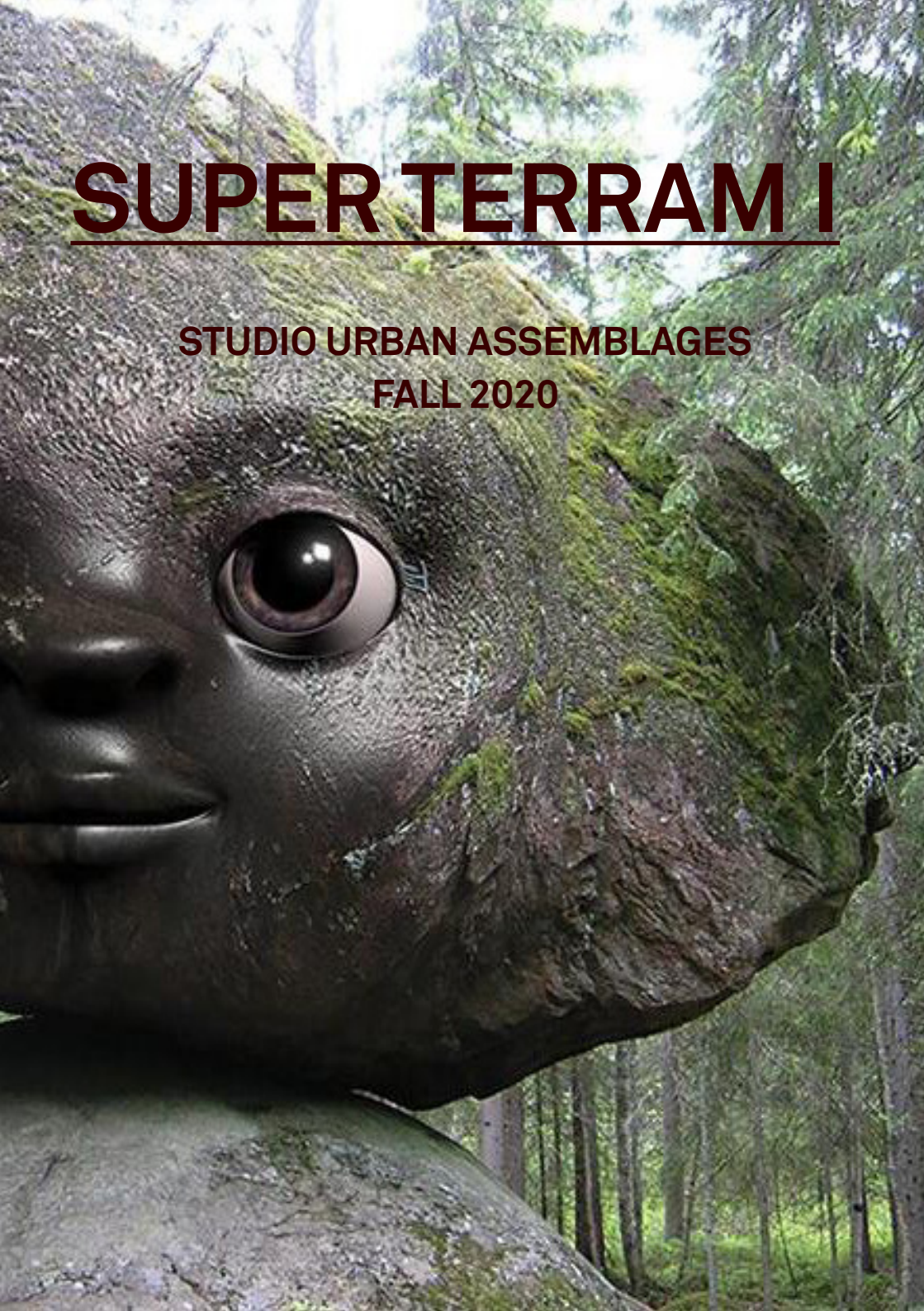


SUPER TERRAM I

STUDIO URBAN ASSEMBLAGES
FALL 2020



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THE STUDIO



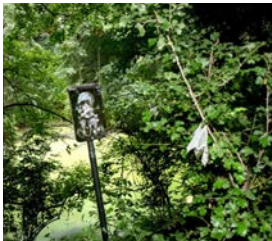
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THE STUDIO

Urban Assemblages is a research by design studio linked to the Laboratory of Urbanism, Infrastructure, and Ecologies (LoUIsE). The studio starts from two convictions: (i) the capacity of cities to cast light on our present and (near) future; (ii) the need to start a socioeconomic and ecological transition in them as the premise for a sustainable future anywhere else.

To be able to accompany such transition, the studio invites spatial designers to move beyond the object-centered legacy of urbanism and towards a systemic understanding of cities that does not exaggerate their agency. This requires seizing up flows, actors (humans and non-humans) and places into their proposals of urban transformation.

Cities are indeed woven into material and energy flows and stocks, and depend upon specific nature-technical entanglements and socio-economic processes of production and consumption (1). Any intervention in urban space necessitates to incorporate into the design of physical places the unsteady assemblages those flows and actors trigger (or are the result of), recognizing the heterogeneity that urbanism artificially convokes and links together to form a whole (from humans to other living beings, to “stuff” and ideas). Sustainability will only be viable if it recognizes this larger whole, moving beyond the advancement of human interest only.

Nadia Casabella + Benoit Burquel

(1) This approach is known as Urban Metabolism (UM), clearly defined by Kennedy and fellow scholars as “the sum total of the technical and socio-economic processes that occur in cities, resulting in growth, production of energy and elimination of waste.” (in Kennedy, C., Cuddihy, J., & Engel-Yan, J. (2007). “The changing metabolism of cities”. *Journal of Industrial Ecology*, 11(2), 43-59).



THE WORLD WITHIN

This quarter will be devoted to understanding the cohabitation between humans and non-humans in our cities. Understanding implies to be able to shape this cohabitation, in terms of identifying which places can be generated, for sheltering which alliances, and resulting in which architectural compositions.

Today we face a complex, multidimensional environmental and social crisis, rooted in the overwhelming impact of human activity on the planet since the Industrial Revolution. The Anthropocene is the term frequently used to define this new planetary epoch in which humans have become the dominant force shaping the Earth. Many authors, clustered mostly around multispecies ethnography and the “new materialism” (1) point out that the Anthropocene simply made visible the complex webs of relationships in which humans and non-humans have always been intertwined. Rather than running away from these entanglements, they propose to explore them and use them to generate new possibilities of thinking and living in the Anthropocene, as an opportunity

to reweave the links between nature and culture that the modernist-western ontology had broken by supporting rather a relationship of instrumental exteriority to what surrounds us.

These openings are disrupting and radically reshaping the future of our cities: What would a truly inclusive multispecies city be? How to design spaces for the development of as many different forms of life as possible? How to treat built forms, weather patterns, plants, animals, or regulatory technologies as actively involved in the workings of cities? The urbanism practiced today (legal, normative, technical) seems helpless in the face of these upheavals. Urbanism is moreover historically dependent on this distance between humans and non-humans, between cities and nature, contributing most often to reinforce this separation. Imagining alternative urban futures requires us to place ourselves back in a larger network of relationships between humans and non-humans. It requires us to imagine ourselves “within”, conceiving ourselves as part of the world. It asks to complexify the binary relationship between cities and nature and

to recognize the extent of our interdependencies with other non-human actors. And on the wake of it, to be confronted to a new ethical injunction: if non-human entities are seen on the same footing, how do we empower, stick to (2), heal (3) or stand in solidarity with them? In which ways the non-human things of the world mediate what we as architects do (4).

The studio wants to attempt an answer to those questions. We will need to develop new methods to represent and map the “world within” instead of “out there”. We will need to develop new spatial concepts to refer to this “world within”. New methods and tools to translate our discoveries into new projects, projects that will be inevitably made in cocreation with the newly discovered, plentiful “world within”. This is indeed important: what we will discover during the coming months needs to inform our workings as architects and urbanists and do not remain at the margins of those disciplines by being relegated to the “experimentation playground” on the n-studio. We cannot be happy with the findings unless they contribute to (co)initiate change, by collectivizing what we will learn. This is the reason why this topic will be explored jointly with the civil

society, thanks to our partnership with BRAL and our linkages with many others who will join us in this journey.

ENTANGLEMENTS

This new endeavor will demand a somehow distinct way of getting to know. For decades, we have been trained to forget about what preexisted us while starting the process of city making and city design. Only since recently, we have understood that no matter the gimmicks we deploy, cities are complex systems that resist change, specially the kind of change we wished to inflict them, counting on massive investments, and new actors who did not even yet know they existed.

Some twenty years ago, new voices started to claim the importance of knowing what was already there. Not only to become aware of it but also nurture it, by initiating any idea or plan of urban transformation from the people or the dynamics that were already defining the existing, in the present but also throughout the long history of construction of any place.

More recently, this ambition to understand and care for what is, and the contingent ways it



A room of quite rain, by Olafur Eliasson at Tate Modern. 2019



followed to be what it is, has grown to the realization that we are part and parcel of what is, and that understanding something also means to be affected by that something in ways that are not always communicable inside the limits of our language or those of the discipline we are deemed to operate within. This moves us from observers or actors of this reality to be the matter itself with which reality is built, subject to concrete attachments. We are within, and we cannot refuse this entanglement any longer and pretend everything is still under control.

ENLARGING THE COLLECTIVE

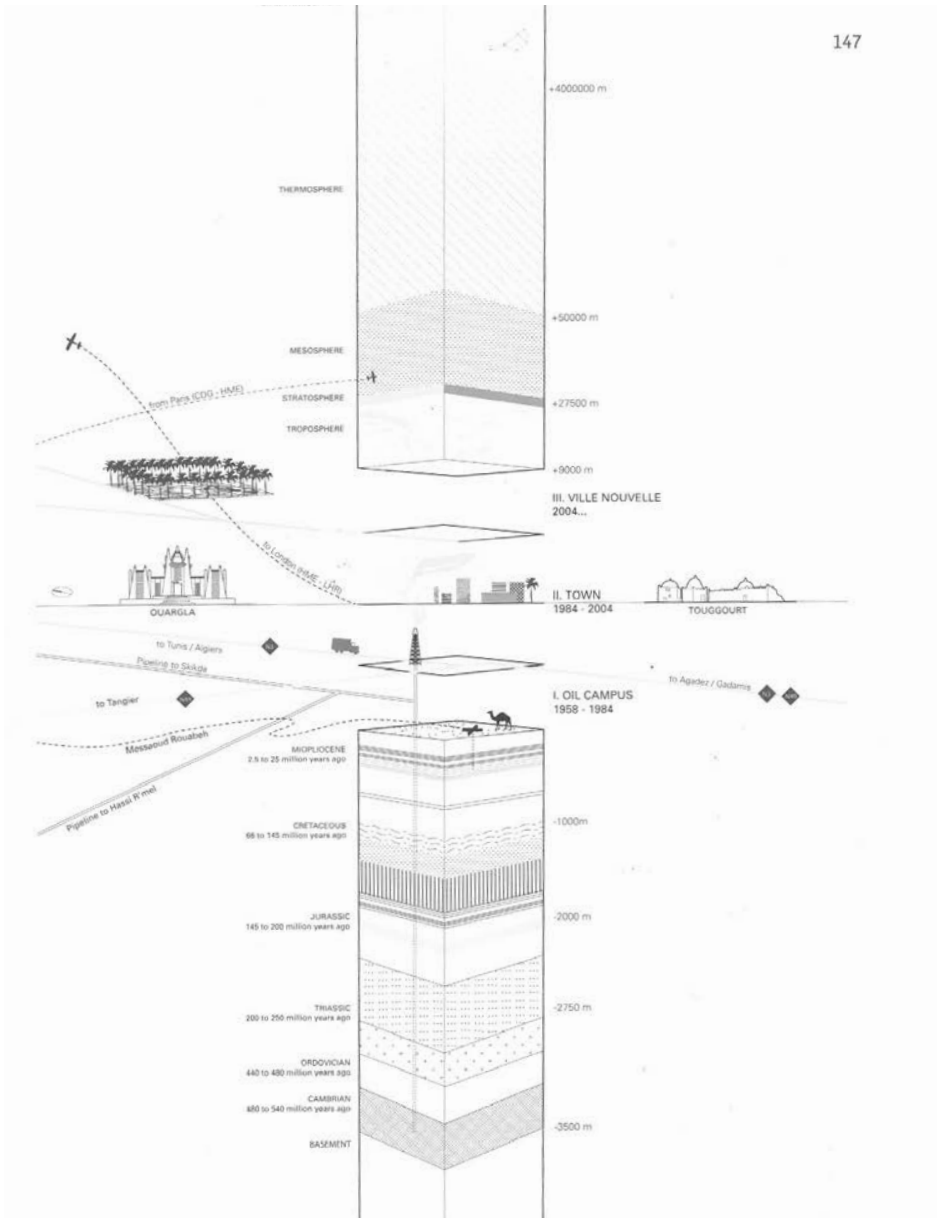
Still, we cannot remember how it is to be “within”. The ontological and epistemological apparatus built mostly in the 18th and 19th centuries dominates our way to approach reality, demarcating what we are from what is out there. When we say “what we are” we are excluding a huge world that is there with us too. We, humans, cut ourselves from the mess we were in to “objectify” reality, to reify it. But the tide is changing: take the bacteria or the viruses “out there” which along with other microbes, constitute the majority among the cells comprising this body we call

our own.

Though the non-human does not limit itself to the living, but it includes the inert too. The transformation of our environment depends inasmuch on the industrialization of agriculture or the construction of major infrastructural works than on the establishment on new alliances among the living forms inhabiting it. The explosion of plastic products and hazardous pollutants was made possible by the development of the petrochemical industry that soared with the discovery and subsequent exploitation of fossil resources, and its existence in massive amounts in the form of plastic debris works as a driver of transoceanic species dispersal who could eventually invade valuable marine ecosystems by being transported by the plastic soup to distant places. (5)

A SLENDER THREAD OF CIRCUMSTANCES

Why to focus on alliances and interactions? No organism, no species lives in isolation. It continually interacts with its ecosystem. This interaction is captured in the concept of ecological niche, introduced by the British zoologist Charles Elton



in the 20s of the last century. The term describes both “the range of conditions necessary for persistence of the species, and its ecological role in the ecosystem. (...) [it] has two sides which are not so tightly related: one concerns the effects environment has on a species, the other the effects a species has on the environment.” (6)

An organism’s niche is made up by all the interactions with other organisms and the non-living environment (including geology, soil and water acidity, nutrient flows, climate...). It encompasses how the organism meets its needs for food and shelter, as well as how it avoids predators, competes, or collaborates with other species, and reproduces. A niche is not a place, but a relationship. In ecology, the geographical place where an organism or a population lives or occurs is called a habitat. It may be a forest, a river, a mountain, or a dessert. While the niche is, in the words of George Evelyn Hutchinson, “a highly abstract multidimensional hyperspace.” In Hutchinson’s view, ecological opportunities take the form of environmental conditions, available resources, and fitness gradients. Each population or species has its own niche and only

one niche. However, niches are not pre-formed, empty receptacles into which organisms are inserted, but are defined and created by organisms. The organism-environment relationship is reciprocal and dialectical.

THE LINK TO ARCHITECTURE

Therefore, in ecology this duality between the hyperspace and the geographic space remains. When we say that it is difficult to detach the effects that the environment has on organisms from the effects that organisms have on the environment we not only refer to the environment as a point on a map, but we need to include the conditions that give rise to specific interdependencies. Organisms change and construct the world in which they live, to cater it to their own needs. They “construct” their niche, they actively construct and modify their environment, and affect their own evolution in the process (7).

Examples of niche construction include the building of nests and digging burrows, the creation of shade, the erection of shelters influencing of wind speed, and alternation of nutrient cycling and soil chemistry by plants.

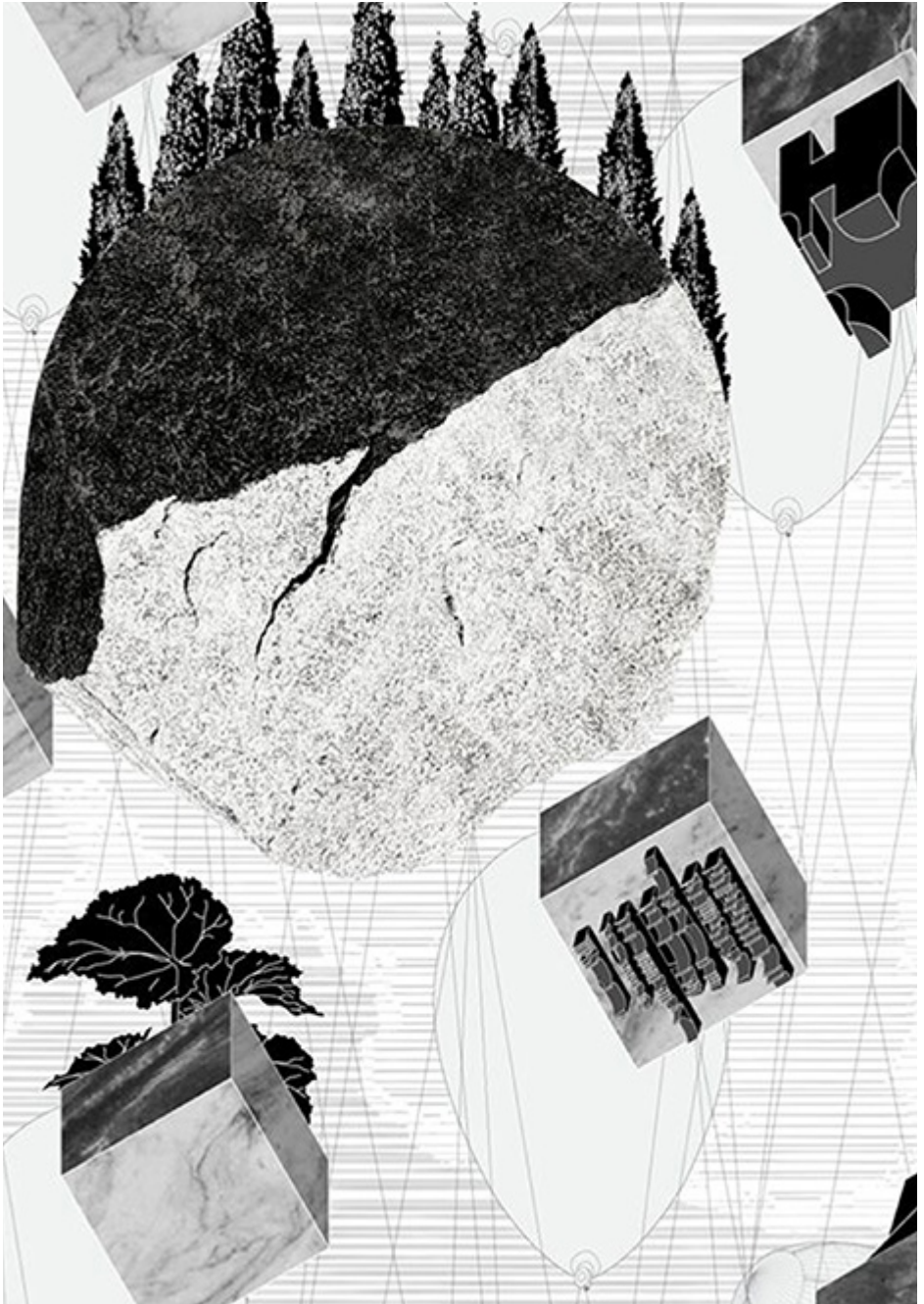
An impressive example of niche construction Lovelock refers to is the ancient cyanobacteria. They produced oxygen as a by-product of photosynthesis more than 2 billion years ago, a key factor in the Great Oxigenation Event. This changed the composition of Earth's atmosphere and oceans, massively modifying our planet's environment and in the same wake creating the conditions for the evolution of much more complex life forms, including humans (Lovelock).

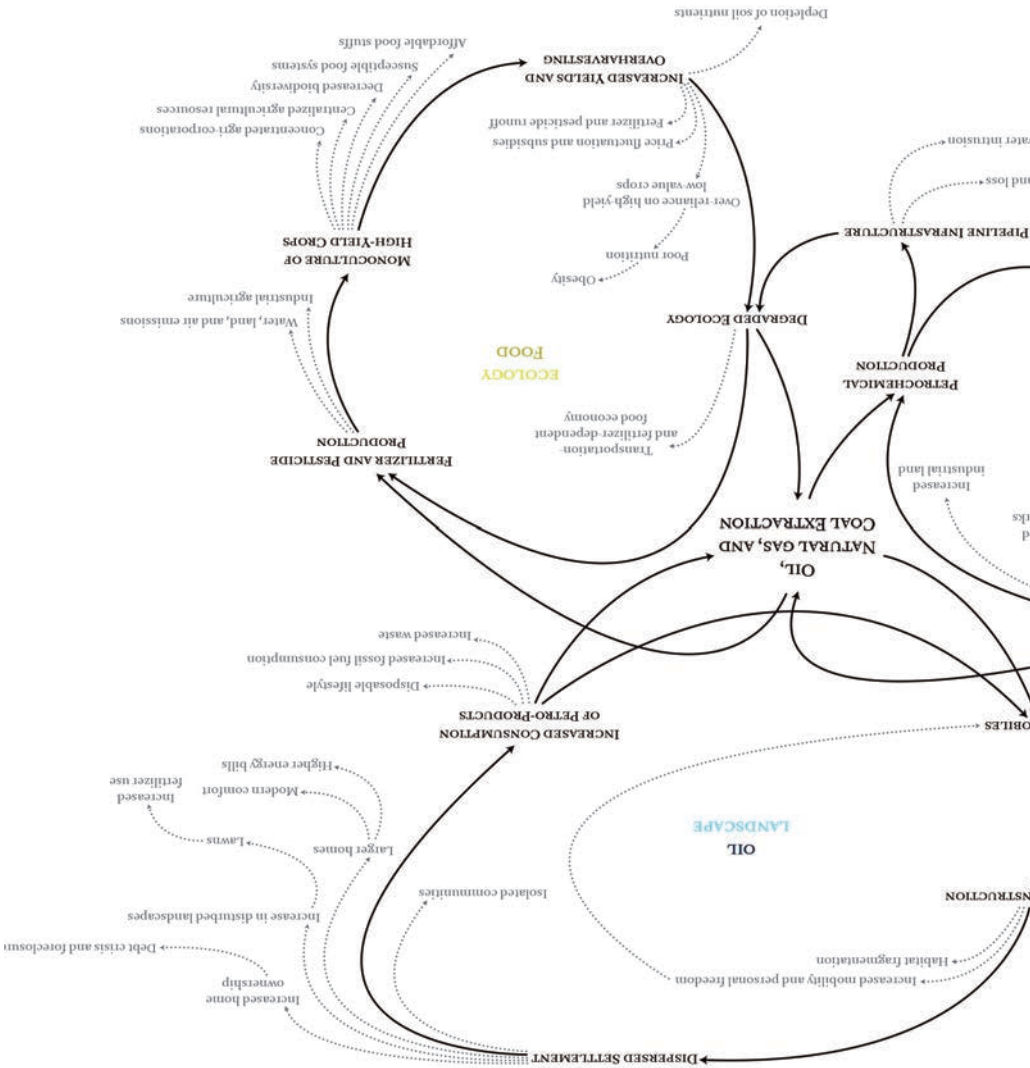
In the 70s, Archigram could famously state that architecture was no more important than the weather in determining the use of space. One of its mentors, Cedric Price, continued this reflection in his later work. For him, the habitat "was not a replica of place but a site that harbored the interactions of all shades of participant, not just the human patterns of association (...)." (9) He extended his design imperative to include natural, technological, and interspecies interactions, acknowledging the ecological nature of urban milieus. It is surely time that we continue his reflection too.

NEW ETHICS

Realizing we are part of it all, frees us from taking on the huge responsibility of keeping a comfortable and durable planet on our shoulders only. We are all aboard the same boat, if only we manage to share such responsibility with the non-human "stuff" we so far deemed incapable of, since we assumed their action was only geared by pure necessity (10). Neither does this imply that we will refuse to take on any responsibility for the evils so far made by humans. It simply helps us to ask our motivations behind sustainability and stewardship. Are they still rooted in anthropocentrism, in the idea that humans are superior to all the rest and hold therefore the right to its exploitation? Does the natural world deserve "protection", "conservation"? Or should we rather consider inhabiting the ruins (built upon) of a damaged planet? Or will the planet, according to the Gaia hypothesis (11), survive and find a new equilibrium through self-regulation even if this would eventually exclude humans?

Environmental ethics extends the boundaries of ethics beyond humans. The environment has agency. The non-humans have a







“voice” which needs to be heard (or ultimately, needs a “porte- parole”). Our designs can be informed by those voices, while at the same time they can make them resonate in our cities. So we propose, through the exploration of multispecies urban planning, to develop the means to give a place to these voices too often overlooked and to imagine together new ways of inhabiting our cities, and by extension our future on earth.

- (1) Van Dooren et al. (eds.) 2016
- (2) Emilie Hache. 2011
- (3) Maria Puig de la Bellacasa. 2017
- (4) Albena Yaneva. 2009; Robert A. Beauregard. 2015
- (5) Namely of *Lepas barnacles*, a well-known foundation species of rocky intertidal habitats, retrieved from <https://www.nature.com/articles/srep19987>.
- (6) <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/ecological-niche>
- (7) Richard Lewontin, https://en.wikipedia.org/wiki/Richard_Lewontin
- (8) James Lovelock. 1995.
- (9) Steiner, 2014:097 in Daniel Ibanez, Nikos Katsikis (eds.) 2014.
- (10) Latour, *Politics of Nature*
- (11) James Lovelock, *ibid*.



R = 1,000 m

SCHAERBEEK-FORMING

The chosen site is Schaerbeek-Forming. It is a heteroclite site, typical of any urban periphery, appearing as a juxtaposition of isolated fragments that include natural areas, an under-construction prison, agricultural fields, wastelands, cultural heritage, black sites, places of inhabitation, transit depots, railyards, stocks of polluted soil... further devoid of any form of coherence other than its multiplicity. Located on the northern boundary between the Brussels' and the Flanders' regions, this area is the subject of countless territorial claims, studies, plans, ambitions... from the Masterplan of the Port (2019) to the Schaerbeek-Forming masterplan (2013), to the PAD Bordet (2020), to the P.D.T. P.D.T. Périphérie Nord (2015).

We can always fix ourselves on the disarticulation or the fragmentation of such a place. We invite you to look at this apparently disarticulated landscape as an enormously

dynamic one, the geomorphology of which forms the basis of all further development. To explore it as if you were scrutinizing a palimpsest of natural conditions and human interventions. And finally, to accept our invitation to devise concrete projects that help consolidate our interdependence with the environment.

Even though the area is located between the main arteries of international connections, it is difficult to access it fully. Large-scale mobility infrastructures by water, rail and highway overlap an old, finely meshed network of paths inherited from the agricultural villages of Haren and Evere. The inhabited zones intertwine along the tracks of Schaerbeek-Forming, a railyard where all the trains circulating in Belgium used to be reassembled and a major source of surface water pollution, caused both by the rails and the deposits of polluted soil that were transported

here from Josaphat.

Where this railyard is currently located, there used to be a gently sloping plain covered with damp meadows and sheltering small castles and some scattered farms, which rose towards a plateau planted with heather in the east, the Harenveld. These wet meadows were drained and backfilled in the 1920s and 1930s for the construction of the forming station. In addition, several streams were also filled, the Leibeek, the Ganzenweidebeek, the Beemdgracht and the Kerkebeek. The latter would eventually become “the Moeraske” in Evere, after works stopped for the construction of the A1 in the 1980s. After the Second World War, to meet the growing need for space for port companies located along the train station, the Senne was culverted and the canal became an important hydraulic regulator for the entire area. Ever since, all the excess water from the Senne and its tributaries flows into the canal through a series of engineering structures (storm basins, locks, drainers, etc.).

In the policy texts, Schaerbeek-Forming is referred to as one of

the last big empty stretches of land in Brussels, awaiting its development soon. Our hypothesis is that the place is plenty instead of empty, plenty of spatial claims and of collectives wishing to restore the rich and long history that accumulates there, plenty of strata and forms of living we could learn to live with rather than ignore. Welcome into the unknown!





THROUGH THE MIDDLE

The methodology envisaged is inspired by a simple idea, namely, “to follow the rhizome”, an approach first introduced by the philosophers Deleuze and Guattari in their book *A Thousand Plateaus* as an attempt to examine the life of rhizomes as source of inspiration, to learn with and from them. There they describe the rhizome as a map and not a tracing: “What distinguishes the map from the tracing is that is entirely oriented towards an experimentation in contact with the real.(...) The map is open and connectable in all of its dimensions: it is detachable, reversible, susceptible to constant modification.” (2004:13).

We need this experimentation to reveal the dense interrelated systems organizing this newly discovered “world within”, the multitude of relationships that weave us into the world. Above all, we need new maps that bring us beyond the emptiness of the planimetric representation, following instead the associations, the communities or collectives iden-

tified and assembled during our enquiries on site (e.g. the communities that certain grasses form with the underground mycorrhizal network in order to survive in soils saturated with cadmium, thallium or lead).

These maps provide a broader template for understanding, imagining, and acting by incorporating the vibrancy of the autobiographic narration. They do help us to weave together the analysis of local environmental conditions with case studies, tools, memories, and practices inspiring models for change.

Some examples of such mapping might include (but are not limited to),

- (i) maps depicting spatial data or geographical features
- (ii) records of botanical practices - such as sampling and herbarium
- (iii) narratives analyzing and revealing associations between actors and the processes resulting from or into them

(iv) extracts from interviews (e.g. with a biologist)

(v) historical accounts

(vi) eco-portraits that make data and observations converge into a process view, joining seemingly isolated phenomena into a whole

(vii) etc.

Partial results will be discussed through public presentations, seminars, and debates.







W3: 28/09	ASSEMBLING
W4: 05/10	ASSEMBLING
W5: 12/10	ASSEMBLING
W6: 19/10	ATLASES
W7: 26/10	ATLASES
W8: 02/11	AUTUMN BREAK
W9: 09/11	ATLASES
W10: 16/11	ATLASES
W11: 23/11	SHELTERING
W12: 30/11	SHELTERING
W13: 07/12	REFINING
W14: 14/12	REFINING
W19: 18/01	JURY

PLANNING

We will start the quarter with a guided visit to the study area. It will be the first confrontation to reality, and the moment to begin exploring and identifying associations, assemblages and interaction between humans and non-humans (ASSEMBLING). These interactions, as we previously mentioned, can be of a competitive, symbiotic, and mutualist type. We are aware of some in the area: such as the unlikely complicity of the goats of the Farm Maximiliens and the Japanese knotweed, which they gobble and weaken; between the swallows who fled Brussels because they could not find any earth any longer to build their nests and are nesting back in newly man-made nests made of concrete; the chicory growing out of discharged roots, in the dark, fed by humus; the ubiquity of the mycorrhizae and the trees; at the STIB terminal, rain-water is collected and recycled for cleaning trams as well as for sanitary facilities; corn crops damage because of rabbits and pigeons that

come to forage; etc.

The first enquiries will be followed by a series of atlases exploring these points of view on reality, these possible visions of the world in order to produce a situated, embodied knowledge (ATLASES). If the atlas is traditionally a compilation of maps depicting geographic reality, the term has been expanded to refer to books and works in which, according to Georges Didi-Huberman, “images are gathered in a systematic, problematic, poetic and sometimes erratic way to be offered to our eyes”. Therefore, those atlases will be the opportunity to test new cartographic methods, aiming to make visible what remains invisible in conventional representations. To explore our world from within imposes to create new imaginaries.

The value of such atlases, or spatial disposition of contents, lays in their operability, in their capacity to trigger action or further developments. A multiplicity of intentions

steers the making of an atlas, from the most systematic to the most subjective approaches. Interestingly, this expanded notion of an atlas is not only about displaying existing knowledge, but also about provoking new considerations, understandings and relevant fields. Therefore, the atlases will need to evolve from observation into more speculative architectural proposals (SHELTERING). The objective is to initiate an iterative cycle between observing, drawing and making in which possibilities are already inscribed in what already exists, taking from granted that we produce along the way, during all our attempts to grab reality, is part of what exists too.

The second half of the quarter will be devoted to review and revise the initial hypothesis (REFINING), in this continuous iterative and reflective process we just referred to. The thicker the inquiry process will have been, the richer the design proposals will be (also on an architectural perspective). Acting is always a matter of both discursive understandings and material engagements.

This second half will be punctuated by a series of juries with external experts, to underline two: the “green light” when students will present the entire work elaborated throughout the quarter, and the guests will assess the consistency of the story and the entire parcours. This in-between moment, planned before the Winter Break, is intended as the first test with externals, to identify possible flaws or betterments in the students’ work. And the “final jury”, planned during the first week after the Christmas holidays (please, do not book your eventual flights before confirmation of the jury date!).

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. Text by Nadia Casabella



Earth Speakr, by Olafur Eliasson