal&_schema=PORTAL.
- ^{lxvii} « Politique des sources de revenus », 4.
- ^{lxviii} GFOA, Canadian Best Practice, <http://www.gfoa.org/canadian-best-practices>
- ^{lxix} Information financière, <http://www.mamrot.gouv.qc.ca/finances-indicateurs-de-gestion-et-fiscalite/information-financiere/presentation-de-linformation-financiere/suivi-budgetaire/>
- ^{lxx} Politiques financières, Ville de Montréal, http://ville.montreal.qc.ca/portal/page?_pageid=43,2903588&_dad=portal&_schema=PORTAL.
- ^{lxxi} . In 2016 the annual GFOA conference is in Toronto and its exhibitor list includes many of the major banks and credit ratings agencies across North America. <http://www.gfoa.org/annual-conference/about-annual-conference>
- ^{lxxii} CIRANO, <http://CIRANO.qc.ca/en/about/partners>; <http://cpaquebec.ca/Documents/pdf/2015-2016/communaute-cpa/evenements-ordre/colloque-cpa-parlementaire/Biographie-Roger-Galipeau.pdf>
- ^{lxxiii} GFOA Exhibitor List, <http://www.gfoa.org/sites/default/files/Con16ExhibitorList.pdf>
- ^{lxxiv} GFOA, “Measuring Full Cost Government Service, <http://www.gfoa.org/measuring-full-cost-government-service>
- ^{lxxv} Quebec’s Water Policy, <http://www.mddelcc.gouv.qc.ca/eau/politique/politique-integral.pdf>
- ^{lxxvi} Quebec’ Water Economy Strategy, <http://www.mamrot.gouv.qc.ca/grands-dossiers/strategie-quebecoise-deconomie-deau-potable/a-propos-de-la-strategie/>
- ^{lxxvii} Master Plan, http://ville.montreal.qc.ca/portal/page?_pageid=2762,3100712&_dad=portal&_schema=PORTAL.
- ^{lxxviii} « Politique des sources de revenus », http://ville.montreal.qc.ca/pls/portal/docs/page/service_fin_fr/media/documents/pol-sources-revenus.pdf, 4.

-
- ^{lxxix} Gestio durable de l'eau,
http://ville.montreal.qc.ca/portal/page?_pageid=6497,81365599&_dad=portal&_schema=PORTAL.
- ^{lxxx} «Mesure de la consommation de l'eau,
»http://ville.montreal.qc.ca/portal/page?_pageid=6497,113151590&_dad=portal&_schema=PORTAL.
- ^{lxxxi} «Budget en bref 2016»,
https://ville.montreal.qc.ca/pls/portal/docs/page/service_fin_fr/media/documents/2016_budget_bref_fr.pdf, 7.
- ^{lxxxii} Projet Montréal, Développement durable et environnement, <http://projetmontreal.org/le-programme/dossiers/developpement-durable-et-environnement/>.
- ^{lxxxiii} Ville de Montréal, «Prévisions budgétaires 2015: Service de l'eau »,
http://ville.montreal.qc.ca/pls/portal/docs/PAGE/COMMISSIONS_PERM_V2_FR/MEDIA/DOCUMENTS/PRES_EAU_20141202.PDF.
- ^{lxxxiv} “Role of the Finance Officer in Privatization,”http://www.gfoa.org/canadian-best-practices?sort_by=field_approved_by_gfoa_s_executi_value;
http://www.gfoa.org/sites/default/files/GFOACCI_RoleFinanceOfficerPrivatizationBP.pdf
- ^{lxxxv} «Planification pluriannuelle des immobilisations 2009,
<http://www.gfoa.com/sites/default/files/Planificationpluriannuelledesimmobilisations.pdf>.
- ^{lxxxvi} « Politique de la gestion de la dette, » 2009, »
http://ville.montreal.qc.ca/pls/portal/docs/page/service_fin_fr/media/documents/pol-gestion-dette.pdf.
- ^{lxxxvii} René Bruemmer, “Montreal budget 2016: Extra cash earmarked for crumbling infrastructure” 27/11/ 2015, <http://montrealgazette.com/news/local-news/montreal-budget-2016-extra-cash-earmarked-for-crumbling-infrastructure>.
- ^{lxxxviii} «Prevision Budgetaire 2015, »
ville.montreal.qc.ca/portal/page?_pageid=6877,137205624&_dad=portal&_schema=PORTAL,4.
- ^{lxxxix} « Politique de la gestion de la dette, » 2009,
http://ville.montreal.qc.ca/pls/portal/docs/page/service_fin_fr/media/documents/pol-gestion-dette.pdf.
- ^{xc} Fonds de l'eau,
http://ville.montreal.qc.ca/portal/page?_pageid=6497,54391603&_dad=portal&_schema=PORTAL.
- ^{xci} « Politique des sources de revenus »,
http://ville.montreal.qc.ca/pls/portal/docs/page/service_fin_fr/media/documents/pol-sources-revenus.pdf,4.
- ^{xcii} IRIS, Mission, <http://iris-recherche.qc.ca/mission>.
- ^{xciii} “Inside Walkerton” <http://www.cbc.ca/news/canada/inside-walkerton-canada-s-worst-ever-e>

coli-contamination-1.887200

^{xciv} “Recognition of the Status of the Metropolis,”

http://ville.montreal.qc.ca/portal/page?_pageid=6037,142279647&_dad=portal&_schema=PORTAL.

^{xcv} Working Committee on the Status of the Metropolis, 10/2015,

http://ville.montreal.qc.ca/pls/portal/docs/PAGE/BUR_DU_MAIRE_FR/MEDIA/DOCUMENTS/MEP_MONTREAL_STATUT_METROPOLE_ANG.PDF, 5.

^{xcvi} «Le Financement et la fiscalité des organismes municipaux au Québec, 07/2015,

http://www.mamrot.gouv.qc.ca/pub/finances_indicateurs_fiscalite/fiscalite/fiscalite_organismes_municipaux.pdf, 3.

^{xcvii} « Le Financement et la fiscalité des organismes municipaux au

Québec »http://www.mamrot.gouv.qc.ca/pub/finances_indicateurs_fiscalite/fiscalite/fiscalite_organismes_municipaux.pdf, 3.

^{xcviii} A flat water tax, introduced in 2005, also contributes to paying off Montreal’ water infrastructural debt (Leroux et al 2014, 31); «Politique de capitalisation et d’amortissement des dépenses en Immobilisations », http://ville.montreal.qc.ca/pls/portal/docs/page/service_fin_fr/media/documents/pol-cap-amort-dep-immo.pdf.

^{xcix} Quebec Solidaire’s Economic Programme, http://www.quebecsolidaire.net/wp-content/uploads/2012/08/Programme_de_QS_Pour_une_economie_solidaire_vert_e_et_democratique.pdf.

^c Coalition Main Rouge,

<http://nonauxhausses.org/wpcontent/uploads/Document10milliards2015.p»df>, 3.

^{ci} Coalition Main Rouge, a propos, <http://nonauxhausses.org/a-propos/declaration/>.

^{cii} EauSecours!, « Déclaration québécoise de l’eau » - Mars 2002http://eausecours.org/wp-content/uploads/2012/06/declaration_eau.pdf

^{ciii} « La tarification de l’eau, » http://eausecours.org/esdossiers/mythes_tarification.pdf.

^{civ} ATTAC, « Mémoire sur la Stratégie gouvernementale de développement durable révisée 2015-2020», 9/02/2015, <http://www.quebec.attac.org/2015>, 8-9.

^{cv} Ibid.

^{cvi} « Politique des sources de revenus »,

http://ville.montreal.qc.ca/pls/portal/docs/page/service_fin_fr/media/documents/pol-sources-revenus.pdf, 4.

^{cvii} Service de l’eau, Bilan 2014,

http://ville.montreal.qc.ca/pls/portal/docs/PAGE/EAU_FR/MEDIA/DOCUMENTS/BILAN%20EAU%202014-FINAL.PDF, 11.

^{cviii} Jason Magder, “City, Suburbs Settle Nagging Grievances,” The Gazette, 04/03/2016

^{cix} FCM, <http://www.international.gc.ca/trade-agreements-accords->

commerciaux/ressources/fcm/complete-guide-complet.aspx?lang=eng#core.

^{cx} CETA,

https://web.archive.org/web/20150505112357/http://eeas.europa.eu/delegations/canada/eu_canada/trade_relation/ceta/index_en.htm.

^{cx}_i Linda Gyulai, “A Blueprint for Corruption” The Gazette, 11/08/2015.

^{cx}_{ii} « Rapport de la Commission d’enquête sur l’octroie et la gestion des contrats publics dans l’industrie de la construction : Le récit des faits »,

https://www.ceic.gouv.qc.ca/fileadmin/Fichiers_client/fichiers/Rapport_final/Rapport_final_CEI_C_Tome-2_c.pdf, 293.

^{cx}_{iii} Linda Gyulai, “New Rules for Vetting Bidders Come into Force”, The Gazette, 25/09/2014, <http://montrealgazette.com/news/local-news/new-rules-for-vetting-bidders-on-public-contracts-come-into-force>

^{cx}_{iv} Linda Gyulai, “Anti-corruption law creates niche market”, The Gazette, 17/07/ 2014.

^{cx}_v Montreal Operating Budget, Ville de Montreal 2014, 6; « La Ville de Montréal adopte de nouvelles mesures pour renforcer l’éthique, l’intégrité et la transparence » http://ville.montreal.qc.ca/portal/page?_pageid=5798,42657625&_dad=portal&_schema=PORTAL&id=15548.

^{cx}_{vi} Sara Champagne, “Auditor general report critical of contracts”, The Gazette, 17/06/2014.

^{cx}_{vii} Quebec National Assembly, « Projet de loi no.73 », <http://www.assnat.qc.ca/fr/travaux-parlementaires/projets-loi/projet-loi-73-40-1.html>.

Bibliography

- Allen, John and Michael Pryke. 2013. "Financialising Household Water: Thames Water, MEIF, and 'ring-fenced' politics." *Cambridge Journal of Regions, Economy and Society* 6 (3): 419-439.
<http://cjres.oxfordjournals.org/content/6/3/419.short>.
- Atkin, Albert. 2008. "Peirce's Final Account of Signs and the Philosophy of Language." *Transactions of the Charles S. Peirce Society: A Quarterly Journal in American Philosophy* 44 (1): 63-85.
ol126.mail.live.com/.
- Audette-Chapdelaine, Marianne. 2016. "Sensemaking and the political-administrative Interface: The Challenges of Strategically Steering and Managing a Local Public Service." *International Review of Administrative Sciences*. Accessed 22/07/2016. 0020852315594857.
- Audette-Chapdelaine, Marianne, Benoît Tremblay and Jean-Pau Dupré. 2009. "Les Partenariats Public-Privé Dans Le Secteur des Services d'Eau." *Revue Française d'Administration Publique* 130 (2): 233-248. doi:10.3917/rfap.130.0233.
- Audette-Chapdelaine, Marianne. 2008. "La Dynamique Des Relations Entre Acteurs Publics Et privés Dans La Gestion Des Services d'Eau Urbains: Les Cas De Montréal Et Marseille." PhD diss. Université Laval. <http://theses.ulaval.ca/archimede/fichiers/25440/25440.html>.
- Bakker, Karen. 2013. "Neoliberal Versus Postneoliberal Water: Geographies of Privatization and Resistance." *Annals of the Association of American Geographers* 103 (2): 253-260.
<http://www.tandfonline.com/doi/abs/10.1080/00045608.2013.756246>.
- . 2005. "Neoliberalizing Nature? Market Environmentalism in Water Supply in England and Wales." *Annals of the Association of American Geographers* 95 (3): 542-565.
<http://www.tandfonline.com/doi/abs/10.1111/j.1467-8306.2005.00474.x>.
- Bakker, Karen. "The 'Commons' Versus the 'Commodity': Alter-globalization, Anti-privatization and the Human Right to Water in the Global South." *Antipode* 39, no. 3 (2007): 430-455.
- Barlow, Maude. 2015. *Blue Betrayal: The Harper Government's Assault on Canada's Fresh Water*. Council of Canadians. <http://canadians.org/sites/default/files/publications/report-blue-betrayal-0315.pdf>.
- . 2014. *Blue Future: Protecting Water for People and the Planet Forever*. New York: The New Press. <http://canadians.org/sites/default/files/publications/report-blue-betrayal-0315.pdf>.
- . 2015. *Our Right to Water: Assessing Progress Five Years After the UN Recognition of the Human Rights to Water and Sanitation*. The Council of Canadians. <http://canadians.org/sites/default/files/publications/report-rtw-5yr-1115.pdf>.
- Barlow, Maude and Tony Clarke. 2003. *Blue Gold: The Battle Against Corporate Theft of the World's Water*. Toronto, Canada: Stoddart Publishing.

-
- Barraqué, Bernard. 2001. "Cinq Paradoxes Dans La Politique De l'eau." *Environnement Et Société* 25. <http://www.cnrs.fr/cw/dossiers/doseau/decouv/mondial/Barraque.html>.
- Bayliss, Kate. 2014. "The Financialization of Water." *Review of Radical Political Economics* 46 (3): 292-307. <http://rrp.sagepub.com/content/46/3/292.short>.
- Bilan 2014 De l'usage De l'eau potable: Rapport Annuel Juin 2015. Service de l'Eau. http://ville.montreal.qc.ca/pls/portal/docs/PAGE/EAU_FR/MEDIA/DOCUMENTS/BILAN%20EAU%202014-FINAL.PDF.
- Bowman, Andrew, Ismail Ertürk, Julie Froud, Sukhdev Johal, John Law, Adam Leave, Mick Moran, and Karel Williams. 2012. *The Finance and Point-Value-Complex: CRESC Working Paper 118*. Milton Keynes: Open University. <http://www.cresc.ac.uk/medialibrary/workingpapers/wp118.pdf>.
- Brennan, Jordan. 2012. *A Shrinking Universe: How Concentrated Corporate Power is Shaping Income Inequality in Canada*. Canadian Centre for Policy Alternatives. http://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2012/11/Shrinking_Universe.pdf.
- Brenner, Neil, David J. Madden, and David Wachsmuth. 2011. "Assemblage Urbanism and the Challenges of Critical Urban Theory." *City* 15 (2): 225-240. <http://www.tandfonline.com/doi/abs/10.1080/13604813.2011.568717#.V41y66JZ9qA>.
- Bresnihan, Patrick. 2015. "The Bio-Financialization of Irish Water: New Advances in the Neoliberalization of Vital Services." *Utilities Policy*. doi:10.1016/j.jup.2015.11.006.
- Büscher, Bram, Sian Sullivan, Katja Neves, Jim Igoe, and Dan Brockington. 2012. "Towards a Synthesized Critique of Neoliberal Biodiversity Conservation." *Capitalism Nature Socialism* 23 (2): 4-30. doi:10.1080/10455752.2012.674149.
- Çalışkan, Koray and Michel Callon. 2010. "Economization, Part 2: A Research Programme for the Study of Markets." *Economy and Society* 39 (1): 1-32. [/doi/abs/10.1080/03085140903424519](http://doi/abs/10.1080/03085140903424519).
- Callon, Michel. 2010. "Performativity, Misfires and Politics." *Journal of Cultural Economy* 3 (2): 163-169. <http://www.tandfonline.com/doi/full/10.1080/17530350.2010.494119>.
- . 1984. "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St Brieuc Bay." *The Sociological Review* 32 (S1): 196-233. <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-954X.1984.tb00113.x/abstract>.
- . 1990. "Techno-economic Networks and Irreversibility." *The Sociological Review* 38 (S1): 132-161. <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-954X.1990.tb03351.x/abstract>.
- Callon, Michel and Bruno Latour. 1997. "Comment Peut-on Être Anticapitaliste?" *La Revue Du MAUSS* 9 (1er sem).
- . 1981. "Unscrewing the Big Leviathan: How Actors Macro-Structure Reality and how Sociologists Help them to do so." *Advances in Social Theory and Methodology: Toward an*

-
- Integration of Micro-and Macro-Sociologies*: 277-303. <http://www.bruno-latour.fr/node/388>.
- Callon, Michel and Fabian Muniesa. 2005. "Peripheral Vision Economic Markets as Calculative Collective Devices." *Organization Studies* 26 (8): 1229-1250.
<http://oss.sagepub.com/content/26/8/1229.short>.
- CETA Technical Summary*. Government of Canada. Accessed 11/09/ 2015. <http://international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/ceta-aecg/understanding-comprendre/overview-aperçu.aspx?lang=eng>.
- Christopherson, Susan, Ron Martin, and Jane Pollard. 2013. "Financialisation: Roots and Repercussions." *Cambridge Journal of Regions, Economy and Society* 6 (3): 351-357.
<http://cjres.oxfordjournals.org/content/6/3/351.short>.
- Coalition EauSecours!. 2012. *Un Projet De Loi Qui Protège Quoi? Ou Qui?*,
https://www.bibliotheque.assnat.qc.ca/DepotNumerique_v2/AffichageNotice.aspx?idn=34510.
- Collin, Jean-Pierre, Harold Bérubé, Annie-Claude Labrecque, and Marianne Audette-Chapdelaine. 2010. *Under Close Watch, Provincial Mediation in Federal-Municipal Relations: The Case of Quebec*: INRS.
- De l'eau Pour Tous: Perspectives De l'OCDE Sur La Tarification Et Le Financement*. 2009: OCDE.
<http://www.oecd.org/fr/env/42363712.pdf><http://www.oecd.org/fr/env/42363712.pdf>.
- Deneault, Alain. 2015. "Le Leurre Du Dialogue Social." *Liberté* (309): 54-55.
<http://id.erudit.org/iderudit/79188a>.
- Denis Coderre: Mayor's Office.
Ville de Montreal.qc.ca. Accessed 23/07/2016.
http://ville.montreal.qc.ca/portal/page?_pageid=6037,87793581&_dad=portal&_schema=PORTAL.
- Eberhardt, Pia, Blair Redlin, and Cecile Toubeau. 2014. *Trading Away Democracy: How CETA's Investor Protection Rules Threaten the Public Good in Canada and the EU*. Canadian Centre for Policy Alternatives. <https://www.tni.org/en/briefing/trading-away-democracy>.
- Facal, Joseph, Lise Lachapelle, and Claude Montmarquette. 2008. "Mieux Tarifer Pour Mieux Vivre Ensemble." *Rapport Du Groupe De Travail Sur La Tarification Des Services Publics, Gouvernement Du Québec, Québec*. http://www.groupe.finances.gouv.qc.ca/GTTSP/RapportFR_GTTSP.pdf.
- Follesdal, Andreas and Simon Hix. 2006. "Why there is a Democratic Deficit in the EU: A Response to Majone and Moravcsik." *JCMS: Journal of Common Market Studies* 44 (3): 533-562.
<http://onlinelibrary.wiley.com/doi/10.1111/j.1468-5965.2006.00650.x/abstract>.
- Furlong, Kathryn. 2012. "Good Water Governance without Good Urban Governance? Regulation, Service Delivery Models, and Local Government." *Environment and Planning A* 44 (11): 2721-2741.
<http://epn.sagepub.com/content/44/11/2721.short>.
- Furlong, Kathryn and Karen Bakker. 2010. "The Contradictions in 'Alternative' Service Delivery:

-
- Governance, Business Models, and Sustainability in Municipal Water Supply." *Environment and Planning C: Government and Policy* 28 (2): 349-368.
https://scholar.google.ca/scholar?q=The+contradictions+of+%E2%80%9CAAlternative%E2%80%9D+Service+Delivery%3A+Governance%2C+Business+Models+and+Sustainability+in+Municipal+Water+Supply&btnG=&hl=en&as_sdt=0%2C5.
- Galipeau, Roger. 2012. *La Tarification des Services Publics: Constats Et Recommandations Pour Les Municipalités Du Québec* CIRANO. <http://cirano.qc.ca/files/publications/2012RP-19.pdf>.
- Gamble, Andrew. 2007. "Neoliberalism." In *The Blackwell Encyclopedia of Sociology*, edited by George Ritzer. Vol. 1479: Blackwell Publishing Malden, MA.
https://www.blackwellpublishing.co.uk/pdf/Sociology_Catalogue.pdf.
- Gordon Murray, J. 2009. "Improving the Validity of Public Procurement Research." *International Journal of Public Sector Management* 22 (2): 91-103.
<http://www.emeraldinsight.com/doi/full/10.1108/09513550910934501>.
- Graham, Stephen. 2010. *Disrupted Cities: When Infrastructure Fails*. New York: Routledge.
- Green Economy: Introduction – Setting the Stage for a Green Economy Transition*. 2011. United Nations Environmental Program.
http://www.unep.org/greeneconomy/Portals/88/documents/ger/1.0_Introduction.pdf.
- Hamel, Pierre. 2010. "Les Métropoles et La Nouvelle Critique Urbaine." *Pôle Sud* (1): 153-164.
http://www.cairn.info/resume.php?ID_ARTICLE=PSUD_032_0153.
- Hamel, Pierre. 2008. "Les Mirages Du Partenariat Public-Privé. Le Cas des Municipalités Au Québec." *Revue Agone.Histoire, Politique & Sociologie* (38-39): 151-176.
<http://agone.org/revueagone/agone38et39/enligne/8/index.html>.
- Hamel, Pierre J. 2007. *Public-Private Partnerships (P3s) and Municipalities: Beyond Principles, a Brief Overview of Practices*. Université du Québec, Institut National de la Recherche Scientifique, Urbanisation, Culture et Société.
http://www.fcm.ca/Documents/reports/Public_Private_Partnerships_P3s_and_Municipalities_Beyond_Principles_a_Brief_Overview_of_Practices_EN.pdf.
- Hamel, Pierre. *L'installation De Compteurs d'Eau à Saint Lambert: Du Vrai Gaspillage!* : GRIM. <http://eausecours.org/esdossiers/st-lambert-hamel.pdf>.
- Hanniman, Kyle. 2015. "Can (do) Credit Markets Promote Municipal Fiscal Health?" In *Is Your City Healthy? Measuring Urban Fiscal Health*, edited by Richard M. Bird and Enid Slack, 43-60. Toronto: IPAC. <http://munkschool.utoronto.ca/imfg/is-your-city-healthy-measuring-urban-fiscal-health/>.
- Harvey, David. 2005. *A Brief History of Neoliberalism*. Oxford University Press, USA.
- . 2011. "The Future of the Commons." *Radical History Review* 2011, no. 109: 101-107. doi: 10.1215/01636545-2010-017

-
- . 2007. "Neoliberalism as Creative Destruction." *The Annals of the American Academy of Political and Social Science* 610 (1): 21-44. <http://ann.sagepub.com/content/610/1/21.short>.
- . 2003. "The 'New' Imperialism: Accumulation by Dispossession." *Socialist Register* 2004: 63-87. http://socialistregister.com/index.php/srv/article/view/5811#.V9dGy5MrI_U
- Hebert, Guillaume, Minh Nguyen, Hélia Tremblay, and Simon Tremblay-Pepin. 2013. "La Sous-traitance dans la Secteur Publique: Couts Et Consequences." Iris. Accessed 24/07/2016. <http://iris-recherche.qc.ca/publications/sous-traitance>.
- Hill, Carey, Kathryn Furlong, Karen Bakker, and Alice Cohen. 2008. "Harmonization Versus Subsidiarity in Water Governance: A Review of Water Governance and Legislation in the Canadian Provinces and Territories." *Canadian Water Resources Journal* 33 (4): 315-332. <http://www.tandfonline.com/doi/abs/10.4296/cwrj3304315#.V42UaqJZ9qA>.
- Hudson, Michael. 2012. *The Bubble and Beyond Fictitious Capital, Debt Deflation and Global Crisis*. Dresden: ISLET.
- Hurteau, Philippe, Francis Fortier, and Guillaume Hébert. 2010. "La Révolution Tarifaire au Québec." Accessed 24/07/2016. <http://iris-recherche.qc.ca/publications/la-revolution-tarifaire-au-quebec>.
- Huws, Ursula. 2011. "Crisis as Capitalist Opportunity: New Accumulation through Public Service Commodification." *Socialist Register* 48. <http://uhra.herts.ac.uk/handle/2299/8196>.
- Huws, Ursula and Sarah Podro. 2012. *Outsourcing and the Fragmentation of Employment Relations: The Challenges Ahead* Acas. <http://www.acas.org.uk/media/pdf/p/8/Outsourcing-and-the-fragmentation-of-employment-relations-the-challenges-ahead.pdf>.
- IMF Country Report no, 14/27: Canada: Article IV Consultation. February 2014. IMF. <https://www.imf.org/external/pubs/ft/scr/2015/cr1522.pdf>.
- Jaehrling, Karen. 2015. "The State as a 'Socially Responsible Customer'? Public Procurement Between Market-Making and Market-Embedding." *European Journal of Industrial Relations* 21 (2): 149-164. <http://ejd.sagepub.com/content/21/2/149.short>.
- Kaufman, Frederick. 2012. "Futures Market: Wall Street's Thirst for Water." *Nature* 490 (7421): 469-471. <http://www.nature.com/nature/journal/v490/n7421/full/490469a.html>. Kishimoto, Satoko. 2015. "Trade Agreements and Investor Protection: A Global Threat to Public Water." *Our Public Water Future*: 96. <https://www.tni.org/en/file/1698/download?token=jwd2hwd-#page=96>.
- Kishimoto, Satoko, Emanuele Lobina, and Olivier Petitjean. 2015. *Our Public Water Future: The Global Experience with Remunicipalisation* Transnational Institute (TNI)/Public Services International Research Unit (PSIRU)/Multinationals Observatory/Municipal Services Project (MSP)/European Federation of Public Service Unions (EPSU). <http://gala.gre.ac.uk/13265/>.
- Lagarde, Christine. 2015. *Lifting the Small Boats* : IMF. <http://www.imf.org/external/np/speeches/2015/061715.htm>.
- Lander, Edgardo. 2011. "The Green Economy: The Wolf in Sheep's Clothing." *Amsterdam: Transnational*

- Lapavitsas, Costas and Jeff Powell. 2013. "Financialisation Varied: A Comparative Analysis of Advanced Economies." *Cambridge Journal of Regions, Economy and Society*: rst019. <http://cjres.oxfordjournals.org/content/early/2013/08/23/cjres.rst019.short>.
- Larner, Wendy and Nina Laurie. 2010. "Travelling Technocrats, Embodied Knowledges: Globalising Privatisation in Telecoms and Water." *Geoforum* 41 (2): 218-226. <http://www.sciencedirect.com/science/article/pii/S0016718509001766>.
- Latour, Bruno. 2005. "From Realpolitik to Dingpolitik or how to make Things Public." In *Making Things Public: Atmospheres of Democracy*, edited by Latour, Bruno and Weibel, Peter, 14-43: MIT Press, Karlsruhe, Cambridge. <http://www.bruno-latour.fr/sites/default/files/downloads/96-MTP-DING.pdf>.
- . 1988. "How to Write 'The Prince' for Machines as Well as for Machinations." *Technology and Social Process*: 20-43. <http://www.bruno-latour.fr/node/278>.
- . 2013. *An Inquiry into Modes of Existence*. Translated by Catherine Porter Harvard University Press. <http://www.bruno-latour.fr/node/252>.
- . 2009. *Politics of Nature: How to Bring the Sciences into Democracy*. Translated by Catherine Porter. Cambridge: Harvard University Press.
- . 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory* Oxford University Press. http://www.dss-edit.com/plu/Latour_Reassembling.pdf.
- . 1987. *Science in Action: How to Follow Scientists and Engineers through Society*. Cambridge: Harvard university press.
- . 2012. *We have Never Been Modern*. Translated by Catherine Porter. Cambridge: Harvard University Press.
- Lauzon, Léo-Paul. 1997. *La Privatization De l'Eau Au Quebec*. UQAM. https://unites.uqam.ca/cese/pdf/rec_97_privatisation_eau.pdf.
- Law, John. 2009. "Actor Network Theory and Material Semiotics." *The New Blackwell Companion to Social Theory* 3: 141-158. https://www.researchgate.net/profile/Jack_Barbalet/publication/227992974_Pragmatism_and_Symbolic_Interactionism/links/5400235a0cf29dd7cb523dd8.pdf#page=156.
- . 2004. *After Method: Mess in Social Science Research*. Routledge.
- . 2007. *Making a Mess with Method*. New York: Sage.
- . 1984. "On the Methods of long-distance Control: Vessels, Navigation and the Portuguese Route to India." *The Sociological Review* 32 (S1): 234-263. <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-954X.1984.tb00114.x/abstract>.
- . 2014. *Working Well with Wickedness: CRESC Working Paper 135*. Open University, Milton

-
- Keynes.: <http://www.cresc.ac.uk/medialibrary/workingpapers/wp135.pdf>.
- Law, John and Marianne Lien. 2012. "Slippery: Field Notes on Empirical Ontology." *Social Studies of Science*: 0306312712456947.
- Law, John and Evelyn Ruppert. 2013. "The Social Life of Methods: Devices." *Journal of Cultural Economy* 6 (3): 229-240. <http://www.tandfonline.com/doi/full/10.1080/17530350.2013.812042>.
- Law, John and Vicky Singleton. 2014. "ANT, Multiplicity and Policy." *Critical Policy Studies* 8 (4): 379-396. doi:10.1080/19460171.2014.957056.
- Law, John, Vicky Singleton, Gianpaolo Baiocchi, Diana Graizbord, and Michael Rodriguez-Munz. 2013. "ANT and Politics: Working in and on the World (English)." *Qualitative Sociology* 36 (4): 485-502. doi:DOI: 10.1007/s11133-013-9263-7.
- Lazonick, William. 2014. "Profits without Prosperity." *Harvard Business Review* 92 (9): 46-55. http://www.6yearsdown.com/wp-content/uploads/2014/11/HBR_Profits-Without-Prosperity_201409.pdf.
- Leroux, Justin, J  r  my Laurent-Lucchetti, and Kim McGrath. 2014. *R  flexion Sur Une Tarification   quitable Des Services d'Eau Au Qu  bec*: Centre interuniversitaire de recherche en analyse des organisations. <https://www.cirano.qc.ca/pdf/publication/2014RP-02.pdf>.
- Lobina, E., S. Kishimoto, and O. Petitjean. 2014. *Here to Stay: Remunicipalisation as a Global Trend*, edited by TNI Multinationals Observatory PSIRU, <https://www.tni.org/en/publication/here-to-stay-water-remunicipalisation-as-a-global-trend>.
- Lobina, Emanuele. 2014. *Troubled Waters: Misleading Industry PR and the Case for Public Water*. Public Services International Research Unit. <http://www.world-psi.org/ja/node/7351>.
- Loxley, John. 2012. *Asking the Right Questions: A Guide for Municipalities Considering P3s*: Canadian Union of Public Employees, http://cupe.ca/sites/cupe/files/p3_guide_eng_final.pdf.
- Making Sense of an Analysis of the Final Text of the Canada-European Union Comprehensive and Economic Trade Agreement*. 2014. edited by Scott Sinclair, Stuart Trew and Hadrian Mertins-Kirkwood, Canadian Centre for Policy Alternatives. https://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2014/09/Making_Sense_of_the_CETA.pdf.
- Majone, Giandomenico. 1998. "Europe's 'Democratic Deficit': The Question of Standards." *European Law Journal* 4 (1): 5-28. <http://onlinelibrary.wiley.com/doi/10.1111/1468-0386.00040/abstract>.
- . 1999. "The Regulatory State and its Legitimacy Problems." *West European Politics* 22 (1): 1-24. www.tandfonline.com/doi/abs/10.1080/01402389908425284c.
- Marx, Karl. 1887. *Capital: A Critique of Political Economy* <https://www.marxists.org/archive/marx/works/download/pdf/Capital-Volume-I.pdf>.
- May, Tim and Jason Powell. 2008. *Situating Social Theory* McGraw-Hill Education (UK).

-
- McDonald, David A. 2016. "To Corporatize or Not to Corporatize (and if so, how?)." *Utilities Policy* Volume 40 (June): 107-114. <http://dx.doi.org/10.1016/j.jup.2016.01.002>.
- Mouillard, Michel. 1995. "Consommation d'Eau et Compteurs Individuels, Un Éclairage Statistique." *CNAB Paris IDF*.
- Nikolova, Natalia. 2015. "Outsourcing." In *Blackwell Encyclopedia of Sociology: Blackwell Reference Online*, edited by George Ritzer: Blackwell Publishing.
http://www.blackwellreference.com/public/tocnode?id=g9781405124331_chunk_g97814051243311_ss1-35.
- Ouellet, Martine. 2005. *The Myth of Water Meters*.
EauSecours!. http://eausecours.org/esdossiers/compteurs_ang.pdf.
- "Peirce's Theory of Signs", Stanford Encyclopedia of Philosophy, <http://plato.stanford.edu/entries/peirce-semiotics/> online November 2010.
- Piketty, Thomas and Emmanuel Saez. 2013. "Top Incomes and the Great Recession: Recent Evolutions and Policy Implications." *IMF Economic Review* 61 (3): 456-478,
<http://link.springer.com/article/10.1057/imfer.2013.14>.
- Piketty, Thomas and Gabriel Zucman. 2013. *Capital is Back: Wealth-Income Ratios in Rich Countries, 1700-2010*. SSRN: CEPR Discussion Paper no. DP9588. <http://ssrn.com/abstract=2309232>.
- Pinch, Philip L. and Alan Patterson. 2000. "Public Sector Restructuring and Regional Development: The Impact of Compulsory Competitive Tendering in the UK." *Regional Studies* 34 (3): 265-275.
<http://www.tandfonline.com/doi/abs/10.1080/00343400050015104>.
- Programme des Nations Unies pour l'environnement. 2011. *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication*, http://eausecours.org/wp-content/uploads/2012/06/memoire_loi92.pdf.
- "Public Expenditure Reform: Making Difficult Choices." *Fiscal Monitor*, IMF,
<https://www.imf.org/external/pubs/ft/fm/2014/01/pdf/fmc2.pdf>.
- Quiggin, John. 2009. "Six Refuted Doctrines." *Economic Papers: A Journal of Applied Economics and Policy* 28 (3): 239-248. <http://onlinelibrary.wiley.com/doi/10.1111/j.1759-3441.2009.00027.x/full>.
- Rapport Du Comité De Suivi Du Projet d'optimisation Du Réseau d'eau Potable*. 2011. Service de L'eau, Ville de Montréal,
http://ville.montreal.qc.ca/pls/portal/docs/PAGE/EAU_FR/MEDIA/DOCUMENTS/RAPPORT%20VERSION%20INTEGRALE.PDF.
- Resourcing the World: 2014 Annual and Sustainability Report*. 2014. VEOLIA.
http://www.veoliawatertechnologies.com/sites/g/files/dvc471/f/assets/documents/2015/09/2014_annual_and_sustainability_report.pdf.
- Rethinking Corporatization and Public Services in the Global South*. 2014. edited by David A. McDonald
Zed books. <http://www.municipalservicesproject.org/publication/rethinking-corporatization-and->

public-services-global-south.

- Rights for Business, Not for People: The EU's Agenda*. 2015. Friends of the Earth.
<https://www.globalpolicy.org/home/270-general/52833-rights-for-business-not-for-people-the-eus-agenda.html>.
- Roadmap for Strong Cities and Communities*. 2015. FCM. Accessed 11/09/2016.
http://www.fcm.ca/Documents/reports/FCM/FCM_Roadmap_EN.pdf.
- Shrybman, Steven. 2010. *Municipal Procurement Implications of the Proposed Comprehensive Economic and Trade Agreement (CETA) between Canada and the European Union*, Centre for Civic Governance, Columbia Institute. http://www.civicgovernance.ca/wordpress/wp-content/uploads/FINAL-Shrybman_CETA_report.pdf.
- Sinclair, Scott and Stuart Trew. We have the Deal so Where is the Debate about Canada–EU Free Trade?: CCPA.
- Singleton, Vicky and John Law. 2013. "Devices as Rituals: Notes on Enacting Resistance." *Journal of Cultural Economy* 6 (3): 259-277. doi:10.1080/17530350.2012.754365.
- Stiglitz, Joseph. 2014. "On the Wrong Side of Globalization." *The New York Times* 15.
<http://opinionator.blogs.nytimes.com/2014/03/15/on-the-wrong-side-of-globalization/>.
- Suez Water Observatory. 2015. Suez. <http://www.suez-environnement.fr/wp-content/uploads/2015/06/CP-BAROMETRE-VA-0406.pdf>.
- Swyngedouw, Erik. 2005. "Dispossessing H2O: The Contested Terrain of Water Privatization." *Capitalism Nature Socialism* 16 (1): 81-98.
<http://www.tandfonline.com/doi/full/10.1080/1045575052000335384>.
- . 2005. "Governance Innovation and the Citizen: The Janus Face of Governance-Beyond-the-State." *Urban Studies* 42 (11): 1991-2006. <http://usj.sagepub.com/content/42/11/1991.short>.
- Thai, Khi V. and Rick Grimm. 2000. "Government Procurement: Past and Current Developments." *Journal of Public Budgeting, Accounting & Financial Management* 12 (2): 231.
- The Dublin Statement on Water and Sustainable Development. 1992. International Conference on Water and the Environment. Dublin: UN. <http://www.ircwash.org/sites/default/files/71-ICWE92-9739.pdf>.
- The Millennium Development Goals Report. 2015. New York: The UN.
http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20%28July%201%29.pdf.
- The Unctad Investment Report*, 2014. http://unctad.org/en/PublicationsLibrary/wir2014_en.pdf.
- The UN World Water Development Report: Water for a Sustainable World*. 2015.
www.unesco.org/new/en/loginarea/natural-sciences/environment/water/wwap/wwdr/2015-water-for-a-sustainable-world/.

-
- Thompson, David and Shannon A. Joseph. 2011. Building Canada's Green Economy: *The Municipal Role*, Federation of Canadian Municipalities.
https://www.fcm.ca/Documents/reports/Building_Canadas_green_economy_the_municipal_role_EN.pdf.
- Trew, Stuart. 2013. "Correcting the Democratic Deficit in the CETA Negotiations: Civil Society Engagement in the Provinces, Municipalities, and Europe." *International Journal: Canada's Journal of Global Policy Analysis* 68 (4): 568-575. <http://ijx.sagepub.com/content/68/4/568.short>.
- Tsing, Anna. 2009. "Supply Chains and the Human Condition." *Rethinking Marxism* 21 (2): 148-176.
doi.org/10.1080/08935690902743088.
- Turnhout, Esther, Katja Neves, and Elisa de Lijster. 2014. "'Measurementality' in biodiversity governance, knowledge, transparency, and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)." *Environment and Planning A* 46, (3):581-597.
- UN Resolution 64/292, The Human Right to Water. 2010. UN.
http://www.un.org/waterforlifedecade/human_right_to_water.shtml.
- Vostal, Filip and Susan Robertson. 2012. "Knowledge Mediators and Lubricating Channels: On the Temporal Politics of Remissioning the University." *TOPIA: Canadian Journal of Cultural Studies* 1 (28). <http://topia.journals.yorku.ca/index.php/topia/article/view/36203>.
- Water ETFs*. 2015. Investopedia.com. <http://www.investopedia.com/terms/w/water-etf.asp>.
- Water, Sanitation, Health*. WHO. Accessed 23/07/2016,
http://www.who.int/water_sanitation_health/diseases/burden/en/.
- Wilks, Stephen and Ian Bartle. 2002. "The Unanticipated Consequences of Creating Independent Competition Agencies." *West European Politics* 25 (1): 148-172.
www.tandfonline.com/doi/abs/10.1080/713601589c.
- Williams, Karel and John Law. 2014. *A State of Unlearning: Government as Unlearning: Working Paper 134*. Milton Keynes: Open University,
<http://www.cresc.ac.uk/medialibrary/workingpapers/wp134.pdf>.