

Between ecological realities, scientific realities and technological realities: Water as an alive "source" for Imagination.

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Abstract

Water is a ubiquitous element on Earth and in the atmosphere. Water is a vital biological constituent for all living organisms. Yet, in the 21st century we are facing a form of deprivation or expectation of commercialization of this element. Through the examples of stewardship in Australia or in certain areas in the United States, we ask ourselves how our society, to use Michel Foucault's terms, causes a "bio-power"? — control of human life and bodies by the state — We wish to go beyond the opposition, acquired in the West, between an objective explanation of water by science or technology and the understanding of water as a poetic figure. We would like to question our relationship with the living and the context of neoliberalism. The science of life and/or biology tends in a certain way to individualize the living or the organism. By taking water and its entire ecosystem as a scarce resource, all our relationships to the living are transformed into a market. We would like to take as a reference the concept of the "Flesh Machine" described by the collective Critical Art Ensemble. It is one of those groups of artists who have understood the danger of inserting the economy as much in the living as in the ecology of the climates.

As an artist-researcher, in order to critique, it is equally important to experiment. This participation is part of a post doctoral research phase and possibly for future research in our practice. We intend to expose the problems of a science of the living and to prove that with the artistic practices, it is also important to take into account the sensitive of the living forms. We would like to reflect on these questions through the introduction of two personal artistic investigations: *Moisty Stress* (2017) and 人工水 (2021)— *Artificial Water*— . Each piece analyzes our understanding of this non-human state. Water is a "living element", but not an animal. However, the desire to instrumentalize this element, as old as the world, questions our imprint on the world. *Moisty stress* questions the accident of a natural phenomenon and the feelings provoked while 人工水 studies the relational paradoxes we have of our Earth. This particular project popularizes particular situations: The term "water" is used extensively in politics in Asian structures.

We wish to say that the artistic gesture is presented in an in-between to reconcile the sensitive and the analytical around the plastic properties, symbols and environmental issues of water. In ecology, the measure is more than just a trend. The ecological crisis may be a crisis of sensitivity. Care to living beings is practiced and requires a search for learning how to do nothing.

Keywords : biopolitic; biopower; instrumentalisation; ecology;

Introduction

"Your people grow five thousand roses in one garden... and they can't find what they're looking for... And yet what they are looking for could be found in a single rose or a little water" tells the French writer Antoine Saint-Exupéry¹. In a single sentence, he invokes water as an essence. We must remember that more than four billion years ago, the first micro-organisms began to evolve. Water transforms the geography of our planet ship: the Earth. It is the link in the movement of living things. The animals that move to seek water or the clouds that water the flora.

However, we are witnessing a worrying phenomenon in the heart of the 21st century. The world is facing great challenges, climate change being one of the most urgent. Increasing droughts, floods, heat waves and other extreme events are already altering daily life on the planet and putting fragile ecosystems at risk. The examples of strict use and/or privatisation of water question our relationship to the Earth. What is happening in Australia, on the west coast of North America, questions this industrial water revolution or "Blue Gold". A water war seems to be starting between markets and humans. Why do we use the Earth as a base for the production of goods? Can we still consider it a precious and unique environment?

This presentation would allow us not only to understand the sources of this sudden change, but also to understand the existence of an ecological crisis as a crisis of the sensitive. Artistic gesture offers each of us the possibility to be creative under these difficult conditions. It can help to imagine a different future and to move forward together towards a singular, perhaps more just and prosperous world. By creating "spaces of interaction" that encourage exchange, while setting up visual or acoustic devices and knowledge in an evocative context, it is possible to explore various avenues of change that help to better capture and understand our own and others' representations of the world. These artists attempt to understand why we seem to be helpless in the face of these changes, and propose methods to master our fears and orient ourselves towards positive action in a complex and changing world.

In this way, we will proceed with our analysis as follows:

- state of the situation where we will expose the current water issues ;
- end of Cheap? nature or homos economicus. In addition to understanding why we are trying to use the Earth as a market good, we will go in depth to study the transformation of the human being into an economic man ;
- water, bio-power, world ecology. We will try to explain that the water issue is part of a liberalist system where capitalism is a world ecology.;
- we will end the explanation with a personal work.

II - State of the situation: The case of Australia.

Until now, water has remained natural, abundant, free or almost free. However, Australia has been the first to experience the effects of climate change. Water is becoming increasingly scarce. Yet Australia has an extremely large agricultural sector. Faced with water supply problems, which cause severe droughts, Australians are the first to have created a financialization of water. It is true that this sounds like a barbaric word that is a marriage of finance and water. This same system, which originated in Australia, is being exported around the world, particularly to California. How to allocate water when it is scarce? The Australians have decided to allocate it to the market. So for the past 10 years, a boom in private water markets has been taking place. People are buying, selling or others are speculating on the price of water. During the interview of French realist Jérôme Fritel in *Lords of Water* Willem Buiter, economic advisor of Critigroup explains :

You have to make people pay the real price for water so that they realise that every time they take a sip, there is a cost².

Putting a price on water to make it scarce? Forcing people to save water provides these financiers with the real function of protecting water? We know that in the law of the market, it is the law of the strongest and the richest.

The artist-entrepreneur Yann Toma and the perfumer Francis Kurkdjian have joined forces to create a "scented drinking water" charged with "artistic energy". Called "L'Or Bleu", this "work-product" appears as a metaphor for a vital resource to be preserved. They have come together around common artistic references (Figure 1). The "Blue

¹ Saint-Exupéry, Antoine. (1939). *Terre des Hommes*

² Fritel, Jérôme. (2019). *Lords of Wate*. Magneto production. 90Min.

Gold" is the source of troubling historical concordances. In 1371, the world's first company with shareholders was born in the Bazacle. This infancy of the single shareholder company links it to the world of Yann Toma.



Figure 1. Toma, Y & Kurkdjian, F. *L'Or Bleu*. EDF Bazacle Space, Toulouse, 2012

In 1370, the Queen of Hungary's water was born. This was the first perfume to be offered in alcoholic form in connection with Kurkdjian's universe. The invention of the company is the starting point for the two protagonists. This perfume is a mixture of a fraction of ginger essence, rosemary, orange blossom, lavender and other substances. The two artists wanted to question the habits of water consumption on an object, an art object, but a water that carries artistic energy pushing the individual in a symbolic way in the fight for the right of access to drinking water for all.

Through the prism of water, the artists' research on water invites us to enhance our collective consciousness as well as our individual sensibilities, to embrace cultural movements committed to ecological, scientific, technological, philosophical or social realities. For a long time, water has been a "life-giving source" for artistic imaginations. We wish to say that climate change must also be perceived by overcoming the opposition between the objective explanation of water by science or technology and the understanding of water as a poetic figure. Without creating confusion between these two approaches to reality, artistic research is rooted in an in-between reconciling the sensitive and the analytical around the plastic properties, symbols and environmental issues of water. In Europe, citizens still resist these oppressions because water remains a public and/or collective resource. There have been referenda at the European level where water must remain a public resource. However, this war does not seem to be over and our consumption patterns seem to have drastically transformed the earth's resources into commodities. Is water the new oil?

It is much more than a great commodity battle, it is a crisis of the sensible and the economic. Jason W. Moore, assistant professor of sociology at Binghamton University says that :

Capitalism is not an economic system; it is not a social system; it is a way of organizing nature³.

These examples deserve that we rethink the link between capitalism and the ecological crisis. According to the same author, Marxist authors who have tried to take into account the ecological question have not managed to overcome the traditional dualism of *Nature* and *Society*, which prevents any real reflection on the intertwining of the social world and the natural world that the present situation forces us to confront. By what he calls "Cartesian dualism"⁴ this ontological dissociation between Nature on the one hand and Society on the other, which only manages to think of interactions between two distinct substances. Moore believes that the contemporary ecological crisis proves the unity of social history and the history of nature, and imposes to get rid of any conceptuality that makes nature a separate and distinct object to be acted upon⁵. Capitalism is based on the appropriation of **cheap nature**.

³ W. Moore, Jason. (2015) *Capitalism in the web of Life. Ecology and the Accumulation of Capital*. Verso, p. 14

⁴ Ibidem, p.39

⁵ Ibidem, p.16

III - End of Cheap nature? nature or homos economicus

Cécile Babiolo and Jean-Marie Boyer's project in *Conversation au Fil de l'Eau* (2014) proposes an installation that implements a chat around a current topic (Figure 2). It uses a local network running on water to transmit short text messages. Their motivation is to echo the history of networks and the major industrial sectors that have developed today's network such as the mail, telecommunications, water distribution companies and construction and public works. This installation is a metaphor for the internet but exposes the physicality of the data. The process is visible, audible and takes some time. They willingly express that possible bugs are part of the project in the illustration of the computer cloud. The installation uses Morse code as a character encoding protocol. Water packets serve as separators between the air packets that represent the signs. A pumping system constantly draws in the contents of the pipe that connects the transmitter at one station to the receiver at the other. A tempo is set to determine how much water or air represents a short sign or a long sign. The detection of the length of the water and air packets is achieved by two electrodes planted in the pipe at the receiver. As water is conductive, the opening or closing of the circuit makes it possible to distinguish between air and water packets. The length of the opening and closing process makes it possible to distinguish between long and short packets. The water sending system (on the sending side) and the incoming signal counter (on the receiving side) are controlled by two *Raspberry Pi* boards that take care of the coding and decoding of the texts.

The proposal of this piece highlights the physical value of water in communication and exchange. This point is of interest to us in understanding capitalism as a global ecology of capital, power and re-production in the web of life. To quote Moore, it is not as a mode of production, but as a civilisational 'project': '

Capitalism, as a project, aims to create a world in the image of capital, in which all elements of human and extra-human nature are effectively interchangeable⁶

The thesis suggests that we understand that this exploitation can only increase the accumulation of capital if it is supported by an appropriation of nature at a lower cost:

Therefore, every act of exploitation (of commodified labour-power) depends on a much wider act of appropriation (of unpaid labour-energy). Wage laborers are exploited; everything else, whether human or extra-human, is appropriated⁷



Figure 2. Babiolo, C & Boyer, J-M. *Conversation au Fil de l'Eau*. Wrocław University Library. 16th Media Art Biennale

6 Ibidem, p. 284

7 Ibidem, p.83

To understand the analyses of domestic and reproductive labour by 'feminist researchers' must be extended to nature in its entirety⁸. Feminists have shown that capitalism is based on the free labour of housewives, who reproduce labour power for free on a daily and generational basis. Moore wishes to highlight the fact that the accumulation of value in capitalist societies is only possible through the almost free appropriation of cheap nature : The accumulation of capital is the production of space⁹.

The crises of accumulation are the products and producers of spatial configurations. How did what was criticized by Marx, that labour/energy of nature, become value? This is the heart of the capitalist problem today. The question makes us project from the excess of one thing (human or capitalist) and the insufficiency of another (nature) to long-term relationships and strategies. Capitalism has survived not in destruction but in the creation of projects that force us to work more and more for free and at low cost¹⁰.

Now, capitalism, and this in the example of Australia in its management, is confronted with the "exhaustion of the relations of appropriation" of cheap nature¹¹. This is not due to intrinsic limits to nature, but to complex phenomena that include social relations (evolution of consumption). If the capitalist system goes into crisis as soon as nature is no longer as cheap as it used to be, then it rises again as soon as it finds new cheap natures to appropriate. According to Moore we now live in "a world in which every corner bears the imprint of the intoxication of capital"¹². At the heart of the co-productions of modernity is the incessant reshaping of the boundaries between the human and the extra-human. For all that this distinction between humans and the rest of nature had not been organized around a praxis of external nature: a praxis of the world in which representations, rationality and empirical investigation made common cause with the accumulation of capital to create Nature as external¹³.

IV: Evocative water of Homo oeconomicus.

This question about the boundaries between human, capital and nature finally evokes what Michel Foucault had already tried to decipher in what we call neo-liberalism. We know that two variants are emerging, one American and one European. In the classical conception of *homo oeconomicus*, he is the man of exchange, the partner in the process of exchange, which for Foucault implies "a decomposition of his behaviour and ways of doing things in terms of utilities"¹⁴. He is also, as Foucault explains, situated in a double involuntary "involuntary of accidents and involuntary of profit". However, it is more complex. Homo oeconomicus is an "entrepreneur and an entrepreneur of himself". He is his own capital, his own producer and himself the source of his income. We can cite the work and research of the Critical Art Ensemble collective on the "Flesh machine"¹⁵. A fluid, well-funded network of scientific and medical institutions with expertise in genetics, cell biology, biochemistry, human reproduction, neurology, pharmacology and so on. The body is about to be placed under a new management to function instrumentally to the imperatives of neo-liberalism (production consumption and prescription).

Driven by the desire to contribute to imaginative solutions that could improve living conditions and create a heightened awareness of the global water situation, Polish interdisciplinary artist Ana Rewakowicz, together with scientists from the École Polytechnique in Paris, created Mist collector The project is inspired by the problem of water shortage and proposes a new way of collecting water from fog. The artist cites in his references the Canadian geologist and writer Jamie Linton on the "hydro-social cycle" which reflects all aspects of human activities. As mentioned before. Fog would become the only source of water for plants, animals and humans. It is a cloud close to the ground, made up of small condensed water droplets, big enough to be suspended in the air but not big enough to fall as rain. The artist will find different kinds of fog: radiation fog, precipitation fog, valley fog, advection fog, rising fog, vapour fog and freezing fog, but not all of them are suitable for collecting water. Only that displaced by wind, orographic or advection fog can be collected. The device uses a mesh net and the water remains attached in the intersections of the square mesh nets and does not flow into the collection gutter at the base of the net. However, the use and development of modern fog collection technologies on a large scale has only begun in the last few decades. Fog Collector proposes a shift in questioning the science and collection of fog water. His proposal to capture water questions not only water scarcity, but also our consumption of resources. We will quote another character named Gary Becker who says about consumption that:

8 Ibidem, p.320

9 Ibidem, p. 21

10 Ibidem, p. 23

11 Ibidem, p.175

12 Ibidem, p. 392

13 Ibidem, p. 27

14 Foucault, Michel (1978-79) *Naissance de la biopolitique*. Gallimard Seuil

15 Critical Art Ensemble (1998) *Flesh Machine*

Consumption is not at all about being, in a process of exchange, the one who buys and makes a monetary exchange to obtain a certain number of products. The consumer is not one of the terms of exchange. The consumer, to the extent that he consumes, is a producer. What does he produce? Well, he simply produces his own satisfaction. Consumption can be a business activity. From a certain capital, the individual will produce a form that will be his own satisfaction¹⁶

As Becker says Homo oeconomicus is the one who accepts reality and is eminently governable. The paradox is whether it is an atom of freedom in the face of letting go or a certain subject that lets itself be governed. Self-limitation and frugality? Both Foucault and Critical Art Ensemble speak of a 'bio-political' or 'bio-regime' system, since with the emergence of political economy and the introduction of the limiting principle, a doubling occurs as individuals appear as a population that a government must manage.

V - *Moisty stress* and 人工水

I would now like to present two pieces of research. "Moisty stress" (2019) is an installation that proposes four images including 4 QR codes that reveal different states of water (Figure 3). In the centre is a 3D printed drop of water. This research was born from an encounter or rather a personal misadventure. I was in a workshop in which we were experiencing continuous flooding and we were under stress. I was in a workshop where we were experiencing constant flooding and we were under stress, so I began to wonder about the relationship we have with the environment and in particular with water in its transformation. The technological transition, and the will to control water, questioned me about human affects and feelings. A video also accompanied this installation. It corresponded to an attempt to translate the water cycle through the actions of machines.

This research has also resulted in another installation currently on display at the MEM festival in Bilbao and the opening is tonight. 人工水 (2021) is presented as a "speculative machine" that controls the watering of each plant. A central tower serves as the unit to control (Figure 4). How? Thanks to an automatic detection system for dryness or humidity, a machine opens or closes the watering valve. On one of the towers, a screen displays the water data of a plant. The different types of plants are attached to the stand or connected to the supply pipes. If we move closer to the plants, they are Kokedamas. This creation was motivated by the appearance of an article which told that during the Olympics in China, the government wanted to control the rain to reduce pollution by adding chemical substances. Why the choice of kokedamas. I found that this is a fairly recent plantation, dating from the 1990s. Kokedamas seem to be an example of our contemporary thinking towards the ecosystem, in order to have a piece of greenery. Ultimately, this machine is a parable of what we humans want to control in plantations like intensive greenhouses. From plants to commodities, this installation makes us aware that we have changed the time of the living into a market time. I mean that we no longer understand the different temporalities of living things (water, plants, animals etc). We have standardised this time by an economic time, that of the market and of yield. Our last remark is that also the sinogram and the pictogram "水" (mizu) is regularly used in a political context in Japan. Water is at the paradigm crossroads of the instrumentalisation of the ecosystem. It has become a biopolitical issue.

16 Becker, Gay S. (1964) *Human Capital. A Theoretical and Empirical analysis with special reference to Education.* 3Rd Edition.



Figure 3. Armet, A. *Moisty Stress*.



Figure 4. Armet, A. 人工水. Festival Mem, Bilbao, Spain

VI - Conclusion

What if the challenge of sustainability was not to know the world better, but to imagine it better? -

Maggs and Robinson 2016; Bendor et al, 2017

Water is seen as a sentient and sacred being. Water is the formless, from which all entities (human/non-human, feeling/non-feeling) arise. A movement and flow through/with/out/in time that enables material acts and life processes. We recall that capitalism is neither the consequence nor the development. The framework of economic time has played the role of a test where it is possible to identify the effects of excessive governmentality and the analysis of mechanisms: "governing was always too much governing". Artistic thought or poetic imagination seems to respond to environmental concerns such as water scarcity in order to address socio-politico-ecological crises.

This ecological crisis between sensibility and data requires a new vocabulary. The old language of nature/society has become obsolete. The use of water illustrates that we must try to go beyond the Cartesian binary. We need to think about methodological procedures, narratives and conceptual languages.

Art here is not just a means of communicating knowledge about climate change and the challenges that accompany it, useful as that function may be. The artists attempt to imagine a sustainable and loving world that science alone cannot create. Changing our perceptions and encouraging action for the sake of the planet's sustainability and personal and global transformation must become necessary.

Referencies

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