Foucault Studies

ARTICLE

Towards a Foucauldian Urban Political Ecology of water: Rethinking the hydro-social cycle and scholars' critical engagement

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ABSTRACT: Thirty years after the death of Michel Foucault, notwithstanding the fact that his thought has profoundly shaped the contemporary reflection and contributed to move beyond structuralism, the Urban Political Ecology in general and the Urban Political Ecology of water in particular are still dominated by Marxist-inspired theoretical frameworks. This paper aims to provide a theoretical rationale for the development and implementation of a Foucauldian approach to the UPE of water. We show how a Foucauldian approach could shed light on the hydro-social cycle and could be the basis of a specific form of scholarly political engagement.

Keywords: UPE of water, Foucauldian approaches, governmentality, Marxism

Introduction

The French philosopher Michel Foucault (Poitiers, 15 October 1926 – Paris, 25 June 1984) theorized a new way of apprehending history and power throughout his life and in the years since his death, thanks to the publication of his posthumous writings. Post-structuralism has largely been inspired by Foucauldian concepts and theories, such as governmentality. Foucauldian approaches flourished and spread in a number of fields, including geography[1] and political ecology.[2] Nevertheless, Foucauldian influences are still very marginal in some domains. In particular, the urban

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[1] cf. J. W. Crampton, and S. Elden (eds), *Space, Knowledge and Power: Foucault and Geography* (Aldershot: Ashgate Publishing, 2007).

[2] cf. for example A. Agrawal, "Environmentality: Community, Intimate Government, and the Making of Environmental Subjects in Kumaon, India," *Current Anthropology*, vol. 46 (2005), 161–190; R. Fletcher, "Neoliberal Environmentality: Towards a Poststructuralist Political Ecology of the Conservation Debate," *Conservation & Society*, vol. 8 (2010), 171-181; D. Leffers, P. Ballamingie, "Governmentality, Environmental Subjectivity, and Urban Intensification," *Local Environment*, vol. 18 (2013), 134-151; G. Winkel, "Foucault in the Forests—A Review of the Use of 'Foucauldian' Concepts in Forest Policy Analysis," *Forest Policy and Economics*, vol. 16 (2012), 81-92.

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political ecology of water, whose emergence started in the 2000s, is still largely dominated by Marxist approaches, allying the analysis of capitalism and its effects with researchers' critical political engagement.

Thirty years after Michel Foucault's death, we propose here a theoretical plea for the development of a Foucauldian framework for the urban political ecology of water as a complement to the dominant Marxist-inspired approaches. Furthermore, we argue for its empirical testing and refining through case studies.

In the following section, we introduce the field of political ecology and its subfield of urban political ecology of water and examine the underlying assumptions of the dominant Marxist approaches. In particular, we focus on the postulate of the necessity of inequalities inside capitalism and on its consequences in terms of case studies selection and ethical posture of the researchers. We then describe how a Foucauldian theoretical framework might be useful to move beyond these presuppositions and propose applying it for the study of neoliberal governmentality in the urban water domain. We also hint at potential advantages of Foucauldian methods for case-study selection and for an alternative truthful engagement of political ecology scholars. Above all, we underline that a Foucauldian theoretical framework might allow us to extend the selection of case studies to contexts where no inequalities or contestations seem to be present in the domain of urban water. We also call attention to the fact that a Foucauldian approach enables us to conceive of specific forms of scholarly political involvement, which might contribute to form a continuum from (mainly Marxist and still dominant) critical advocacy to descriptive and interpretative inquiry (of Foucauldian inspiration).

Finally, we argue for the application of a Foucauldian framework to apprehend the urban political ecology of water through future case studies. We conclude by mentioning some of the limits of the proposed framework, which could be overcome through its empirical implementation and subsequent refinement.

UPE of Water
Introducing the UPE of Water: Definition and Central Concepts
In the Anglo-Saxon tradition, the field of political ecology (PE) emerged in the mid-1980s to examine dialectic processes between local environmental changes and political economic structures at various geographic scales in the context of rural areas of the global South.[3] More generally, political ecology investigates "power and power struggles related to environmental management."[4]

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[3] e.g. P. Blaikie, and H. Brookfield, *Land Degradation and Society* (York: Methue, 1987)

[4] T. A. Benjaminsen, and H. Svarstad, "Qu'est-ce que la 'political ecology'?" *Natures Sciences Sociétés*, vol. 17 (2009), 3-11, personal translation; for a history of definitions of the field see P. Robbins, *Political Ecology: A Critical Introduction* (Chichester: John Wiley & Sons, 2012) or T. Forsyth, *Critical Political Ecology: The Politics of Environmental Science* (London: Routledge, 2003).

First studies of the relationships between political economic and ecological processes in the urban context appeared in the mid-1990s, and the new subfield of urban political ecology (UPE) took shape in the 2000s.[5] This new UPE regarded cities as second nature[6] and as socionatural hybrids characterized by metabolic processes between different organisms, including humans.[7]

Within the field of UPE, research on water has been predominant and it has constituted a subfield of UPE of water.

Although the literature is mostly composed of case studies without uniformly accepted theoretical postulates, contemporary UPE research on water is most often based on the concepts developed by Erik Swyngedouw.[8]

At the basis of UPE of water lies the acknowledgement that the functioning and expansion of cities invariably require the capture of and (central) control over water flows.[9] But command over, and access to, water resources are never anodyne and might involve power struggles, often based on class, gender and/or other differences.[10] Furthermore, the process of discovering, storing, transporting, treating and distributing water for urban populations progressively distances water from nature; yet it is not possible to transform this natural resource into a completely artificial item. Water is thus "urbanized,"[11] it becomes "H20,"[12] a "hybrid"[13] or "techno-nature"[14] that

[5] cf. R. Keil, "Urban Political Ecology," *Urban Geography*, vol. 24 (2003), 723–738.

[6] Lefebvre, 1976 cited by E. Swyngedouw, and N. C. Heynen, "Urban Political Ecology, Justice and the Politics of Scale," *Antipode*, vol. 35 (2003), 908.

[7] E. Swyngedouw, "The City as a Hybrid: on Nature, Society and Cyborg Urbanization," *Capitalism Nature Socialism*, vol. 7 (1996), 65–80.

[8] cf. E. Swyngedouw, "Power, Nature, and the City; The Conquest of Water and the Political Ecology of Urbanization in Guayaquil, Ecuador: 1880–1990," *Environment and Planning A*, vol. 29 (1997), 311–332; E. Swyngedouw, "Modernity and Hybridity: Nature, Regeneracionismo, and the Production of the Spanish Waterscape, 1890-1930," *Annals of the Association of American Geographers*, vol. 89 (1999), 443–465; E. Swyngedouw, *Social Power and the Urbanization of Water: Flows of Power* (Oxford: Oxford University Press); E. Swyngedouw, "Dispossessing H2O: the Contested Terrain of Water Privatization," *Capitalism Nature Socialism*, vol. 16 (2005), 81–98; E. Swyngedouw, "The Political Economy and Political Ecology of Hydro-Social cycle," *Journal of Contemporary Water Research and Education*, vol. 142 (2009), 56–60; E. Swyngedouw, M. Kaika, and E. Castro, "Urban Water: A Political-Ecology Perspective," *Built Environment*, vol. 28 (2002), 124–137; J. E. Castro, M. Kaika, and E. Swyngedouw, "London: Structural Continuities and Institutional Change in Water Management," *European Planning Studies*, vol. 11 (2003), 283–298; I. Giglioli, and E. Swyngedouw, "Let's Drink to the Great Thirst! Water and the Politics of Fractured Techno-natures in Sicily," *International Journal of Urban and Regional Research*, vol. 32 (2008), 392–414.

[9] Swyngedouw, "Power, Nature, and the City"; Swyngedouw, *Social Power and the Urbanization of Water*.

[10] cf. Y. Truelove, "(Re-) Conceptualizing Water Inequality in Delhi, India Through a Feminist Political Ecology Framework," *Geoforum*, vol. 42, no. 2 (2011), 143-152; T. Birkenholtz, "'On the Network, off the Map': Developing Intervillage and Intragender Differentiation in Rural Water Supply," *Environment and Planning D: Society and Space*, vol. 31, no. 2 (2013), 354 – 371.

[11] Swyngedouw, "Power, Nature, and the City"; Swyngedouw, *Social Power and the Urbanization of Water.*

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is transformed by, and transforms, society in a cumulative and interactive process. Water, transported through a chosen infrastructure in a given context, becomes a component of society, and these socio-environmental interactions are influenced by power differentials among social groups in place. This is what Swyngedouw calls the "hydro-social cycle."[15]

The hydro-social cycle is shaped by the larger context (a place-specific set of social, historical, geographical, political and environmental constraints) and particularly by economic structures, namely class hierarchies that are determinants of the other components of the context. Hence, the hydro-social cycle is seen as determined by economic structures and influenced by dominant values, ideologies, power structures and struggles of a given society, and also by the geographical and environmental constraints of the place it is settled in.

This approach implies that urban water is contextualized, and water itself becomes a protagonist of political history. In fact, water is indispensable for both powerful and less powerful actors, and the struggles for its acquisition and control not only symbolize the aspirations and social values of specific eras, but they also embody political equilibriums or tensions of specific societies at particular points in history.[16] Put differently, water presents diverse opportunities and it contains specific embedded cultural values and context-depending characteristics. For instance, water has been given different meanings throughout medical history[17] and social history[18]: depending on the context, it has been interpreted as a vector of modernity[19] as well as a symbol of nature and tradition[20] or even as a neutral, a-socialized item.[21]

According to Loftus,[22] however, the aim of the subfield goes beyond the analytical objective of strengthening knowledge on the mutual constitution of water and power to include the normative goal of rendering the distribution of water more equitable.

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[12] Swyngedouw, "Dispossessing H2O."

[13] Swyngedouw, "Modernity and Hybridity," 444-445.

[14] Giglioli, and Swyngedouw, "Let's Drink to the Great Thirst!"

[15] Swyngedouw, "The Political Economy and Political Ecology of Hydro-Social cycle."

[16] Swyngedouw, "Power, Nature, and the City"; Swyngedouw, "Modernity and Hybridity"; Swyngedouw, *Social Power and the Urbanization of Water;* Giglioli, and Swyngedouw, "Let's Drink to the Great Thirst!"

[17] N. Verouden, and F. Meijman, "Water, Health and the Body: the Tide, Undercurrent and Surge of Meanings," *Water History*, vol. 2 (2010), 19–33.

[18] i.e. D. Mosse, *The Rule of Water. Statecraft, Ecology and Collective Action in South India* (New Delhi: Oxford University Press, 2003).

[19] Swyngedouw, "Modernity and Hybridity"; E. Swyngedouw, *Social Power and the Urbanization of Water.*

[20] J. Parr, "Local Water Diversely Known: Walkerton Ontario, 2000 and After," *Environment and Planning D – Society and Space*, vol. 23 (2005), 251–271; D. Martin, D. Bélanger, P. Gosselin, J. Brazeau, C. Furgal, and S Déry, "Drinking Water and Potential Threats to Human Health in Nunavik: Adaptation Strategies under Climate Change Conditions," *Arctic*, vol. 60 (2007), 195–202.

[21] J. Linton, *What is Water? The History of a Modern Abstraction* (Vancouver: UBC Press, 2010).

[22] A. Loftus, "Rethinking Political Ecologies of Water," *Third World Quarterly*, vol. 30 (2009), 953–968.

Domination of Marxist Approaches Inside the UPE of Water

Numerous UPE studies on water specifically address the issue of neoliberalization of the resource. According to Bakker, UPE studies have conceptualized the neoliberalization of water in various different ways, depending on which aspects scholars prioritized and wanted to highlight (e.g., the ideological component and the political philosophy, or the economic impacts of neoliberal policies).[23] Following the lead of Swyngedouw, the majority of UPE studies on water in general and on water neoliberalization in particular have been written from a critical, Marxist perspective.

UPE research using a Marxist approach is wide-spanning in subjects and scales of study. Marxist scholars consider the interactions between humans and the environment as framed by a global encompassing logic, capitalism, which is often seen as the main logic behind these processes. As shown by Castree, "(i)n the green Marxist logic, to scrutinise society-nature relations in abstraction from processes of capital accumulation is to miss a vital aspect of their logic and consequences."[24] Marxist research in the domain of UPE shares a broad common scope, which is "to map the ecological and corporeal consequences of capitalism as a global mode of production."[25]

In the fields of geography and political ecology, however, some limits of Marxist approaches in terms of incorporation of cultural aspects and multiple perceptions have been highlighted since the 1990s; this coincided with the emergence of post-structural political ecology. Post-structural scholars reshaped the borders of geography[26] and of political ecology, by displacing attention from the structures of capitalism to cultures and cultural politics, identities, situated knowledge, and discourse analysis.[27] As Larner puts it, the aim of post-structuralist approaches was to move "from a focus on the effects of neoliberalism to question taken-for-granted explanations of neoliberalism itself."[28] For apprehending their new objects, scholars imported and widely implemented new theoretical and methodological frameworks, for instance based on Foucauldian[29] or Actor-Network-Theory[30] concepts and methodologies.

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[23] K. J. Bakker, "The Limits of 'Neoliberal Natures': Debating Green Neoliberalism," *Progress in Human Geography*, vol. 34 (2010), 715-735.

[24] N. Castree, "False Antitheses? Marxism, Nature and Actor-Networks," *Antipode*, vol. 34 (2002), 123.

[25] Ibid., 114.

[26] C. Raffestin, "Could Foucault Have Revolutionized Geography?" in J. W. Crampton & S. Elden (eds.), *Space, Knowledge and Power: Foucault and Geography* (Aldershot: Ashgate, 2007), 129-137.

[27] D. E. Rocheleau, "Political Ecology in the Key of Policy: from Chains of Explanation to Webs of Relation," *Geoforum*, vol. 39 (2008), 716-727; N. Castree, "Socializing Nature: Theory, Practice, and Politics," in N. Castree and B. Braun (eds.), *Social Nature; Theory, Practice and Politics* (London: Wiley-Blackwell, 2001), 1-21.

[28] W. Larner, "Neoliberalism, Mike Moore, and the WTO," *Environment and Planning A*, vol. 41 (2009), 1577.

[29] cf. G. Winkel, "Foucault in the Forests."

[30] cf. R. Holifield, "Actor-Network Theory as a Critical Approach to Environmental Justice: A Case against Synthesis with Urban Political Ecology," *Antipode*, vol. 41 (2009), 637-658.

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Marxist approaches gave birth to UPE and its subfields, and they clearly dominate them.[31] Some contributions highlighted the limits of UPE pure Marxist approaches and tried to introduce neo-Marxist/Gramscian[32] and post-structural approaches in UPE in general[33] and in the UPE of water in particular. The influences of post-structuralist approaches in the domain of the UPE of water are numerous and variegated, to the point that the core theoretical framework of the contemporary UPE of water, the hydro-social cycle, is itself partially inspired by post-structuralist conceptions of the interactions between humans and non-humans,[34] as it conceptualizes water systems and societies as mutually constructed and it accords some agency to non-human actors.[35]

In general, however, Foucauldian approaches had a narrow impact on the UPE framework and the subfield of the UPE of water, both of which continue being largely dominated by, and founded on, Marxist (and neo-Marxist/Gramscian) theoretical approaches.[36] Besides, the adoption of Foucauldian methods and concepts has often been propped on a Marxist framework,[37] and

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[31] A. Zimmer, "Urban Political Ecology: Theoretical Concepts, Challenges, and Suggested Future Directions," *Erdkunde*, vol. 64 (2010), 343-354.

[32] cf. for instance A. Loftus, and F. Lumsden, "Reworking Hegemony in the Urban Waterscape," *Transactions of the Institute of British Geographers*, vol. 33, no. 1 (2008), 109-126; M. Ekers, and A, Loftus, "The Power of Water: Developing Dialogues between Foucault and Gramsci," *Environment and Planning D – Society and Space,* vol. 26 (2008), 698-718.

[33] N. Gabriel, "Urban Political Ecology: Environmental Imaginary, Governance, and the Non-Human," *Geography Compass*, vol. 8 (2014), 38-48; Zimmer, "Urban Political Ecology"; cf. for instance P. Brand, "Green Subjection: the Politics of Neoliberal Urban Environmental Management," *International Journal of Urban and Regional Research*, vol. 31 (2007), 616-632; K. Grove, "Rethinking the Nature of Urban Environmental Politics: Security, Subjectivity, and the Non-Human," *Geoforum*, vol. 40 (2009), 207-216; M. Gandy, "Queer Ecology: Nature, Sexuality, and Heterotopic Alliances," *Environment and Planning D – Society and Space*, vol. 30 (2012), 727-747; M. Lawhon, H. Ernstson, and J. Silver, "Provincializing Urban Political Ecology: Towards a Situated UPE Through African Urbanism," *Antipode*, vol. 46 (2014), 497-512; N. Gabriel, "The Work that Parks Do: Towards an Urban Environmentality," *Social & Cultural Geography*, vol. 12 (2011), 123-141.

[34] Based on B. Latour, *We Have Never Been Modern* (London: Harvester Wheatsheaf, 1993), B. Latour, *Politics of Nature: How to Bring the Sciences into Democracy* (Cambridge: Harvard University Press, 2004), and D. Haraway, *Simians. Cyborgs and Women; The Reinvention of Nature* (London: Free Association Books, 1991).

[35] E. Swyngedouw, "Circulations and Metabolisms: (Hybrid) Natures and (Cyborg) Cities," *Science as Culture*, vol. 15 (2006), 105-121; Swyngedouw, "The Political Economy and Political Ecology of Hydro-Social cycle,"

[36] S. Hellberg, "Water, Life and Politics: Exploring the Contested Case of eThekwini Municipality through a Governmentality Lens," *Geoforum*, vol. 56 (2014), 226-236.

[37] cf. for instance the use of discourse analysis in M. Kaika, "Constructing Scarcity and Sensationalising Water Politics: 170 Days that Shook Athens," *Antipode,* vol. 35 (2003), 919-954, or the application of the governmentality concept in R. Boelens, J. Hoogesteger, and M. Baud, "Water Reform Governmentality in Ecuador: Neoliberalism, Centralization, and the Restraining of Polycentric Authority and Community Rule-making," *Geoforum*, (2013, in press).

empirical research in the domain of the UPE of water is also mostly aimed to show "the uneven socionatural production of urban hydroscapes."[38]

Even though a few studies have proposed and/or implemented a Foucauldian approach to apprehend the PE and the UPE of water,[39] a well-accepted theoretical framework for a Foucauldian political ecology and a general plea for its implementation are still lacking.

Two pivotal postulates of UPE Marxist approaches and their limits
The value of Marxist UPE of water is undeniable, both considering its widespread impact in scientific literature and its well-known critical and engaged positions standing for more fairness and democracy in the water distribution sector.[40]

Notwithstanding these strengths, the explanatory power of Marxist approaches has its limits, and their adoption might not always be suitable for the UPE of water.

To provide evidence for this claim, this subsection pays closer attention to two major underlying assumptions of Marxist UPE and their impacts on research.

Postulate 1: Capitalism has "Necessary" (and Negative) Impacts on Fairness (and, Sometimes, on Environment)
Castree represents an important starting point to investigate the relations between Marxism and UPE.[41] He recapitulates some of the characteristics of capitalism that are commonly agreed upon by the Marxist UPE scholars, namely the fact that it is "highly dynamic and unstable, involving class exploitation, social domination, technological innovation and intercapitalist competition predicated on the principle of 'accumulation for accumulation's sake'."[42]

In Marxist PE literature, capitalism comes to be a determinant of the creation of environmental injustice even when nuanced theoretical frameworks are employed and ambivalent re-

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[38] N. Heynen, "Urban political ecology I: The urban century," *Progress in Human Geography*, vol. 38, no.4 (2014), 599.

[39] Cf. Hellberg, "Water, Life and Politics"; for an illustration on the PE of groundwater, T. Birkenholtz, "Recentralizing Groundwater Governmentality: Rendering Groundwater and its Users Visible and Governable," *Wiley Interdisciplinary Reviews: Water*, vol. 2, no. 1 (2015); for illustrations on the UPE of water, cf. Ekers, and Loftus, "The Power of Water"; A. Von Schnitzler, "Citizenship Prepaid: Water, Calculability, and Techno-Politics in South Africa," *Journal of Southern African Studies*, vol. 34 (2008); A. Babu, "Governmentality, Active Citizenship and Marginalisation: The Case of Rural Drinking Water supply in Kerala, India," *Asian Social Science* vol. 5 (2009), 89–98; B. Page, "Paying for Water and the Geography of Commodities," *Transactions of the Institute of British Geographers*, vol. 30 (2005), 293–306; M. Kooy, and K. Bakker, "Technologies of Government: Constituting Subjectivities, Spaces, and Infrastructures in Colonial and Contemporary Jakarta," *International Journal of Urban and Regional Research*, vol. 32 (2008), 375-391; Hellberg, "Water, Life and Politics"; M. Gandy, "The Bacteriological City and Its Discontents," *Historical Geography*, vol. 34 (2006), 14-25.

[40] Swyngedouw, "The Political Economy and Political Ecology of Hydro-Social cycle."

[41] Castree, "False Antitheses?"

[42] Ibid., 136.

search outcomes are found. For instance, Bakker[43] shows that the outcomes of environmental ne-oliberalizations in the English and Welsh contexts were not necessarily negative and the same author proposes a nuanced conceptualization of neoliberalism as being both "a disciplinary mode of regulation, and an emergent regime of accumulation"; nevertheless, she indicates that capital-ism played a role in creating "a very real set of deteriorating environmental, social and economic conditions."[44]

Thus, even though capitalism is not seen as always "antiecological,"[45] social domination and class exploitation are postulated as characteristics of capitalism: "[U]neven socio-ecological conditions are produced through the particular capitalist forms of social organization of nature's metabolism."[46] Notwithstanding the fact that the hydro-social cycle theorization is partially in-spired by post-structuralist authors, capitalism comes to play a central role also in the subfield of the UPE of water. In fact, Swyngedow affirms that:

> environmental transformations (…) produce socio-environmental processes that are both ena-bling, for powerful individuals and groups, and disabling, for marginalized individuals and groups (…) these relations form under — and can be traced directly back to — the crisis tenden-cies inherent to neo-liberal forms of capitalist development.[47]

This particular theorization of the links between capitalism and inequality is explicitly mobilized for the conceptualization of the hydro-social cycle.[48]

Postulate 2: the Ultimate aim of Research on UPE of Water is to Resist Capitalism and to Counter its "Necessary" (Negative) Impacts
The above-presented interpretation of capitalism, which is seen as a "vital" component of the log-ic and consequences of the society-nature relations,[49] leads to a specific "capitalocentric" vision of the field and aims of UPE.[50] According to Swyngedouw and Heynen, "the aim of [Marxist] urban political ecology is to expose the processes that bring about highly uneven urban environ-

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[43] K. J. Bakker, "Neoliberalizing Nature? Market Environmentalism in Water Supply in England and Wales," *Annals of the Association of American Geographers*, vol. 95 (2005), 542-565.

[44] Bakker, "The Limits of 'Neoliberal Natures'," 727.

[45] Castree, "False Antitheses?" 141; Bakker, "Neoliberalizing Nature?"; Bakker, "The Limits of 'Neoliberal Na-tures'."

[46] N. Heynen, M. Kaika, and E. Swyngedouw, (eds.), *In the Nature of Cities : Urban Political Ecology and the Politics of Urban Metabolism* (London: Routledge, 2006), 9.

[47] Swyngedouw, "Circulations and Metabolisms," 115.

[48] Swyngedouw, "The Political Economy and Political Ecology of Hydro-Social cycle."

[49] Castree, "False Antitheses?" 123.

[50] Gabriel, "Urban Political Ecology."

ments."[51] The aims of the Marxist UPE of water are coherent with the global aims of UPE; for instance, Swyngedouw stresses the "urgent need […] to theorize and empirically substantiate the processes through which particular socio-hydrological configurations become produced that generate inequitable socio-hydrological conditions."[52]

These aims are perfectly coherent with the Marxist tradition, and the structuralist foundation of UPE leads to a marginalization of post-structuralist concepts (e.g. the hydro-social cycle itself) and methods (such as discourse analysis) employed in the subfield. In fact, "poststructuralist 'tools'" are incorporated to the (Marxist) UPE theoretical framework.[53] Consequently, these same tools constitute part of a "strategy that has proved effective for making visible a host of social problems associated with capitalist practices in cities."[54]

Marxist UPE tend to combine the above-described interpretation of capitalism and the ensuing assumptions on its socio-economic and environmental impacts with the argument that researchers must actively engage to promote political progress; this recalls the positions defended by Marx himself with regard to science and political action—"Philosophers have hitherto only interpreted the world in various ways; the point is to change it"[55]—and appropriated by number of "critical" research and researchers.[56]

Research (and the researchers) should be engaged in the project of "making and remaking the world in more fundamentally just and democratic ways," in order to "move […] from a critique of existing policy towards a sense of possible alternative worlds, built on radically different social and natural ties"[57]; this vision of research's and researchers' political engagement is shared by both Marxist and neo-Marxist/Gramscian PE theorizations.[58] This normative attitude is also present in the UPE of water. As Lawhon, Ernstson & Silver underline, water is a key object of study in UPE, and "(w)ater is not studied for its own sake, but as an analytical entry point to examine the operation of power through urban ecology."[59]

The request of an active engagement of the researcher often goes unchallenged even in the texts of the authors who criticize the Marxist paradigm and advocate for completing and widen-

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[51] Swyngedouw and Heynen, "Urban Political Economy," 906, cited by Holifield, "Actor-Network Theory as a Critical Approach to Environmental Justice."

[52] Swyngedouw, "The Political Economy and Political Ecology of Hydro-Social cycle," 57.

[53] Lawhon, Ernstson, and Silver, "Provincializing Urban Political Ecology," 501.

[54] Gabriel, "Urban Political Ecology," 39; cf. Lawhon, Ernstson, and Silver, "Provincializing Urban Political Ecology."

[55] K. Marx, *Theses on Feuerbach*, (1895). Available at:
http://www.marxists.org/archive/marx/works/1845/theses/theses.htm. cf. A. Loftus, "The Theses on Feuerbach as a Political Ecology of the Possible," *Area*, vol. 41 (2009), 157-166.

[56] N. Blomley, "Uncritical Critical Geography?" *Progress in Human Geography*, vol. 30 (2006), 87-94.

[57] Loftus, "Rethinking Political Ecologies of Water," 967.

[58] cf. G. Mann, "Should Political Ecology be Marxist? A Case for Gramsci's Historical Materialism," *Geoforum*, vol. 40, no. 3 (2009), 335-344.

[59] Lawhon, Ernstson, and Silver, "Provincializing Urban Political Ecology," 502

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ing it with post-structuralist theoretical complements. For instance, Lawhon, Ernstson & Silver suggest that the researcher should "explicat(e) and engag(e) with resistance"[60] and Gabriel states that UPE permits to the urban space to "become(…) visible as a series of sites in which to produce the world anew."[61] Fletcher, whilst drawing on Foucault's governmentality approach for building his theoretical framework, also considers the researchers' positions as necessarily engaged, as he argues that Foucauldian concepts are useful for the researcher in order to frame and explicit his/her (political) interventions in terms of governmentality.[62]

Implications of the Postulates for Research and Researchers

As shown in the discussion above, UPE (of water) presupposes the existence of conflicts over natural resources. Therefore, it tends to encourage a depiction of empirical cases in terms of winners/losers, powerful/powerless, dominants/dominated. The presence of exploitation and domination is postulated, as one of the causes creating uneven environments and an axiom emerges, equating capitalism with injustice and UPE with the study of how this injustice is produced. This axiom undoubtedly shows a potential for political action and contestation, especially in struggles about the fairness of water distribution.

However, this view also bears the risk of highlighting a limited portion of a broader and more complex picture, as it tends to exclude cases in which exploitation and/or domination do not appear to be present and whose very existence is denied. Resistance to move to a post-structuralist paradigm could translate in difficult to carry on research on "situations in which no open conflicts or changes are apparent."[63] This is also the case for the subfield of the Marxist UPE of water, where the existence of social struggle around water is taken for granted: "(p)ut simply, interventions in the organization of the hydrological cycle are *always* political in character and therefore *contested* and contestable."[64]

Last but not least, the Marxist theorization of the role of research as an instrument for the denunciation of unfairness and of the scientist as actively engaged for social change is not the unique manner of conceiving the relevance of research[65] and it could be challenged by opposite theorizations proposing different roles for academics and their work.[66]

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[60] Ibid., 512.

[61] Gabriel, "Urban Political Ecology," 45.

[62] Fletcher, "Neoliberal Environmentality."

[63] Zimmer, "Urban Political Ecology," 345.

[64] Swyngedouw, "The Political Economy and Political Ecology of Hydro-Social cycle," 57 [emphases added].

[65] L. A. Staeheli, and D. Mitchell, "The Complex Politics of Relevance in Geography," *Annals of the Association of American Geographers*, vol. 95 (2005), 357-372; D. Fuller, and R. Kitchin, "Radical Theory/Critical Praxis: Academ-

In the next section, we propose a Foucauldian theoretical framework that could prove helpful for overcoming some impasses of the dominant (Marxist) framework presented above. The contributions of Foucauldian theorizations to the PE and UPE of water have been discussed several times in literature, especially with regard to conceptualization[67]; in the next section, we stress some aspects which, to our knowledge, have not been treated yet, namely their relevance and implications in terms of focus, political engagement and methods of research.

Potential Contributions of a Foucauldian UPE of Water

Arguments for a Foucauldian UPE of Water

We believe that a Foucauldian UPE of water can positively contribute to the subfield of the UPE of water through its focus on micro-power and regimes of truth and thanks to its different methodological toolbox.

A Foucauldian UPE also allows for diverse and more nuanced forms of political engagement inside and outside the field. First of all, the aim of the Foucauldian UPE of water should not be to focus on the processes leading to (uneven) environments, but on the power regimes sustaining specific environmental arrangements and the discourses over them. This framework should allow to cast a renewed (and not necessary negative or protesting) light on contemporary (capitalist) societies while suspending normative judgment over their political ecological processes. The following subsections will present these arguments in detail.

Shift of UPE focus

Following the original aims expressed by Michel Foucault himself, a Foucauldian analysis abandons the (Marxists) structural framework and changes the center of research interest: society is not apprehended as structured by a dominant/dominated interaction but viewed as constructed through the intersection of multiple pervasive micro-powers. In this framework, "the analysis of micro-powers is not a question of scale, and it is not a question of a sector, it is a question of a point of view."[68]

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ic Geography beyond the Academy?" in D. Fuller and R. Kitchin (eds.), *Radical Theory, Critical Praxis: Making a Difference beyond the Academy?* (Vernon and Victoria: Praxis (e)Press, 2004), 1-20.

[66] cf. M. Hammersley, *The Politics of Social Research* (London: Sage, 1995); J. Dempsey, and J. K. Rowe, "Why Poststructuralism is a Live Wire for the Left," in D. Fuller and R. Kitchin (eds.), *Radical Theory, Critical Praxis: Making a Difference beyond the Academy?* (Vernon and Victoria: Praxis (e)Press, 2004), 32-51.

[67] cf. T. Birkenholtz, "Groundwater Governmentality: Hegemony and Technologies of Resistance in Rajasthan's (India) Groundwater Governance" *The Geographical Journal*, vol. 175, no. 3 (2009), 208–220; Ekers, and Loftus, "The Power of Water"; K. J. Bakker, "Water: Political, Biopolitical, Material," *Social Studies of Science*, vol. 42, no. 4 (2012), 616–623.

[68] M. Foucault, *The Birth of Biopolitics: Lectures at the Collège de France 1978-79* (New York: Palgrave Macmillan, 2008), 186.

The focus of a Foucauldian UPE of water, then, will be to understand the "relations"[69] to water, i.e. the interplay of micro-powers in the domain of water. The analysis of these micro-powers has admittedly not been ubiquitously ignored by (mostly recent) both Marxist and non-Marxist contributions to the UPE of water.[70] However, these analyses are often centered on understanding how capitalism generates inequalities (and, subsequently, on fighting against those). The results generated through a Foucauldian UPE focused on the understanding of the dynamics and regimes of truth of micro-powers could offer complementary information with regard to Marxist UPE analyses.

Shift of UPE political engagement

In line with the scientific practice advocated by Foucault himself, a Foucauldian UPE of water could be useful for uncovering the power regimes sustaining the construction of more or less controversial fields and for separating the analysis of these power regimes from normative considerations about them. In fact, as this section aims to demonstrate, judging the efficiency or the ethical dimensions of the study objects was not in the scope of Foucault's works. Rather, his political engagement is linked to his decision to focus on controversial themes (for instance concerning imprisonment or madness) and to his thought and convictions over his own militant action.[71] Indeed, in his papers as well as in the interviews he accorded, he explicitly stated that the primary scope of his research was to uncover the power(-knowledge) structures conditioning the perceptions and the conducts of subjects and not to judge them.[72] As Goldstein underlines, Foucault countered the Marxist argument pushing for the active political commitment of intellectuals with his theorization of the regimes of truth and of the possibilities to change them.[73] In particular, he understood the research process and the spread of its results as contributing to the construction of civic awareness. The critical part of his approach consisted in unveiling the conditions allowing for the production of a certain discourse, and not in the denunciation of the discourse itself:

> when I say that critique would consist in determining under what conditions and with what effects a veridiction is exercised, you can see that the problem would not consist in saying: Look how oppressive psychiatry is, because it is false. Nor would it consist in being a little more so-

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[69] Raffestin, "Could Foucault Have Revolutionized Geography?" 129.

[70] cf. for instance A. Roberts, "Privatizing Social Reproduction: The Primitive Accumulation of Water in an Era of Neoliberalism," *Antipode*, vol. 40 (2008), 535-560; Boelens, Hoogesteger, and Baud, "Water Reform Governmentality in Ecuador"; Lawhon, Ernstson, and Silver, "Provincializing Urban Political Ecology."

[71] L. D. Kritzman "Foucault and the Politics of Experience," in B. Smart (ed.), *Foucault: Critical Assessments*, *1* (London: Routledge, 1994), 25-36.

[72] cf. M. Foucault, *The History of Sexuality, vol. 1, an Introduction* (New York: Pantheon, 1978); Foucault, *The Birth of Biopolitics*; M. Foucault, and D. Trombadori, *Remarks on Marx: Conversations with Duccio Trombadori* (New York: Semiotext(e), 1991).

[73] J. Goldstein, "Preface," in M. Foucault and D. Trombadori, *Remarks on Marx: Conversations with Duccio Trombadori* (New York: Semiotext(e), 1991), 7-13.

phisticated and saying: Look how oppressive it is, because it is true. It would consist in saying that the problem is to bring to light the conditions that had to be met for it to be possible to hold a discourse on madness—but the same would hold for delinquency and for sex—that can be true or false according to the rules of medicine, say, or of confession, psychology, or psychoanalysis.[74]

The justification for suspending normative judgment on discourses and, more generally, on social phenomena, is based on the supposition that universal phenomena do not exist:

> And then I put the question to history and historians: How can you write history if you do not accept a priori the existence of things like the state, society, the sovereign, and subjects? It was the same question in the case of madness. My question was not: Does madness exist? […] The method consisted in saying: Let's suppose that madness does not exist. If we suppose that it does not exist, then what can history make of these different events and practices which are apparently organized around something that is supposed to be madness?[75]

This Foucauldian critical approach makes it possible for research to have a political component, which consists in offering the information needed to accept or resist the reality it describes:

> I think that what is currently politically important is to determine the regime of veridiction established at a given moment that is precisely the one on the basis of which you can now recognize, for example, that doctors in the nineteenth century said so many stupid things about sex.[76]

In this sense, Foucault as a scholar did not aim to produce or discover "the truth" about a subject or a phenomenon, nor teach it to the readers. Research and the spread of its results were conceived as an "experience," both for the researcher and for the readers, having the potential to change their visions and their behaviors and, in this way, to contribute building up their political consciousness.[77]

In sum, research as Foucault conceives it is not supposed to provide global analyses, criticism or political manuals, but, instead, a form of "strategic knowledge"[78]: the role of scholars is, in his view, "to […] present instruments and tools that people might find useful. By forming groups to make specifically these analyses, to wage these struggles, by using these instruments or others; this is how, in the end, possibilities open up."[79]

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[74] Foucault, *The Birth of Biopolitics*, 36.

[75] Ibid., 3.

[76] Ibid., 36.

[77] Foucault, and Trombadori, *Remarks on Marx*, 25-42.

[78] Kritzman "Foucault and the Politics of Experience," 28.

[79] (Foucault, 1988, cited by Kritzman "Foucault and the Politics of Experience," 28).

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The information provided through the application of a Foucauldian approach is precisely useful for society as it allows to disapprove the dynamics observed, but also to approve and sustain them. "What is important is the determination of the regime of veridiction that enabled them to say and assert a number of things as truths that it turns out we now know were *perhaps* not true at all."[80]

In a Foucaldian UPE of water, the "political" should thus be nuanced: it should not necessarily involve a militant engagement for changing reality and making water distribution more "fair," it only has the ambition to offer a new point of view from which reality can perhaps appear as requiring a militant engagement to change it.

Consequently, while accepting the possible existence of power differentials among social actors, a Foucauldian UPE of water should not postulate the inevitable presence of unfairness and inequalities in the case studies it takes into consideration. A Foucauldian approach to the UPE of water might allow to move beyond a conflict-oriented selection of case studies and to extend it to places and times where political conflict over resources does not appear to be present or is not evident. This will, in turn, cast light over the socio-economic and political structures in which a peaceful and (more or less) fair resource management has been constructed.

Shift of UPE methods

The method employed by Foucault is an archeo-genealogical analysis of discourse. The scope of this method is:

> to account for the fact that it is spoken about, to discover who does the speaking, the positions and viewpoints from which they speak, the institutions which prompt people to speak about it and which store and distribute the things that are said. What is at issue, briefly, is the over-all 'discursive fact,' the way in which […] [it] is 'put into discourse.'[81]

The use of discourse analysis techniques is widespread in the domain of political ecology and also in the UPE of water. Nevertheless, inserting them into a Foucauldian research design implies a modification of their rationale, as they are not part of an anti-capitalist project, but they are instruments used

> to search […] for instances of discursive production (which also administer silences, to be sure), of the production of power (which sometimes have the function of prohibiting), of the propagation of knowledge (which often cause mistaken beliefs or systematic misconceptions to circulate); (…) to write the history of these instances and their transformations.[82]

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[80] Foucault, *The Birth of Biopolitics*, 36 [emphasis added]; cf. also R. Martin, "Truth, Power, Self: An Interview with Michel Foucault. October 25, 1982," in L. H. Martin, H. Gutman and P. H. Hutton (eds.), *Technologies of the Self: A Seminar with Michel Foucault* (Amherst: The University of Massachusetts Press, 1988), 9-15.

[81] Foucault, *The History of Sexuality*, 11.

[82] Ibid., 12.

Some key concepts of a Foucauldian UPE of water

As shown above, the adoption of a Foucauldian approach does not imply changing the object of study but shifting the perspective (the "point of view")[83] for studying it. The aim of introducing Foucauldian concepts is therefore not to substitute but rather to complement the well-established conceptual framework of the hydro-social cycle. Starting from the Foucauldian *a priori* concerning the scopes, methods, and political engagement of research and researchers, this conceptual framework constitutes a proposition of perhaps useful theoretical tools for an analysis of neoliberal governmentality in and of hydro-social cycles. Naturally, this toolbox needs improvement through an application to empirical cases. It would also require to be extended to become capable of including conceptualizations linked to the other forms of governmentality identified by Foucault, such as biopower. As water allows establishing a material (and symbolic) connection of "individual bodies to the collective body politic,"[84] biopolitical perspectives have been occasionally adopted in the UPE of water,[85] even though not always as part of purely Foucauldian theoretical frameworks.

Governmentality and hydromentality

The core object of Foucauldian theories are micro-powers. More specifically, powers are defined as the "conducts of conduct,"[86] i.e. the conditioning of the actions of human beings.

The conducts of conducts are conceptualized as variegated in time and space; they are of different forms. Each of these forms is called a form of governmentality, governmentality being "the way in which one conducts the conduct of men."[87] The forms of governmentality are implemented through different techniques, methods, tools, which are what Foucault calls the technologies of power.[88] Different forms of governmentality can coexist or mix to form a political landscape constituted of multiple or hybrid governmentalities.[89]

Governmentality constitutes thus a continuum spanning "from 'governing the self' to 'governing others'"[90] and disrupts dichotomist approaches theorizing the imposition of power from a dominant to a dominated.

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[83] Foucault, *The Birth of Biopolitics*, 186

[84] Bakker, "Water: Political, Biopolitical, Material," 619.

[85] cf. Ibid.; Hellberg, "Water, Life and Politics"; P. Rattu, and R. Véron, "How to Govern the Urban Hydrosocial Cycle: Archaeo-Genealogy of Hydromentalities in the Swiss Urban Water Sector Between 1850 and 1950," *Geographica Helvetica*, vol. 70 (2015), 33-44.

[86] Foucault, *The Birth of Biopolitics*, 186.

[87] Ibid.

[88] M. Foucault, *Il faut défendre la société : cours au Collège de France, 1975-1976* (Paris: Gallimard/Seuil, 1997).

[89] cf. Fletcher, "Neoliberal Environmentality."

[90] T. Lemke, "'The Birth of Bio-Politics': Michel Foucault's Lecture at the Collège de France on Neo-liberal Governmentality," *Economy and Society*, vol. 30, no. 2 (2001), 191.

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In fact, a Foucauldian approach considers that power is omnipresent: in order for govern-mentality to be effective, the subject should be both the ruler and the complier of the rules, and in order to rule he/she would need to have some power.[91] As puts it, "governmentality as a form of power must be understood both as an element of Foucault's attempts to disconnect power from ideas of domination and repression, and as involving a radically de-centred view of the subject as historically created."[92]

Consequently, the study of governmentality both implies historically analyzing the (state) administration of the population and its way of "conducting conducts," and the ways in which individual subjectivities are formed.[93]

Such a conceptualization of power as contingent and ubiquitous needs being at the core of a Foucaudian UPE of water. One of the principal aims of a Foucauldian approach to the UPE of water, perhaps the main one, will be to uncover and explain the emergence, persistence and de-cline of different forms of governmentality in the domain, or, as Hellberg puts it, different forms of "'hydromentality' […], that is, the mentalities, rationalities and techniques through which wa-ter users, as well as water use, are governed."[94]

Even though they have not been labeled as political ecological contributions, researches on the links between the regulation of urban space and certain constructions of power and knowledge have been conducted since the 1970s.[95] These studies have mainly been concerned with the urban discourses and politics during the 19th century, especially with hygienic and medi-cal arguments and the construction of specific urban infrastructure including tap water networks and sewers. By contrast, neoliberalism and neoliberalizations in the domain of tap water have rarely being approached from within a Foucauldian (UPE) framework.

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[91] cf. M. Foucault, *Surveiller et punir : naissance de la prison* (Paris: Gallimard, 1993); Foucault, *Il faut défendre la société*; G. LeBlanc, *La pensée Foucault* (Paris: Ellipses, 2006), 67-78.

[92] M. Huxley, "Space and Government: Governmentality and Geography," *Geography Compass*, vol. 2 (2008), 1636.

[93] Ibid.

[94] Hellberg, "Water, Life and Politics," 1. Different conceptualizations of hydromentality have been proposed by Lankford and Staddon & James (B. Lankford, "Infrastructure Hydromentalities; Water Sharing, Water Control and Water (In)Security," in B. Lankford, K. Bakker, M. Zeitoun and D. Conway (eds.), *Water Security: Principles, Perspectives and Practices* (Oxon: Routledge, 2013), 256-272; C. Staddon, & N. James, "Water Security: A Genealo-gy of Emerging Discourses," in G. Schneier-Madanes (ed.), *Globalized Water: A Question of Governance* (Dordrecht: Springer, 2014), 261-276). Lankford considers that hydromentality also includes knowledges, politics and insi-tutions related to water, while Staddon and James define it as "*the specific way that neoliberal governments are think-ing about water and the services it provides*" (Staddon, and James, "Water Security," 263). Those definitions seem more similar to governance than to proper governmentality. As the conceptualization proposed by Hellberg is closer to Foucauldian theories than the Lankford's one, we have retained it.

[95] cf. M. Foucault (ed.), *Politiques de l'habitat (1800-1850)* (Paris: C.O.R.D.A, 1977); F. Driver, "Moral Geographies: Social Science and the Urban Environment in Mid-Nineteenth Century England," *Transactions of the Institute of British Geographers*, vol. 13 (1998), 275-287.

Neoliberalism

The terms "neoliberal," "neoliberalism," and "neoliberalization" are commonly used in public, political, and academic discourse but they often remain ill-defined. Geographers have often followed David Harvey's definition and characterization of neoliberalism as a right-wing ideology, promoted in the 1980s by Margaret Thatcher and Ronald Reagan and diffused to the global South through Structural Adjustment Programs. In this view, neoliberalization is interpreted in the larger context of capitalist processes, particularly of capitalism trying to solve its own crises trough "accumulation by dispossession."[96]

This Marxist perspective is also applied to the environmental field. In this perspective, the neoliberalization of nature implies more or less subtle processes of "'freeing' up nature," dispossessing people from natural resources through the practices of privatization and commoditization of parts of the environment.[97] Neoliberalization here does not only (perhaps not even primarily) imply the rolling back of the state, but as much the "rolling out" of the state as a facilitator of environmental management, including the creator and guarantor of environmental markets.

In the (mainly Marxist) literature on the UPE of water, neoliberalization has been defined as being characterized by "privatization," "marketization," "state roll back or deregulation," "market-friendly regulation," "use of market proxies in the residual governmental sector," "the strong encouragement of 'flanking mechanisms' in civil society," and "the creation of 'self-sufficient' individuals and communities."[98] Regarding the neoliberalization of the environment, including urban water, similar characteristics have been identified, namely privatization, commercialization, commodification, devolution, and reregulation.[99] However, not all these elements are present in all empirical cases, and the choices about the management of urban water are better defined as a "continuum" of options[100] rather than as an all-inclusive package to adopt or reject in toto. Neoliberalism is thus not apprehended as a monolith but as a multitude of "actually existing neoliberalisms"[101] whose patterns are shaped and influenced by "existing historical contexts, geo-

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[96] D. Harvey, *The New Imperialism* (Oxford: Oxford University Press, 2005).

[97] J. McCarthy, and W. S. Prudham, "Neoliberal Nature and the Nature of Neoliberalism," *Geoforum*, vol. 35 (2004), 277.

[98] N. Castree, "Neoliberalism and the Biophysical Environment 1: What 'Neoliberalism' is, and What Difference Nature Makes to it," *Geography Compass*, vol. 4 (2010), 1728.

[99] N. Brenner, and N. Theodore, "Cities and the Geographies of 'Actually Existing Neoliberalism'," *Antipode*, vol. 34 (2002), 349–379; McCarthy, and Prudham, "Neoliberal Nature and the Nature of Neoliberalism"; Brand, "Green Subjection"; N. Castree, "Neoliberalism and the Biophysical Environment 3: Putting Theory into Practice," *Geography Compass*, vol. 5 (2011), 35–49.

[100] K. J. Bakker, "A Political Ecology of Water Privatization." *Studies in Political Economy,* vol. 70 (2003), 38-40.

[101] Brenner, and N. Theodore, "Cities and the Geographies of 'Actually Existing Neoliberalism'"; . Peck, N. Theodore, and N. Brenner, "Neoliberal Urbanism: Models, Moments, Mutations," *SAIS Review – School of Advanced International Studies*, vol. 29 (2009), 49–66; N. Brenner, J. Peck, and N. Theodore, "Variegated Neoliberalization: Geographies, Modalities, Pathways," *Global Networks – A Journal of Transnational Affairs*, vol. 10 (2010), 182–222.

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graphical landscapes, institutional legacies, and embodied subjectivities."[102] Even when a certain agency is theorized and observed at the level of individuals and social movements, Marxist literature theorizes "inequalities" and "inequities" as "inherent" to neoliberalism.[103]

Michel Foucault had already denounced some of the interpretations of neoliberalism (and neoliberalization) as reducing it to "Adam Smith [… ,] market society [… or] the gulag on the insidious scale of capitalism."[104] In Foucault's opinion, neoliberalism is not a simple implementation of classical economical thinking, nor the commodification of society, neither the extension nor generalization of state power. It is a deeper transformation of the mode of governmentality which presupposes that:

> the overall exercise of political power can be modeled on the principles of a market economy. So it is not a question of freeing an empty space, but of taking the formal principles of a market economy and referring and relating them to, of projecting them on to a general art of government.[105]

According to Foucault, the great difference between liberalism and neoliberalism is that whilst liberalism implied laissez-faire (that is to say dismissal of the state from the economic arena), neoliberalism "is a matter of a market economy without laissez-faire, that is to say, an active policy without state control. Neoliberalism should not therefore be identified with laissez-faire, but rather with permanent vigilance, activity, and intervention."[106] And this political aspect of neoliberalism translates into a specific way of exerting power, that is, neoliberal governmentality.

Neoliberal governmentality and neoliberal hydromentality
Neoliberal governmentality is based on a very specific conceptualization of the subjects who produce and undergo neoliberal power. In Foucault's terms, "[t]he homo oeconomicus sought after is not the man of exchange or man the consumer; he is the man of enterprise and production."[107]

These subjects are "artificially created" though an "artificially arranged liberty" which allows the individuals to adopt "an entrepreneurial and competitive behaviour."[108] As Fletcher clearly summarizes, "a neoliberal governmentality seeks […] to create external incentive structures within which individuals, understood as self-interested rational actors, can be motivated to

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[102] S. Springer, "Neoliberalism as Discourse: Between Foucauldian Political Economy and Marxian Poststructuralism," *Critical Discourse Studies*, vol. 9 (2012), 136.

[103] T. Perreault, "From the Guerra Del Agua to the Guerra Del Gas: Resource Governance, Neoliberalism and Popular Protest in Bolivia," *Antipode*, vol. 38, no. 1 (2006), 154.

[104] Foucault, *The Birth of Biopolitics*, 131.

[105] Ibid., 131.

[106] Ibid., 132.

[107] Ibid., 147.

[108] Lemke, "'The Birth of Bio-Politics'," 200).

exhibit appropriate behaviours through manipulation of incentives."[109] Those manipulations of incentives are made possible thanks to the existence of specific technologies of power.

Characteristics such as "calculativeness," rationality, and self-control are implied in neoliberal governmentality and they can be considered the neoliberal technologies of power par excellence.[110] While the new neoliberal technologies of (micro-)power are diverse, all of them are understood as being centered on market principles and on economic rationality.

This change in the conception of subjects goes hand in hand with a change in the conception of power and society. More precisely, "what is sought is not a society subject to the commodity effect, but a society subject to the dynamic of competition. Not a supermarket society, but an enterprise society,"[111] that can be managed like an enterprise and according to the same principles and rationalities: "the regulatory principle should not be so much the exchange of commodities as the mechanisms of competition."[112]

These mechanisms of competition are thus implemented through "permanent vigilance, activity, and intervention," both on the side of the state as on the side of the subjects.[113] In fact, neoliberal governmentality implies the responsibilization of individuals, who are controlled through "indirect techniques" which exploit their (entrepreneurial and competitive) behavior for encouraging them to make certain (desirable) choices.[114] Consequently, public administration can avoid (or stop) directly intervening in certain domains of social and economic life, and individuals appear to self-govern themselves as their actions are influenced and shaped by technologies of power relying on their (socially constructed) rationalities.

This is also true for the neoliberalizations of the environment, where the "ultimate responsibility is made to lie with the citizen."[115] Through market-linked measures and newly established social norms, neoliberal environmental management deeply influences the everyday life of individuals while reducing the active role and responsibility of public powers. Neoliberal environmental governmentality shows itself in multiple ways: influence over domestic life and residential environment, establishing of norms of social behaviour and individual lifestyle and self-care,

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[109] Fletcher, "Neoliberal Environmentality," 173.

[110] M. Foucault, *Le nouveau Contrôle Social* [Video recording] (Paris : Université Paris 8, Vincennes-Saint-Denis, 1979). Available at: http://www.archives-video.univ-paris8.fr/video.php?recordID=111; M. Foucault, "'Governmentality'; Lecture at the Collège de France, 1 February 1978," in G. Burchell , C. Gordon, and P. Miller (eds.), *The Foucault Effect: Studies in Governmentality* (Hemenl Hempstead: Harvester Wheatsheaf, 1991), 87-104; Lemke, "'The Birth of Bio-Politics'"; J. Ferguson, and A. Gupta, "Spatializing States: toward an Ethnography of Neoliberal Governmentality," *American Ethnologist*, vol. 29 (2002), 981–1002.

[111] Foucault, *The Birth of Biopolitics*, 147.

[112] Ibid., 147.

[113] Ibid., 132.

[114] Lemke, "'The Birth of Bio-Politics'," 201.

[115] Brand, "Green Subjection," 625.

eco-friendly incentive mechanisms for "environmentally responsible citizens."[116] Environmentality (or environmentalities[117]) constitutes the link between individual perceptions and judgements about the environmental world, and the technologies of power deployed for diffusing the environmental-related norms; the neoliberal environmental governmentality, or "environmentality," designates in this perspective "a framework of understanding which technologies of self and power are involved in the creation of new subjects concerned about the environment."[118]

Applied to the water sector, the concept of neoliberal governmentality can help to explain how agency is stimulated and employed to provide water, to use it "correctly" and to economize it. In this view, neoliberal hydromentality can be considered a crucial instrument allowing the roll-back of the state from direct water management, as well as the roll-out of the state as a facilitating institution keeping indirect control over the water sector.[119] Depending on the context, neoliberal hydromentality has worked as an efficient technology of power[120] or as an ineffective one leading to poor water management.[121] Problematic situations may arise particularly when the state has lost control over water management and the related normative system to social groups that can determine which usages of water are allowed and which are not. For instance, Page reports that in Tombel, Cameroon, local elites (that have tap water inside their homes and consume the largest amounts of water) played a role in diffusing the idea that water is a "free gift from God" in order to manipulate the public opinion and to avoid the installation of water meters.[122]

Conclusions

As we have discursively demonstrated, the adoption of a Foucauldian perspective shows great potential for complementing and widening the subfield of the UPE of water, allowing for shifts in the aims and methods of research. We have shown that a Foucauldian perspective appears conducive to performing a different sort of civic engagement that could impact both the selection of case studies and the final outcomes of research.

In particular, Foucauldian-inspired research is able to adopt nuanced positions towards capitalism, as the axiom equating capitalism with inequality ceases to exist. As case studies where conflicts seem to be very rare or absent become selectable, the subfield can be extended to contexts where unfairness and struggles are not visible *a priori*. Broadening the selection of case studies has the capacity to examine peaceful management of water, i.e. cases where the reality of the

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[116] Ibid.

[117] cf. Fletcher, "Neoliberal Environmentality."

[118] Agrawal, "Environmentality," 166.

[119] Hellberg, "Water, Life and Politics."

[120] cf. Von Schnitzler, "Citizenship Prepaid"; Babu, "Governmentality, Active Citizenship and Marginalisation."

[121] cf. Page, "Paying for Water and the Geography of Commodities"; K. J. Bakker, "The Ambiguity of Community: Debating Alternatives to Private-Sector Provision of Urban Water Supply," *Water Alternatives*, vol. 1 (2008), 236–252.

[122] Page, "Paying for Water and the Geography of Commodities," 298.

hydro-social cycle does perhaps not need being changed. The aims of research activities would also be broadened, in order to include both the production of experiences enabling the readers' (independent) political consciousness to emerge and/or of anti-capitalist manifestos calling for action. Hopefully, vibrant debates between those two different and complementary engaged postures would also originate from the differences in their scopes, theorizations and methods.

The tentative conceptual framework we outlined above certainly needs being refined and enlarged. Firstly, other Foucauldian concepts linked to governmentality need being taken into account, such as biopower or disciplinary power. These conceptualizations of power might prove particularly useful to apprehend urban water histories as well as specific momenta of these history, for instance in relation to the construction of first urban water networks. Other Foucauldian methods should also be accorded attention, especially archaeo-genealogical analyses, which could be particularly helpful for apprehending the construction of knowledge about urban water and its networks, but also urban water management. Finally, the analysis of empirical case-studies needs to be carried out in order to check the relevance of these theorizations and to refine them. Empirical tests might also reveal the emergence of new forms of governmentality that might not have been theorized by Foucault 30 years ago.

Our plea would hopefully signal the start of a vast undertaking to construct, test, and progressively enrich a politically conscious Foucauldian UPE since, although it is debatable whether researchers must actively try changing the world, it is unquestionable that they should contribute to widen our knowledge of the world and to present new and possibly surprising insights on it.

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